

CHAPTER TWO

Aviation Activity Forecast





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2.0 Aviation Activity Forecast

2.1. Chapter Introduction

Aviation activity forecasting plays a core role in airport planning, serving as a key method for identifying some of the potential future infrastructure needs. Identifying future infrastructure needs at an airport begins with evaluating deficiencies in existing airport design standards. These deficiencies, which are outlined in **Chapter 3 – Facility Requirements**, establish a baseline understanding of the Updates and improvements necessary to meet current and future operational demands. This foundational assessment ensures that planning efforts address not only anticipated growth but also existing limitations in facility design. Forecasting aviation activity, such as aircraft operations, based aircraft, and other metrics, then builds upon this base, helping to round out the picture by highlighting additional needs that may arise from projected changes in demand. This chapter presents forecasts for these metrics at STP over a 20-year planning horizon, with 2024 as the base year and 2045 as the ultimate forecast year. Included are overviews of historical aviation activity, assumptions used in forecast analyses, and methodologies applied to project future demand at the Airport.

For this 2045 LTP Update, forecast milestones are presented as Planning Activity Levels (PALs), which represent general thresholds of aviation activity, such as the number of based aircraft or airport operations, that signal when certain infrastructure improvements could be considered or implemented. Rather than relying on fixed dates, PALs are tied to actual demand, allowing airport development to be more responsive and cost-effective. This LTP Update identifies short- (2030), mid- (2035), and long-term (2045) activity levels, each corresponding to projected levels of activity over time. This approach helps align investment with real-world needs and minimize the risks of overbuilding or underbuilding.

2.2. Forecast References

In developing the aviation demand forecast for STP, a comprehensive review of the most recent local, state, and national aviation activity forecasts was conducted. This section summarizes the external sources of data collected to establish the baseline and forecast assumptions.

FAA Terminal Area Forecast: The FAA Terminal Area Forecast (TAF) is the official forecast of aviation activity for U.S. airports, including those in the National Plan of Integrated Airport Systems (NPIAS). It provides detailed projections for various types of aviation operations, such as air carrier, air taxi/commuter, general aviation (GA), and military, to support the budget and planning needs of the FAA, as well as state and local authorities. The TAF is updated annually, and reports data based on the FAA's fiscal year (October 1 through September 30).

STP 2010 Long-Term Comprehensive Plan: The MAC last completed an LTP for STP in 2010, which included detailed aviation activity forecasts for the Airport spanning a 20-year horizon from 2010 to 2025. These forecasts projected moderate growth in all categories. The Plan's forecasts were unconstrained and assumed that the necessary facilities would be in place to accommodate the expected demand.

MAC Noise and Operations Monitoring System: The MAC Noise and Operations Monitoring System (MACNOMS) was instrumental in evaluating and analyzing historical aircraft operations data at STP.



This data was used for understanding trends and patterns in aviation activity, which in turn informed the development of accurate and reliable aviation demand forecasts. Utilizing MACNOMS data ensured that the forecasts were based on robust historical evidence, enhancing the credibility and precision of the long-term planning efforts for STP.

National Based Aircraft Inventory Program: The National Based Aircraft Inventory Program (NBAIP) is an FAA initiative designed to collect and validate data on aircraft that are operational, airworthy, and based at U.S. airports for most of the year. The program ensures that only FAA-validated based aircraft are counted, supporting accurate airport planning and federal reporting.

FAA Air Traffic Activity Data System: The FAA Air Traffic Activity Data System (ATADS) is the official source for historical air traffic operations data at FAA Air Route Traffic Control Centers and towered airports across the United States. ATADS provides monthly and annual counts of aircraft operations by user category, and allows users to generate reports at the facility, state, regional, and national levels.

5010 Airport Master Record: The 5010 Airport Master Record details the physical and operational characteristics of active civil public-use airports, joint-use military airports, and private-use military airports within the National Airspace System (NAS). This data source offers a "snapshot" of operational activity and based aircraft for the year it is published, utilizing information from the TAF.

Minnesota State Aviation System Plan: The Minnesota State Aviation System Plan (MnSASP) is a long-term strategic plan developed by the Minnesota Department of Transportation (MnDOT) Office of Aeronautics. It provides a comprehensive description and assessment of the current performance of Minnesota's network of 132 publicly owned, public-use airports, and offers guidance for future development in addition to general outlook forecasts on based aircraft and GA activity across the state.

FAA Aerospace Forecasts: The FAA's Aerospace Forecast provides detailed projections of aviation activity in the U.S., covering a wide range of sectors including commercial airlines, GA, and unmanned aircraft systems (UAS). These forecasts, developed using statistical models, support the FAA's budget and planning needs by incorporating emerging trends and structural changes within the aviation industry. The forecasts typically span a 20-year period and are Updated annually to reflect the latest data and industry developments.

FAA Traffic Flow Management System Counts: The FAA Traffic Flow Management System Counts (TFMSC) database provides information on operations categorized by aircraft type, weight class, date, approach and design category, and user class. However, it may not include this data for every operation at an airport, as the information is typically sourced from filed flight plans and/or radar detection.

Woods & Poole Socioeconomic Data: Woods & Poole socioeconomic data encompasses comprehensive economic and demographic projections for the U.S., including all states, counties, and Core Based Statistical Areas (CBSAs). This data includes over 900 variables, such as population, employment, and income, with historical data starting from 1970 and projections extending to 2060. This data can be highly valuable in aviation demand forecasting by identifying trends in population growth, employment, and income levels, which are key factors influencing aviation demand.

2.3. Historical and Current Aviation Activity

At GA airports such as STP, the two primary indicators of aviation activity are based aircraft and operations. The FAA defines based aircraft as operational and airworthy aircraft that are located at an



airport for most of a given year.¹ An aircraft operation is defined as either a takeoff or a landing, with a touch-and-go counting as two operations (the combination of one takeoff and one landing). These indicators are used for developing an accurate aviation demand forecast for STP, as they provide helpful data on the volume and type of aviation activity at the Airport. This section examines both historical based aircraft and operations counts from 2014 through the forecast base year (2024).

2.3.1. Current Aviation Activity

2.3.1.1. Aircraft Operations

Aircraft operations are categorized as local or itinerant. Local operations are flights that depart from an airport and remain within its traffic pattern or a designated practice area within a 20-mile radius. Itinerant operations involve flights that land at an airport after departing from another airport or flights that depart from an airport and leave its immediate area.²

MAC has the ability to accurately count operations at STP by combining the records of a towered facility with the use of MACNOMS. MACNOMS collects and processes data on aircraft operations and noise profiles. STP experienced 42,476 operations in 2024 based on MAC's review of MACNOMS, which recorded 33,499 operations in 2024, and Air Traffic Control Tower (ATCT) operations data, which recorded an additional 8,977.

The FAA's TAF is the official forecast for aviation activity for US airports and forecasts aviation demand based on local, national, and industry economic factors. Of the operations recorded at STP in 2024, the TAF estimates 25.4% were local GA operations, 53.4% were itinerant GA operations, and 15.3% were air taxi operations. The FAA defines "air taxi" as an "aircraft designed to have a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or compensation."³ It is important to note that STP does not currently, and will not in the future, have scheduled air-carrier service. Additionally, MACNOMS reports that 33.8% of the total operations were touch-and-go operations.

While STP accommodates all facets of GA, the Airport is also home to the Minnesota National Guard 34th Expeditionary Combat Aviation Brigade, which operates both UH-60 Black Hawk and CH-47 Chinook helicopters for federal and state missions. Based on the FAA TAF, it was estimated that approximately 5.7% of the Airport's total operations were conducted by military aircraft in 2024.

2.3.1.2. Based Aircraft

The NBAIP defines based aircraft as "an aircraft that is operational & airworthy, which is typically based on a particular airport for a majority of the year." The MAC retains annual inventories of based aircraft at each of its reliever airports. A total of 97 aircraft are currently documented as occupying space at STP. Of these, 45 are verified by the FAA through the NBAIP as officially based at the Airport.⁴ This database includes all civilian aircraft that are currently registered and have an active airworthiness

¹ Federal Aviation Administration, General Aviation Airports: A National Asset, May 2012.

² Federal Aviation Administration, Advisory Circular 150/5070-6B, Change 2, *Airport Master Plans*, 2015.

³ Federal Aviation Administration OPSNET Reports: Definitions of Variables.

⁴ As of July 14, 2025.



certificate. If an aircraft listed in this database has not been reported as based at another nonprimary airport within the NPIAS, it is considered a “validated” based aircraft for the reporting airport.

An additional 41 aircraft are identified as “long-term transient” aircraft and are believed to be based at STP but are not reconciled with the NBAIP. STP supports a number of corporate operations annually. The corporate aircraft that conduct these operations are often registered at other airports while leasing and residing in storage space at STP for a majority of the year as validated by local counts. While not formally validated by the FAA nor used in the FAA approved forecasts, these long-term transient aircraft are included in the forecast methodology of this chapter for planning purposes of the Airport. The implications of STP’s long-term transient aircraft are discussed further in subsequent sections.

Furthermore, the Minnesota Army National Guard reports 11 military aircraft as based at STP. This total of 97 aircraft will be used by the MAC to inform future hangar demand projections.

2.3.2. Historical Based Aircraft

This section examines the Airport’s historical based aircraft counts in addition to its historical fleet mix. An airport’s fleet mix refers to the variety and types of aircraft that operate at the Airport. This includes different sizes, weights, and configurations of aircraft. A comprehensive understanding of an airport’s fleet mix is used for effective planning, operational efficiency, safety, and economic management.

Historical data within this section were sourced from MAC records as well as data from the FAA as reported in the 2024 TAF and the NBAIP. These data sources vary in their reporting of aircraft-related activity. For example, as shown in **Table 2.1**, the 2022 MAC records identified 97 based aircraft at STP. Alternatively, the TAF identified 75 based aircraft in 2022 (22 less than MAC reported). This is attributed to the FAA’s exclusion from the TAF of any aircraft that are not validated in the NBAIP, which is discussed in greater detail in subsequent sections of this Chapter. As such, on-site inventories from Airport management were collected to supplement data sources and identify the total volume of aircraft requiring storage at STP.

For the purposes of this study, MAC-reported based aircraft totals were used as historical and base-year estimates of activity, with the TAF providing additional insights into operational fleet mix and other activity subsectors. An on-site inventory provided by Airport Management offered a snapshot of the current fleet mix for the 97 aircraft in the base year of 2024. The discrepancy between the FAA’s NBAIP and MAC records will be addressed by MAC as part of its effort to seek FAA forecast approval based on the validated aircraft inventory. Any unvalidated aircraft inventory (i.e., those aircraft based at STP but do not appear in the FAA’s NBAIP) will be used solely to estimate future hangar demand and will be treated as transient hangar demand. In cold weather climates, the majority, if not all, transient aircraft require covered storage. This assumption forms the basis for accounting for additional long-term aircraft storage needs beyond the validated based aircraft totals. **Thus, for purposes of this report, MAC records will be used to discuss historical based aircraft and projections. A breakdown of validated and unvalidated (long-term transient) aircraft, for the purpose of FAA approval, is included at the end of this chapter in Sections 2.10 and 2.11.**

**Table 2.1 - Historical Based Aircraft**

Year	MAC Annual Reports	FAA TAF ^(a)	NBAIP Historical Validated
2014	100	100	No data
2015	85	100	60
2016	82	82	57
2017	87	100	65
2018	90	90	63
2019	103	88	53
2020	91	85	48
2021	102	85	44
2022	92	75	41
2023	92	76	51
2024	97	75	45
CAGR 2014-2024	-0.30%	-2.84%	-3.15%^(b)

Sources:

FAA Form 5010-1, Airport Master Record.

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

(a) The TAF reports data based on the FAA's fiscal year (October 1 through September 30).

(b) CAGR calculated for years 2015 – 2024.

CAGR = Compound Annual Growth Rate

NBAIP = National Based Aircraft Inventory Program

TAF = Terminal Area Forecast

Table 2.2 categorizes the 97 aircraft documented in 2024 by fleet mix.

Table 2.2 - STP Based Aircraft Fleet Mix (Base Year 2024)

Aircraft Type	Count
Single-Engine	24
Multi-Engine	6
Jet	53
Helicopter	3
Military	11
Total	97

Sources:

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

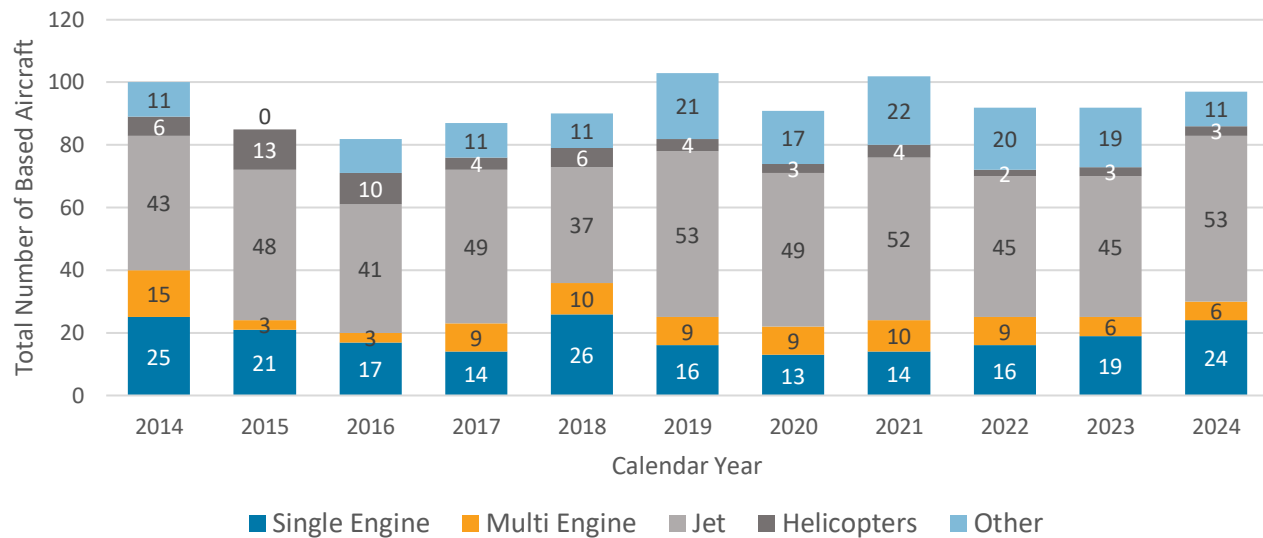
Kimley-Horn, 2025.

According to MAC records, the number of aircraft based at the Airport decreased from 100 in 2014 to 97 in 2024, reflecting a 3% decline over the 10-year period. This decline was accompanied by a notable shift in the based aircraft fleet mix, as demonstrated in **Figure 2.1** and accompanying **Table 2.3**. Single-engine and multi-engine aircraft, which comprised 40% of the total fleet in 2014, decreased to 31% by 2024. Conversely, the proportion of jets increased significantly from 43% in 2014 to 55% in 2024. Aircraft categorized as "Other" (including gliders, military aircraft, and ultra-light aircraft) remained



consistent over the same period. The significant number of aircraft categorized as “Other” at STP reflects the Airport’s ongoing military presence associated with the Minnesota Army National Guard.

Figure 2.1 - Historical Based Aircraft Fleet Mix



Sources:

FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

“Other” represents based aircraft not otherwise specified in the TAF (includes gliders, military aircraft, and ultra-light aircraft).

Table 2.3 - Historical Based Aircraft Fleet Mix by Percentage

Year	Single-Engine	Multi-Engine	Jet	Helicopter	Other ^(a)
2014	25.0%	15.0%	43.0%	6.0%	11.0%
2015	24.7%	3.5%	56.5%	15.3%	0.0%
2016	20.7%	3.7%	50.0%	12.2%	13.4%
2017	16.1%	10.3%	56.3%	4.6%	12.6%
2018	28.9%	11.1%	41.1%	6.7%	12.2%
2019	15.5%	8.7%	51.5%	3.9%	20.4%
2020	14.3%	9.9%	53.8%	3.3%	18.7%
2021	13.7%	9.8%	51.0%	3.9%	21.6%
2022	17.4%	9.8%	48.9%	2.2%	21.7%
2023	20.7%	6.5%	48.9%	3.3%	20.7%
2024	24.7%	6.2%	54.6%	3.1%	11.3%

Sources:

FAA Terminal Area Forecast, 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

(a) “Other” represents based aircraft not otherwise specified in the TAF (includes gliders, military aircraft, and ultra-light aircraft).

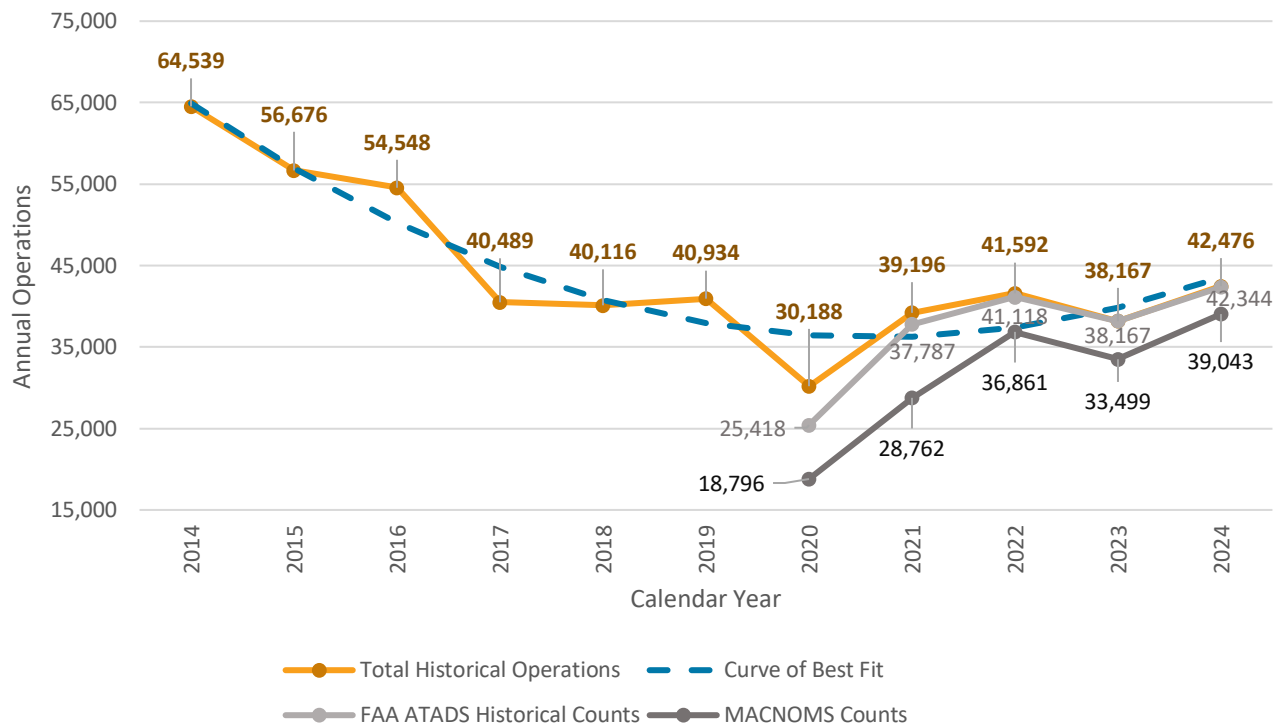


2.3.3. Historical Aircraft Operations

The MAC collects operational activity via MACNOMS, which gathers flight track data for the U.S. NAS from various sources, including automatic dependent surveillance-broadcast (ADS-B) sensors, FAA surveillance data, airport surface detection equipment (ASDE-X), wide area multilateration (WAM), and FAA flight plans. This tool reports aircraft operations at all MAC airports.

Annual operations totals for the Airport were gathered from historical MAC annual reports. Between 2014 and 2019, operations totals were sourced from FAA ATADS. Totals between 2020 and 2024 are comprised of ATCT counts for operational ATCT hours (verified by MACNOMS) with additional MACNOMS counts for hours the ATCT was non-operational, and scrubbed for overflights. Based on this historical data, the Airport saw a consistent decline in aircraft operations from 2014 to 2020, dropping from 64,539 operations in 2014 to 30,188 in 2020, reflecting a compound annual growth rate (CAGR) of -11.9%. Post-COVID (2020), operations began to recover, achieving a CAGR of 8.9% from 2020 to 2024, culminating in a total of 42,476 operations in base year 2024. Overall, these changes represent a -4.1% CAGR over the historical analysis period, as detailed in **Figure 2.2**. Further analysis of factors contributing to these trends can be found in **Section 2.4**.

Figure 2.2 - Historical Aircraft Operations



Sources:

FAA Air Traffic Activity System (ATADS)
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

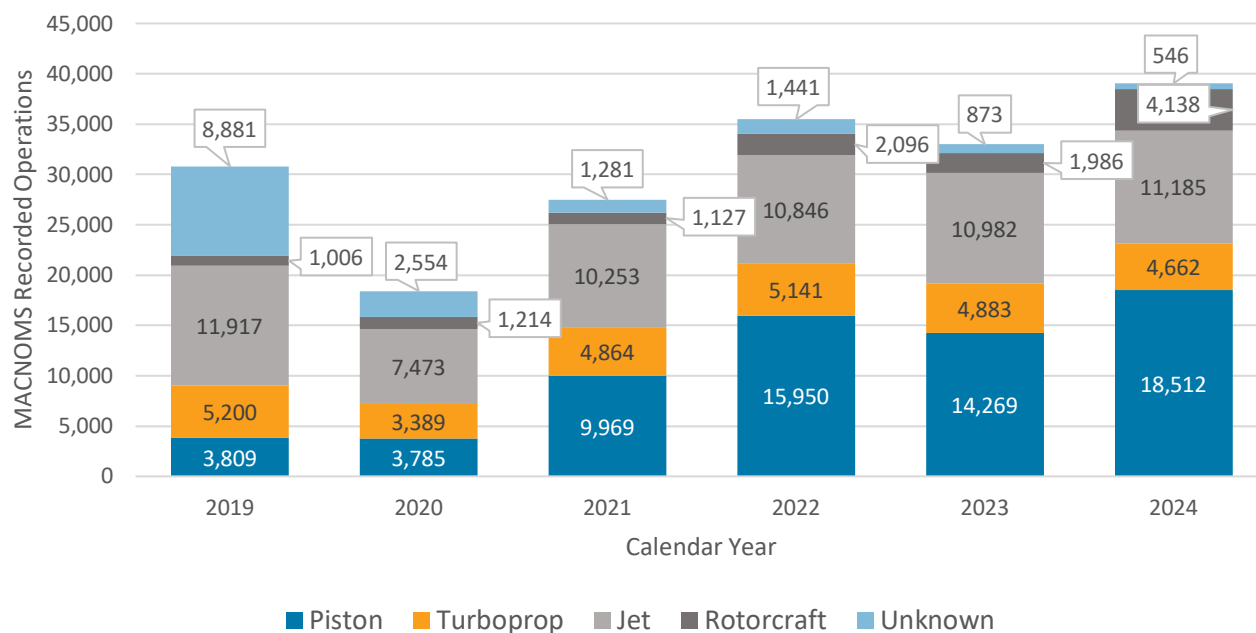


To analyze the Airport's operational fleet mix, the MAC provided MACNOMS operational records dating back to 2019. MACNOMS fleet records prior to 2019 were considered unreliable, partly due to a change in FAA policy regarding ADS-B, and were therefore not considered. Prior to January 2020, aircraft type details available in MACNOMS records were often limited, as a lower percentage of aircraft were equipped with ADS-B Out. Following the FAA's January 2020 mandate requiring all aircraft operating in most controlled airspace to be equipped with ADS-B Out, the accuracy of aircraft type details in MACNOMS records improved significantly.

For the historical operational fleet mix analysis, operations recorded by MACNOMS were first categorized by operation type. The types of operations analyzed were piston, turboprop, jet, helicopter, and "unknown." As illustrated in **Figure 2.3** and **Table 2.4**, the analysis shows that turboprop aircraft operations experienced a slight decrease from 17% to 12%. Jet aircraft operations saw a decline from 39% to 29%. Helicopter operations increased from 3% to 11%.

Notably, the proportion of piston aircraft operations increased dramatically from 12% in 2019 to 47% in 2024. Conversely, the percentage of "unknown" aircraft operations, which were unidentified by MACNOMS, decreased significantly from 30% in 2019 to less than 2% in 2024. These two trends are related and reflect improvements in the accuracy of aircraft type identification, due to the FAA's ADS-B mandate in January 2020.

Figure 2.3 - Historical MACNOMS Operational Fleet Mix by Type



Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2019-2023).
Kimley-Horn, 2025.

Notes:

"Unknown" represents aircraft unidentified by MACNOMS.

**Table 2.4 - Historical Operational Fleet Mix by Type Percentage**

Year					
2019	12.4%	16.9%	38.7%	3.3%	28.8%
2020	20.6%	18.4%	40.6%	6.6%	13.9%
2021	36.3%	17.7%	37.3%	4.1%	4.7%
2022	45.0%	14.5%	30.6%	5.9%	4.1%
2023	43.2%	14.8%	33.3%	6.0%	2.6%
2024	47.4%	11.9%	28.6%	10.6%	1.4%

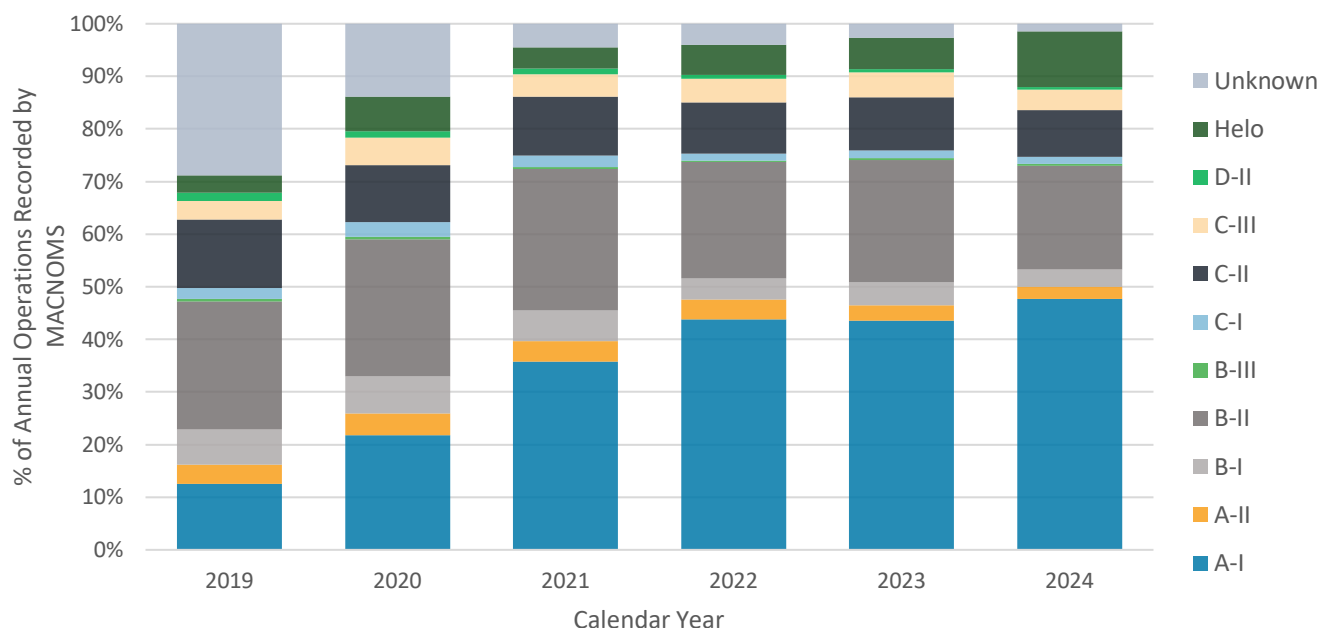
Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2019-2024).
Kimley-Horn, 2025.

Notes:

(a) Aircraft unidentified by MACNOMS.

A second historical operational fleet mix analysis was done by categorizing aircraft operations by Airport Reference Code (ARC). ARC is a classification system based on the operational and physical characteristics of the aircraft that use a particular airport. The ARC consists of two components: the Aircraft Approach Category (AAC), which relates to aircraft approach speed, and the Airplane Design Group (ADG), which relates aircraft wingspan and tail height dimensions. These classifications were presented previously in **Chapter 1 – Inventory of Existing Conditions** of this LTP Update. As recorded in MACNOMS data and illustrated in **Figure 2.4** and **Table 2.5**, the percentages of total operations by each ARC category remained relatively steady between 2019 and 2024, with notable exceptions in the A-I and "unknown" categories related to the FAA's 2020 ADS-B mandate.

Figure 2.4 - Historical Operational Fleet Mix by ARC**Sources:**

MAC Noise and Operations Monitoring System (MACNOMS), Metropolitan Airports Commission (MAC) Annual Reports (2019-2024).
Kimley-Horn, 2025.

Notes:

"Unknown" represents aircraft unidentified by MACNOMS.

**Table 2.5 - Historical Operational Fleet Mix by ARC Percentage**

ARC	2019	2020	2021	2022	2023	2024
A-I	12.5%	21.8%	35.8%	43.8%	43.6%	47.7%
A-II	3.8%	4.1%	3.9%	3.7%	2.9%	2.4%
B-I	6.7%	7.1%	5.9%	4.1%	4.4%	3.2%
B-II	24.3%	26.0%	26.8%	22.1%	23.2%	19.7%
B-III	0.4%	0.5%	0.4%	0.2%	0.4%	0.4%
C-I	2.1%	2.9%	2.2%	1.3%	1.4%	1.4%
C-II	13.0%	10.8%	11.2%	9.8%	10.1%	8.9%
C-III	3.6%	5.2%	4.3%	4.5%	4.8%	3.8%
D-II	1.6%	1.1%	1.1%	0.7%	0.6%	0.5%
Helo	3.3%	6.6%	4.0%	5.8%	6.0%	10.6%
Unknown ^(a)	28.8%	13.9%	4.5%	4.0%	2.6%	1.5%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
 Metropolitan Airports Commission (MAC) Annual Reports (2019-2024).
 Kimley-Horn, 2025.

Notes:

(a) Aircraft unidentified by the MACNOMS.

2.4. Overview of Forecast Methodologies

Accurate aviation activity forecasting assists with effective airport planning, investment, and policy development. To support this process, a variety of analytical methods are employed offering unique insights into future demand based on historical trends, market dynamics, and broader economic conditions. This section outlines the forecasting methodologies considered in the development of based aircraft and aviation operations forecasts for STP, including the use of federal and state aviation forecasts, regression analysis, trend analysis, and market-share analysis.

Each method was evaluated for its applicability to STP's operational context and data availability. While all approaches contributed to the overall understanding of aviation activity at the Airport, some proved more suitable than others for specific forecast elements. The following describes these methodologies in greater detail.

2.4.1. Federal and State Forecasts

Several FAA and state-developed aviation forecasts were consulted for this LTP Update to provide insights into historical and future estimates of activity. The FAA produces the TAF, which includes projections for passenger enplanements, aircraft operations, and based aircraft at public-use airports. Similarly, state departments of transportation often develop aviation system plans that include forecasts tailored to regional economic conditions, infrastructure needs, and policy goals. These forecasts serve as foundational references for airport planning, funding allocation, and regulatory compliance.

When conducting aviation activity forecasting for a specific airport, these federal and state forecasts assist in establishing a baseline and benchmarking framework. They provide a macro-level view of expected trends in aviation demand, which local forecasts can align with or build upon. These higher-



level forecasts typically employ standardized approaches to modeling aviation activity, including assumptions about fuel prices, Gross Domestic Product (GDP) growth, and air travel demand elasticity. Referencing these broader projections ground specific forecasts in nationally and regionally recognized assumptions about economic growth, demographic shifts, and industry trends. This alignment helps maintain methodological consistency across planning documents and supports the credibility of local forecasts when reviewed by oversight agencies or funding bodies.

2.4.2. Regression Analysis

Regression analysis is a widely used statistical method in aviation activity forecasting that helps quantify the relationship between aviation demand and various influencing factors. In the context of airport planning, regression models are employed to predict future levels of aviation activity based on historical data and explanatory variables like population growth, income levels, fuel prices, or regional economic indicators.

A key strength of regression analysis is its ability to identify and quantify correlations between aviation activity and variable factors. For example, a simple linear regression might reveal a strong relationship between regional GDP and jet operations, suggesting that economic growth is a primary driver of business travel demand in the area. More complex models, such as multiple regression, can incorporate several variables simultaneously, offering a more nuanced understanding of how different factors interact to influence aviation trends. This makes regression analysis particularly valuable for tailoring forecasts to the unique characteristics of a specific airport or region.

Although regression analysis was initially explored as a forecasting tool, it was ultimately excluded from the final models due to low levels of correlation between socio-economic indicators and aviation activity at STP. This finding suggested that local aviation demand at STP is influenced more by operational and institutional factors, such as business aviation trends and airport-specific constraints and services than by broader economic variables.

2.4.3. Trend Analysis

Trend analysis, also known as time-series analysis, is a foundational method in aviation activity forecasting that involves examining historical data over time to identify consistent patterns, seasonal fluctuations, and long-term movements. Future airport activity can be projected by analyzing how these and other metrics have evolved based on observed trends, assuming that past patterns will continue under similar conditions. This method is especially effective when the historical data is reliable and trends are not heavily influenced by irregular events. Additionally, more advanced time-series techniques, such as exponential smoothing models, can account for irregularities and provide confidence intervals around forecasts, enhancing their reliability.

Trend analysis formed the foundation of the based aircraft forecasts at STP. Historical data on based aircraft showed relatively stable patterns over time, making this method particularly well-suited for projecting future levels. Historical trends were analyzed to identify consistent growth or decline patterns, and these were extended into the forecast period under the assumption that similar conditions would persist. The simplicity and transparency of trend analysis, combined with the availability of reliable historical data, made it the most appropriate and defensible approach for this element of the forecast.



2.4.4. Market Share Analysis

Market-share analysis is a forecasting method used to estimate future activity at a specific airport by examining its current or historical share of a broader market – typically a region or state. This approach assumes that an airport’s future performance will be tied to the growth of the larger market it serves, and that its share of that market will either remain stable or change in predictable ways. It is particularly useful for smaller airports or those in competitive regions where multiple facilities serve overlapping catchment areas. This method is especially effective when reliable forecasts exist for the larger market, such as those provided by the FAA or state DOTs.

For aviation operations forecasts, market-share analysis played a more prominent role. STP operates in a competitive regional environment with several nearby airports serving overlapping markets. By considering STP’s historical share of total operations within the Twin Cities metro area, the forecasts assess its relative performance and project future activity based on anticipated changes in regional demand. This approach allowed for the development of multiple scenarios, reflecting potential shifts in market dynamics, infrastructure investments, and user preferences.

2.5. Forecast Trends and Assumptions

Aviation activity at an airport is influenced by both controllable factors (such as hangar rents, services provided, and facility maintenance) and non-controllable factors (such as local and national economic conditions, availability of funding, and location). As shifts in activity type and volume are expected over the 20-year planning horizon, it is helpful to identify variables that could significantly drive aviation demand at STP. This involves evaluating trends and assumptions that consider the local population and economy, regional aviation activity, and overall trends in the aviation industry. The following trends and assumptions have been identified for forecast development at STP.

- Following gradual declines in operations and based aircraft from 2014-2020, attributed to STP’s evolution towards serving corporate users, impacts credited to the COVID-19 pandemic, and temporary operational restrictions during “floodwall up” conditions, it was assumed that the Airport is in a period of slow, sustained growth as indicated by upticks in both operations and based aircraft from 2020-2024.
- STP has generally followed regional and national trends of declining piston-powered aircraft activity and increasing corporate jet/turboprop growth, a trend that is anticipated to continue through the forecast horizon.
- Regional socioeconomic factors that are not specific to aviation, such as population, employment, Gross Regional Product (GRP), and mean household personal income, are projected to have a modest impact on aviation demand at STP.
- The Baseline Scenario represents an unconstrained outlook for aviation activity. The impacts of the Airport’s location within the Mississippi River Floodplain and the challenges that poses to future development and levels of activity are intended to be captured within the Low Growth Scenario, presented in **Section 2.8**.



2.5.1. Recent Growth at STP

An assumption that STP will maintain the growth trends observed since 2020, rather than reverting to the decline seen between 2014 and 2020, is supported by clear and measurable shifts in aviation activity. As discussed in **Section 2.3.3**, between 2014 and 2019, STP experienced a pre-pandemic decline in aircraft operations, dropping from 64,539 to 40,937, which equates to a CAGR of -4.45%. However, this trend reversed after the pandemic year of 2020, with a CAGR of 3.47% culminating in 42,476 operations in 2024.

Similarly, based aircraft counts, while showing a modest overall decline from 100 in 2014 to 97 in 2024 (a -0.3% CAGR), have stabilized and increased slightly in recent years. The fleet mix has also evolved, with jet aircraft now comprising 55% of the based fleet in 2024, up from 43% in 2014, indicating a trend toward larger aircraft usage at STP.

These data points collectively support the assumption that the Airport is on a growth trajectory. The post-2020 recovery appears to reflect broader changes in GA demand, operational efficiency, and aircraft utilization at STP, making it reasonable to forecast continued growth.

2.5.2. National GA Projections and Business Jet Market Share

The FAA's Aerospace Forecast for Fiscal Years 2025–2045 provides a comprehensive outlook on the future of GA in the U.S., offering context for local airport forecasting efforts. These national projections are particularly relevant to STP, given the Airport's significant role in supporting turbine-powered aircraft and business aviation.

2.5.2.1. GA Fleet and Activity Trends

According to the FAA, the total active GA fleet is projected to grow modestly over the next two decades from approximately 215,600 aircraft in 2025 to 238,350 by 2045, representing an average annual growth rate of 0.5% as shown in **Table 2.6**. This growth is largely driven by an increase in turbine-powered aircraft which are expected to offset the continued decline in piston aircraft.

Table 2.6 - FAA National Active GA Aircraft Growth Rates (2025-2045)

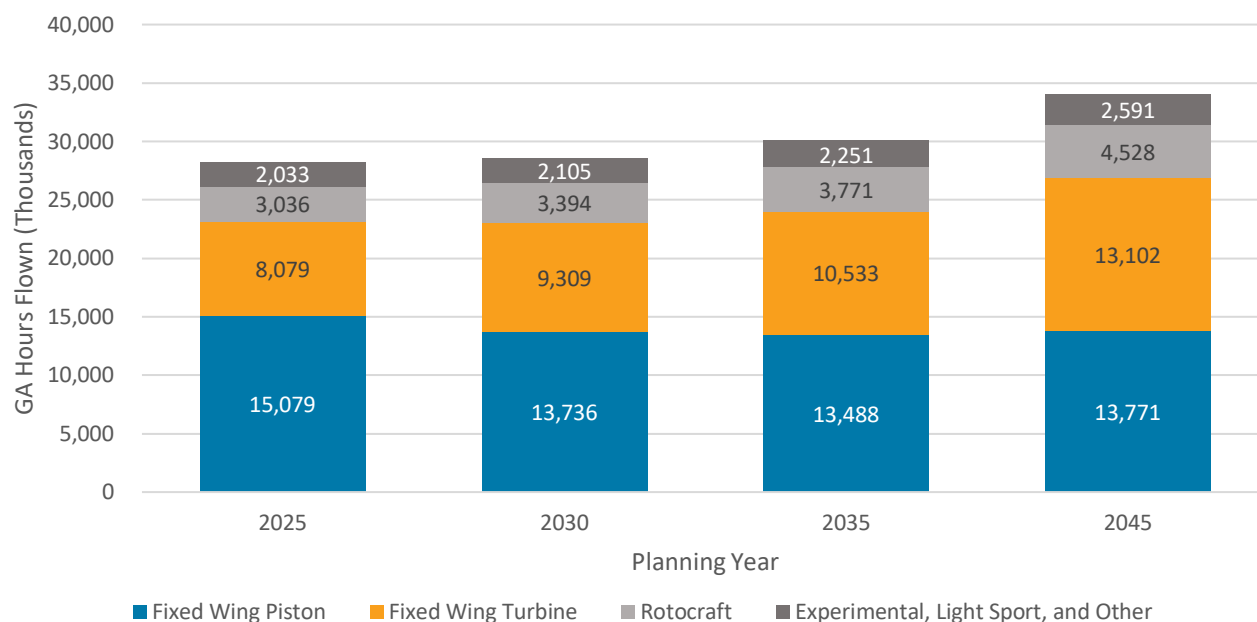
Aircraft Class	GA Forecast (2025)	GA Forecast (2045)	Average Annual Growth Rate for Fleet (2025-2045)
Fixed Wing Piston	138,270	134,850	-0.1%
Single-Engine	126,690	123,925	-0.1%
Multi-Engine	11,580	10,925	-0.3%
Fixed Wing Turbine	28,605	43,405	2.1%
Helicopter	10,420	14,715	1.7%
Experimental	30,425	34,670	0.7%
Light Sport	3,285	5,870	2.9%
Other	4,595	4,840	0.3%
Total	215,600	238,350	0.5%

Sources:

FAA Aerospace Forecasts, Fiscal Years 2025-2045.
Kimley-Horn, 2025.

In terms of GA aircraft hours flown, the FAA forecasts an increase from 28.2 million hours in 2025 to 34 million hours by 2045, with turbine aircraft accounting for a growing share of total flight hours as depicted in **Figure 2.5**. This shift reflects broader trends in the industry, including the increasing use of business jets for corporate travel, charter services, and high-end personal transportation.

Figure 2.5 - FAA National GA Hours Flown Forecast



Sources:
 FAA Aerospace Forecasts, Fiscal Years 2025-2045.
 Kimley-Horn, 2025.

2.5.2.2. Business Jet Activity Outlook

The FAA projects that business jet operations will experience the most robust growth among all GA segments. The active business jet fleet is expected to grow from 17,505 aircraft in 2025 to 29,865 by 2045, an average annual growth rate of 2.7%. This expansion is fueled by rising demand for flexible, point-to-point travel options, particularly among corporate users and high-net-worth individuals.

These national trends have direct implications for STP's aviation activity forecasts:

- Turbine Aircraft Growth and Based Aircraft Forecasts:** The projected national increase in turbine aircraft supports the assumption of modest growth in based aircraft at STP, where turbine-powered aircraft already represent a significant portion of the fleet. As piston aircraft decline nationally, STP's turbine-heavy profile positions it to benefit from the segment's relative growth. Additionally, STP has the longest runway (Runway 14/32, 6,491') in MAC's reliever airport system, which is an important element for operators of larger corporate aircraft to consider when traveling to/from the Twin Cities Metropolitan Area.
- Business Jet Market Share and Operations Forecasts:** Given the FAA's expectation of sustained growth in business jet activity, STP—already a hub for corporate and business aviation—is likely to see a corresponding increase in business jet operations. This aligns with



STP's strategic role in serving the Twin Cities' business community and its proximity to downtown St. Paul.

The FAA's national projections reinforce the assumptions underlying STP's aviation activity forecasts. The Airport's operational profile, which is characterized by a high proportion of turbine and business jet activity, positions it to benefit from the broader industry trends anticipated over the next 20 years.

2.5.3. Regional Socio-Economic Activity

The regional and state-level socioeconomic trends for the Minneapolis-Saint Paul Metropolitan Statistical Area (MSA) and the State of Minnesota are projected to have only a modest influence on aviation demand forecasts at STP. While the data indicates steady growth across several key indicators (population, employment, income, and economic output) none of these trends are expected to significantly alter the trajectory of aviation activity at this GA facility, as evidenced by historical fluctuation in activity at STP while regional and state economic indicators continued to increase.

Between 2024 and 2045, the population of the MSA is forecast to grow from approximately 3.78 million to 4.32 million, representing a CAGR of 0.64% as shown in **Table 2.7**. Similarly, the State of Minnesota is expected to see its population rise from 5.81 million to 6.42 million, with a lower CAGR of 0.48%. These modest increases suggest that while there will be more residents in the region, the pace of growth is not rapid enough to drive substantial increases in aviation demand, particularly at an airport like STP that does not serve commercial airline traffic.

Employment trends follow a similar pattern. The number of employed individuals in the MSP area is projected to increase from 2.70 million in 2024 to 3.30 million by 2045, a CAGR of 0.96%. Statewide employment is expected to grow from 3.99 million to 4.76 million over the same period, with a CAGR of 0.85%.

Income levels, as measured by Mean Household Personal Income (MHPI), are expected to rise more noticeably. In the MSA, MHPI is projected to grow from \$211,588 in 2024 to \$278,557 in 2045, a CAGR of 1.32%. Statewide, income is expected to increase from \$187,648 to \$250,931, with a slightly higher CAGR of 1.39%. While rising incomes can support discretionary travel and private aviation, the growth is steady rather than dramatic, indicating only a modest potential boost in demand for the types of services offered at STP.

The strongest growth indicator is the GRP for the MSP area, which is forecast to increase from \$374.7 billion in 2024 to \$535.7 billion in 2045, reflecting a CAGR of 1.72%. This suggests a healthy and expanding regional economy, which could support increased corporate aviation activity. However, even this relatively robust economic growth is unlikely to result in a significant surge in aviation demand at STP, given the Airport's specialized role in the regional aviation system.

**Table 2.7 - Regional Socioeconomic Forecasts**

Year	Population		Employment ^(a)		MHPI (2024 Dollars) ^(b)		GRP (2024 Dollars) ^(b)
	MSA	MN	MSA	MN	MSA	MN	MSA
2024	3,777,852	5,809,297	2,699,848	3,989,457	\$ 211,588	\$ 187,648	\$ 374,657,217,000
2030	3,946,225	6,003,875	2,890,637	4,236,657	\$ 228,401	\$ 203,485	\$ 419,810,895,200
2035	4,078,155	6,154,231	3,036,914	4,424,917	\$ 244,565	\$ 218,730	\$ 457,936,254,200
2045	4,317,585	6,421,263	3,300,802	4,761,873	\$ 278,557	\$ 250,931	\$ 535,723,167,500
CAGR 2024-2045	0.64%	0.48%	0.96%	0.85%	1.32%	1.39%	1.72%

Sources:

U.S. Census Bureau (accessed September 2024).

Woods & Poole Economics, Inc., 2024.

Kimley-Horn, 2025.

Notes:

(a) Employment status includes the population 16 years and over.

(b) Published data by Woods & Poole Economics, Inc., 2024. 2024 dollars calculated by conversion from 2012 dollars.

CAGR = Compound Annual Growth Rate.

GRP = Gross Regional Product.

MHPI = Mean Household Personal Income.

MSA = Minneapolis-Saint Paul Metropolitan Statistical Area.

2.6. Baseline Scenario Aviation Forecasts

A Baseline Scenario represents the most likely scenario of future aviation activity based on current data, historical trends, and reasonable assumptions about future conditions. It serves as the foundation for airport planning, including facility development and funding justifications.

The following sections present Baseline Scenario Forecasts for both based aircraft and aircraft operations at STP over the 20-year planning horizon. These forecasts represent the most likely future activity levels, grounded in current data, historical trends, and reasonable assumptions about future aviation demand.

2.6.1. Based Aircraft Forecasts

Based aircraft are operational and airworthy aircraft that are stationed at an airport for the majority of the year. These aircraft influence the need for future facilities such as hangars, aircraft parking aprons, and other supporting infrastructure. For this LTP Update, forecasts are grounded in a comprehensive analysis of current activity levels, historical and emerging trends in aviation demand, and data from multiple sources. A Base Year 2024 estimate of 97 based aircraft was utilized per MAC records.

At the time of writing, the total of 97 based aircraft at STP includes the following:

- 45 FAA NBAIP-validated aircraft based at STP
- 11 military aircraft reported by the Minnesota Army National Guard
- 41 additional long-term transient aircraft reported as based at STP in MnDOT's 2024 Aircraft by Area Report and recorded in local STP counts.

As initially discussed in **Section 2.3.1.2**, for FAA review and approval purposes, only the validated based aircraft (45) and their associated forecasts will be formally considered. However, for the purposes



of facility planning and subsequent analyses in this LTP Update, forecasts assume 97 based aircraft were present in 2024 and represent the actual number of aircraft occupying hangar space at STP. The 41 non-validated aircraft are referred to as “long-term transient” throughout the report. These aircraft represent a significant portion of the Airport’s operational activity that occupies a substantial share of available storage and apron space. As such, they require inclusion of future aviation demand for LTP needs and will be accounted for in the transient aircraft hangar demand requirements. The FAA forecast approval process will only consider the validated based aircraft.

The development of based aircraft forecasts for STP incorporated a combination of analytical techniques, each selected for its relevance to the Airport’s unique operational profile and data characteristics. The forecasting process drew upon elements of trend analysis, market-share analysis, and comparative assessments with federal and state aviation forecasts to ensure a comprehensive and credible projection of future activity. The rationale and results of each method considered, along with the recommended approach, are detailed in the following sections.

2.6.1.1. Based Aircraft – Federal and State Forecast Applications

Federal and state aviation forecasts play a vital role in informing individual airport forecasts by providing a broader context for expected trends in aviation activity. These forecasts, developed by agencies such as the FAA and MnDOT, offer insight into national and regional growth patterns, fleet changes, and economic influences that affect GA. For this LTP Update, three FAA forecast-based methodologies were applied to project-based aircraft growth at STP, using a base year figure of 97 based aircraft in 2024, as summarized in **Table 2.8**.

The first method applies the TAF growth rate for based aircraft at STP (1.52% CAGR) directly to the LTP Update’s base year figure of 97, resulting in a forecast of 133 based aircraft by 2045. This approach reflects the FAA’s expectations for local growth at STP but applies the projection to accurately reflect hangar demand (validated with long-term transient).

The second method applies the FAA Aerospace Forecast’s national GA fleet growth rate, which projects a more modest 0.50% growth rate from fiscal years 2025 to 2045. When applied to STP’s base year total, this results in a forecast of 108 based aircraft by 2045. This approach provides a conservative estimate, aligning STP’s growth with broader national trends in GA activity.

The third method incorporates the FAA Aerospace Forecast’s fleet mix projections, which estimate growth rates for specific aircraft categories including piston, turboprop, jet, and helicopter. These category-specific growth rates were applied to STP’s 2024 fleet composition to produce a more tailored top-down projection. This method results in 146 based aircraft by 2045 and a CAGR of 1.97%.

**Table 2.8 - Based Aircraft Forecasts: Federal and State Applications**

Year	Federal and State Forecast Applications		
	TAF Growth Rate	GA Aerospace Forecast Growth Rate	GA Aerospace Fleet Mix Forecast Growth Rate
2024	97	97	97
2030 (PAL 1)	106	100	115
2035 (PAL 2)	115	102	124
2045 (PAL 3)	133	108	146
CAGR 2024-2045	1.52%	0.50%	1.97%

Sources:

FAA Aerospace Forecasts Fiscal Years 2025-2045.

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

TAF = Terminal Area Forecast.

2.6.1.2. Based Aircraft – Socioeconomic Variables

Socioeconomic indicators such as population, employment, MHPI, and GRP offer valuable insight into the economic vitality of a region and can help predict trends in aircraft ownership and operation. The forecasts in this section assume that the future number of based aircraft at the Airport will align with the projected growth rates of these indicators for the MSA, as outlined in **Section 2.5.3**.

Using economic projections from Woods & Poole Economics, Inc., the projected growth rates for each socioeconomic factor were applied to the based aircraft count for 2024. In addition, regression models were developed for each socioeconomic factor. The resulting forecasts, shown in **Table 2.9**, suggest that the number of aircraft based at the Airport could range from 103 to 139 by 2045. This projection reflects CAGRs between 0.31% (based on employment regression) and 1.73% (based on GRP growth).

Table 2.9 - Based Aircraft Forecasts: Socioeconomic Variables

Year	Population		Employment		GRP		Mean Household PI	
	Population CAGR	Population Regression Analysis	Employment CAGR	Employment Regression Analysis	GRP CAGR	GRP Regression Analysis	MHPI CAGR	MHPI Regression
2024	97	97	97	97	97	97	97	97
2030 (PAL 1)	101	100	103	98	108	101	105	98
2035 (PAL 2)	104	103	108	100	117	105	112	101
2045 (PAL 3)	111	109	119	103	139	113	128	107
R-Value	-	0.64	-	0.16	-	0.39	-	0.6
CAGR 2024-2045	0.64%	0.54%	0.97%	0.31%	1.73%	0.71%	1.32%	0.49%

Sources:

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Woods & Poole Economics, Inc., 2024.

Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

GRP = Gross Regional Product.

Mean Household PI = Mean Household Personal Income.



2.6.1.3. Based Aircraft – Trend Analysis

Both linear and exponential time series forecasts were developed for based aircraft at the Airport. Forecasts were generated using both 10-year and 5-year historical data sets to evaluate how different timeframes influence long-term projections. It should be noted that a 5-year exponential model was also evaluated but produced an unrealistically positive outlook compared with historical trends and was therefore excluded from further analysis. The remaining forecasts, summarized in **Table 2.10**, project between 71 and 110 based aircraft by 2045. The 10-year linear and exponential models resulted in modest but identical long-term forecast totals, each projecting 110 based aircraft by 2045 with CAGRs of 0.61% and 0.60%, respectively. Conversely, the 5-year linear model indicates a declining trend, projecting only 71 based aircraft by 2045 and a negative CAGR of -1.45%. The 5-year linear forecast may reflect short-term fluctuations or anomalies, while the 10-year models smooth those variations, offering a more stable long-term outlook.

Table 2.10 - Based Aircraft Forecasts: Trend Analysis Methodologies

Year	10-Year Linear Time Series	5-Year Linear Time Series	10-Year Exponential Time Series
2024	97	97	97
2030 (PAL 1)	100	87	100
2035 (PAL 2)	104	82	103
2045 (PAL 3)	110	71	110
CAGR 2024-2045	0.61%	-1.45%	0.60%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

2.6.1.4. Based Aircraft – Regional Market Share

To enhance review of STP activity, regional dynamics and potential influences on based aircraft trends at other neighboring airports were examined. This comparative analysis can help identify external factors that may impact the regional airport system and STP's role within it. The market share forecast evaluates STP's share of based aircraft relative to a broader regional market. This analysis draws on historical and projected based aircraft data from the TAF for South St. Paul Airport (SGS), a GA airport located just four miles south of STP, and all six GA airports operated by the MAC.

Table 2.11 provides the historical market share of based aircraft for these airports, according to the TAF. STP's market share of based aircraft increased from 6.3% in 2014 to 7.1% in 2024. The average market share over this 10-year period was 6.3%, while the more recent 5-year average (2019–2024) rose to 6.9%. It should be noted that aircraft totals for comparison airports have not been confirmed for validation with the FAA's NBAIP. However, the FAA TAF is still considered a worthy source for comparison of STP's share within the regional market.



Table 2.11 - Based Aircraft: Historical Market Share

Year	Saint Paul Downtown Airport	South Saint Paul Airport	Airlake Airport	Anoka County–Blaine Airport	Crystal Airport	Flying Cloud Airport	Lake Elmo Airport	TOTAL	% STP
2014	100	229	116	407	183	365	177	1,577	6.3%
2015	85	377	108	407	185	365	196	1,723	4.9%
2016	82	401	108	389	164	361	192	1,697	4.8%
2017	87	243	133	350	163	343	179	1,498	5.8%
2018	90	243	133	345	163	343	184	1,501	6.0%
2019	103	206	133	345	163	343	172	1,465	7.0%
2020	91	221	116	319	130	243	169	1,289	7.1%
2021	102	221	104	388	130	331	169	1,445	7.1%
2022	92	220	104	388	130	324	156	1,414	6.5%
2023	92	220	106	387	131	325	155	1,416	6.5%
2024	97	236	95	371	102	294	177	1,372	7.1%
CAGR 2024-2045	-0.30%	0.30%	-1.98%	-0.92%	-5.68%	-2.14%	0.00%	-1.38%	-

Sources:

FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

Based on this historical data, five market share forecast scenarios were developed:

- **2024 Market Share:** Applies STP's 2024 market share (7.1%) to future TAF-based aircraft projections for the regional GA system.
- **5-Year Historical Average:** Uses the 5-year average market share (6.9%) applied to the same regional projections.
- **10-Year Exponential Trend:** Projects future market share using an exponential smoothing model based on the past 10 years of STP's market share data.
- **10-Year Linear Trend:** Applies a linear time-series model to the past 10 years of market share data to estimate future shares.
- **5-Year Straight Line Projection:** Assumes a steady market share growth of 0.1% every five years, consistent with the trend observed from 2019 to 2024. These projected shares are applied to future TAF-based aircraft estimates.

The forecasted number of based aircraft and corresponding CAGRs for each scenario are presented in **Table 2.12**.

**Table 2.12 - Based Aircraft Forecasts: Regional Market Share**

Year	Regional Based Aircraft ^(a)	2024 Market Share	5-year Average Historical Market Share	10-Year Exponential Market Share Trend	10-Year Linear Market Share Trend	5-year Straight Line Projection Market Share Trend
2024	1,372	97	97	97	97	97
2030 (PAL 1)	1,363	96	94	109	111	98
2035 (PAL 2)	1,378	97	95	122	124	100
2045 (PAL 3)	1,412	100	97	148	150	106
CAGR 2024-2045	0.14%	0.14%	0.00%	2.04%	2.11%	0.41%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

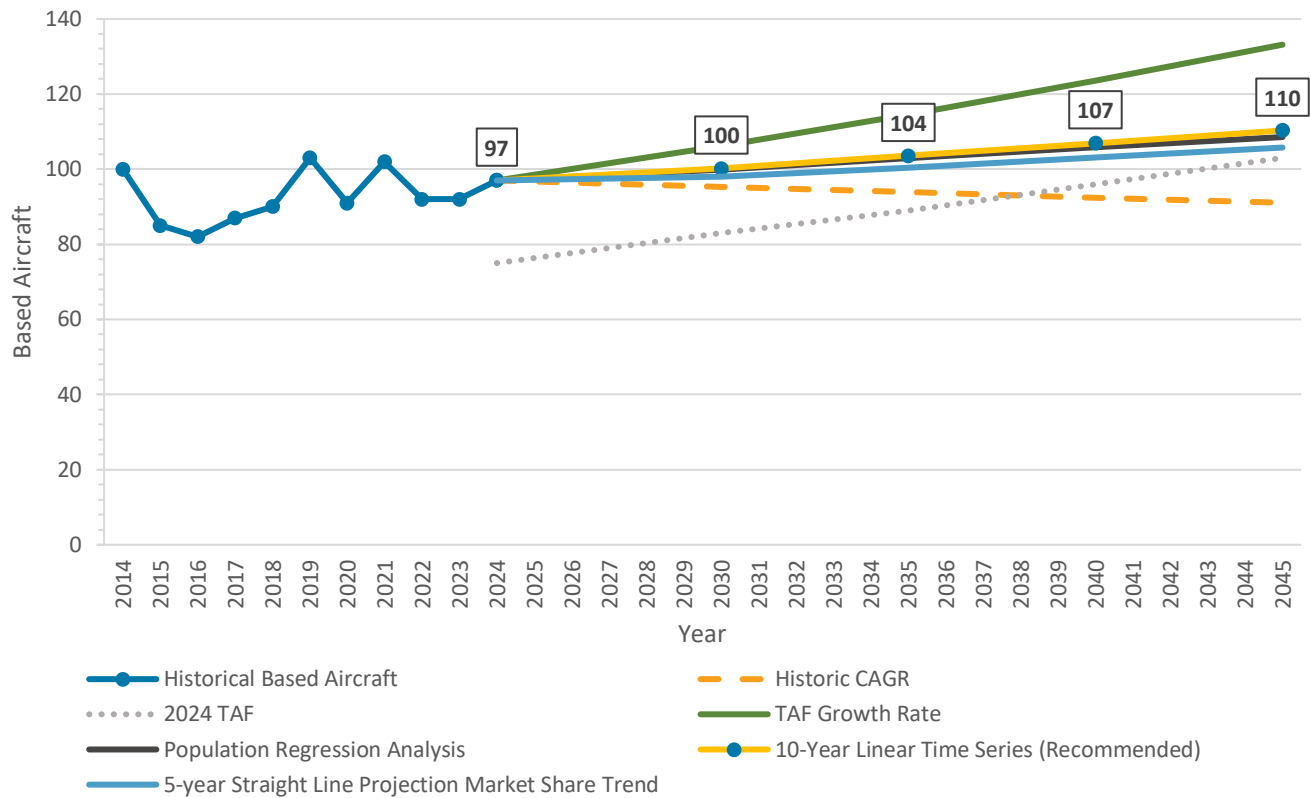
(a) Total of TAF projected based aircraft for the following airports: STP, MIC, LVN, ANE, FCM, 21D, SGS.

CAGR = Compound Annual Growth Rate.

2.6.1.5. Based Aircraft – Recommended Methodology

Historical data of based aircraft showed relatively stable patterns over time, making a linear time series model particularly well-suited for projecting future levels. Between 2014 and 2024, the number of based aircraft at STP showed only a slight net change, decreasing from 100 to 97. However, the data during this period reveals notable year-to-year fluctuations. Due to these variations, a 10-year linear time series model, based on annual reported figures from 2014 to 2024, is the recommended forecast, as it also captures and weighs more recent growth. The simplicity and transparency of trend analysis, combined with the availability of reliable historical data, made it the most appropriate and defensible approach for this element of the forecast.

This approach projects an increase in based aircraft from 97 in the base year 2024 to 110 by 2045, reflecting a CAGR of 0.61%. **Figure 2.6** illustrates the recommended based aircraft forecast in context with representative scenarios from the alternative forecasting approaches.

**Figure 2.6 - Summary of Based Aircraft Forecasts and Recommended Methodology****Sources:**

FAA Aerospace Forecasts Fiscal Years 2025-2045.
FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Woods & Poole Economics, Inc., 2024.
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.
TAF = Terminal Area Forecast.

2.6.1.6. Based Aircraft Fleet Mix Forecast

Table 2.13 outlines the projected fleet mix of based aircraft at STP through 2045. It details the anticipated number of based aircraft by type at each planning milestone and includes the CAGR for the 2024-2045 period. According to the FAA Aerospace Forecasts for Fiscal Years 2025–2045, jet aircraft within the national GA fleet are expected to grow at an annual rate of 2.7%, while single-engine piston aircraft are projected to decline slightly by -0.1% over the planning horizon.

Although these figures reflect national trends, STP's 10-year historical data support these projections, as discussed in **Section 2.3.2**. From 2014 to 2024, single-engine aircraft decreased marginally from 25 to 24, while jet aircraft increased from 43 to 53. However, more recent data from 2019 to 2024 shows a more optimistic trend for single-engine aircraft, rising from 16 to 24, with jet aircraft remaining steady at 53. Based on this, jet-based aircraft at STP are forecasted to grow at a more moderate CAGR of 0.8%, and piston-based aircraft at 0.44%.

For all other aircraft categories, the 2024 fleet mix has been held constant and applied to the total based aircraft forecast generated using the recommended methodology: the 10-year linear time series



forecast. Percentage distribution was derived from the FAA's validated based aircraft inventory, the Airport's military based aircraft list, and the Airport's transient based aircraft list. Consequently, the CAGRs for these categories align directly with the overall based aircraft CAGR of 0.61%.

Table 2.13 - Based Aircraft Forecasts: Fleet Mix

Year	Piston	Turboprop	Jet	Helicopter	Military	Total
2024	21	9	53	3	11	97
2030 (PAL 1)	21	9	56	3	11	100
2035 (PAL 2)	22	10	58	3	11	104
2045 (PAL 3)	23	10	62	3	11	110
CAGR 2024-2045	0.44%	0.61%	0.80%	0.61%	0%	0.61%

Sources:

FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

Only the validated based aircraft and their corresponding forecasts will be formally considered for FAA review and approval. **Table 2.14** provides a summary of the projected fleet mix for these validated based aircraft, serving as the official reference for planning and regulatory purposes.

Table 2.14 - Based Aircraft Forecasts: Validated Based Aircraft Fleet Mix

Year	Piston	Turboprop	Jet	Helicopter	Total Validated
2024	9	8	26	2	45
2030 (PAL 1)	9	8	27	2	46
2035 (PAL 2)	9	9	28	2	47
2045 (PAL 3)	10	9	31	2	52
CAGR 2024-2045	0.44%	0.61%	0.80%	0.61%	0.61%

Sources:

FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

2.6.2. Aircraft Operations Forecasts

Aircraft operations assist in determining future airfield capacity, design criteria, and other facility requirements at airports. This section presents projections of GA operations at STP over the 20-year planning horizon. GA operations at STP encompass a wide range of activities, including flight training, corporate aviation, medical transport, and recreational flying. These activities represent nearly all operational segments at GA airports aside from military activity.



As discussed earlier in **Section 2.3.3**, STP recorded 42,476 total operations in 2024. Forecasts were developed using a combination of methodologies, including socioeconomic trend analysis, regional market share comparisons, and Operations Per Based Aircraft (OPBA) modeling. These approaches provide a comprehensive foundation for projecting future operational activity and planning for long-term airport development.

2.6.2.1. Operations – Federal and State Forecast Applications

For this LTP Update, four FAA and state forecast-based methodologies were used to project operations growth.

- **TAF-Based Growth Rate:** This method applies the TAF's 20-year forecasted CAGR for operations at STP (0.37%) directly to the LTP Update base year figure of 42,476. This results in a projected total of 45,901 operations by 2045, aligning closely with the FAA's expectations for local growth.
- **FAA GA Aerospace Forecast Growth Rate:** This method uses the FAA Aerospace Forecast's national growth rate for aircraft operations at airports with ATCT, projected to be 0.50% annually between 2025 and 2045. When applied to STP's base year total, this yields a forecast of 47,166 operations by 2045.
- **FAA GA Aerospace Fleet Mix Growth Rate:** This approach incorporates category-specific growth rates from the FAA Aerospace Forecast for GA hours flown by aircraft type (e.g., piston, jet, turboprop, helicopter). These rates were applied to STP's 2024 fleet composition to generate a tailored projection. The resulting forecasts project 62,831 operations by 2045, with a CAGR of 1.88%.
- **MnSASP GA Operations Growth Rate:** The method applies the 1.22% CAGR from the MnSASP for GA operations (2020–2040) to STP's 2024 base year figure. The MnSASP used a mixed-methodology approach tailored to airport classifications and demand drivers. This results in a forecast of 54,794 operations by 2045.

The operations and associated CAGRs of these four methodologies are summarized in **Table 2.15**.

Table 2.15 - Aircraft Operations Forecasts: Federal and State Applications

Year	Federal and State Forecast Applications			
	TAF Growth Rate	GA Aerospace Forecast Growth Rate	GA Aerospace Fleet Mix Growth Rate	MnSASP GA Operations Growth Rate
2024	42,476	42,476	42,476	42,476
2030 (PAL 1)	43,428	43,766	46,972	45,682
2035 (PAL 2)	44,237	44,871	51,443	48,537
2045 (PAL 3)	45,901	47,166	62,831	54,794
CAGR 2024-2045	0.37%	0.50%	1.88%	1.22%

Sources:

FAA Terminal Area Forecast (TAF), 2024.
 FAA Aerospace Forecasts Fiscal Years 2025-2045.
 MAC Noise and Operations Monitoring System (MACNOMS).
 Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
 2022 Minnesota State Aviation System Plan (MnSASP).
 Kimley-Horn, 2025.

Notes:

TAF = Terminal Area Forecast.
 CAGR = Compound Annual Growth Rate.



2.6.2.2. Operations – Socioeconomic Variables

Operations forecasts were developed using socioeconomic methodologies. Specifically, CAGRs for various socioeconomic indicators in the MSA, sourced from Woods & Poole Economics, Inc., were applied to STP’s base year operations total of 42,476. This approach assumed that operations would grow at the same rate as the selected socioeconomic factors. Additionally, regression analyses using each socioeconomic variable were also conducted, but dismissed from presentation for resulting in unrealistic projections. As shown in **Table 2.16**, the forecasts based on socioeconomic data project between 48,565 and 60,894 annual operations by 2045, corresponding to CAGRs ranging from 0.64% to 1.73% over the planning horizon.

Table 2.16 - Aircraft Operations Forecasts: Socioeconomic Variables

Year	Population CAGR	Employment CAGR	GRP CAGR	MHPI CAGR
2024	42,476	42,476	42,476	42,476
2030 (PAL 1)	44,133	45,009	47,080	45,953
2035 (PAL 2)	45,564	47,235	51,296	49,067
2045 (PAL 3)	48,565	52,022	60,894	55,943
CAGR 2024-2045	0.64%	0.97%	1.73%	1.32%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Woods & Poole Economics, Inc., 2024.
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.
GRP = Gross Regional Product.
MHPI = Mean Household Personal Income.

2.6.2.3. Operations – Trend Analysis

Table 2.17 presents the results of 5-year linear and exponential time series forecasts for aircraft operations at STP. These forecasts were developed using only the most recent five years of historical data (2020-2024) due to significant fluctuation in activity between the 2014-2020 and 2020-2024 periods. The earlier period reflected a declining trend, while the post-2020 data show a clear and consistent upward trajectory in operations. This recent growth trend indicates the Airport is continuing to recover from a low point in activity that will not be realized again unless a significant disruption to the aviation industry occurs, like another global health pandemic (e.g., COVID-19) or major disruptions in fuel price/production.

The linear time series forecast projects a gradual increase in operations, reaching 61,616 by 2045, with a CAGR of 1.79%. In contrast, the exponential model anticipates a more accelerated growth pattern, projecting 72,593 operations by 2045 and a higher CAGR of 2.58%. While both models begin at the same 2024 baseline of 42,476 operations, the exponential model reflects compounding growth, resulting in a wider gap between the two forecasts over time.

**Table 2.17 - Aircraft Operations Forecasts: Trend Analysis Methodologies**

Year	5-Year Linear Time Series	5-Year Exponential Time Series
2024	42,476	42,476
2030 (PAL 1)	47,026	50,784
2035 (PAL 2)	51,890	58,054
2045 (PAL 3)	61,616	72,593
CAGR 2024-2045	1.79%	2.58%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2019-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

2.6.2.4. Operations – Regional Market Share

Regional market share forecasts were developed using both historical and projected TAF estimates of aircraft operations at all towered GA airports within the Minneapolis-Saint Paul metropolitan area, including Anoka (ANE), Crystal (MIC), Flying Cloud (FCM), and STP. This also includes the market share of GA traffic from Minneapolis-St. Paul International (MSP), which is comprised primarily of corporate itinerant operations. **Table 2.18** notes STP's share of aircraft operations declining from 24.7% in 2014 to 14.3% in 2024, according to the TAF. The Airport's average market share between 2014 and 2024 was 16.4%.

Table 2.18 - GA Aircraft Operations: Historical Market Share

Year	Saint Paul Downtown Airport	Crystal Airport	Anoka County-Blaine Airport	Flying Cloud Airport	Minneapolis-St. Paul International (MSP)	TOTAL	% STP
2014	64,539	42,820	69,124	73,485	11,487	261,455	24.7%
2015	56,676	38,917	85,599	84,289	11,458	276,939	20.5%
2016	54,548	36,989	82,695	84,095	11,572	269,899	20.2%
2017	40,489	35,617	77,746	89,347	11,540	254,739	15.9%
2018	40,116	37,211	73,200	91,060	10,380	251,967	15.9%
2019	40,934	40,770	73,221	96,238	9,795	260,958	15.7%
2020	30,188	38,044	69,954	119,710	6,142	264,038	11.4%
2021	39,196	36,312	74,140	133,217	5,988	288,853	13.6%
2022	41,592	41,209	63,462	123,117	8,252	277,632	15.0%
2023	38,167	46,016	71,751	134,606	8,323	298,863	12.8%
2024	42,476	42,868	72,003	130,951	7,984	296,282	14.3%
CAGR 2024-2045	-4.10%	0.01%	0.41%	5.95%	-3.57%	1.26%	-

Sources:

FAA Terminal Area Forecast (TAF), 2024.
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.



To project future aircraft operations at STP, five market share forecast scenarios were developed based on this historical data:

- **2024 Market Share:** Applies STP's 2024 market share (14.3%) to total TAF GA aircraft operations projections for towered comparison airports.
- **10-Year Historical Average:** Uses the 10-year average market share (16.4%) applied to the same regional projections.
- **5-Year Historical Average:** Applies the 5-year average market share (13.8%) to the regional projections.
- **5-Year Exponential Trend:** Uses an exponential smoothing model based on the past 5 years of STP's market share to forecast future shares, which are then applied to the regional projections.
- **5-Year Linear Trend:** Applies a linear time-series model to the past 5 years of market share data to project future shares and estimate aircraft operations.

The projected number of aircraft operations and corresponding CAGRs for each scenario are presented in **Table 2.19**.

Table 2.19 - Aircraft Operations Forecasts: Regional Market Share

Year	Regional Aircraft Operations ^(a)	2024 Market Share	10-Year Ave. Historical Market Share	5-Year Ave. Historical Market Share	5-Year Exponential Market Share Trend	5-year Linear Market Share Trend
2024	296,282	42,476	42,476	42,476	42,476	42,476
2030 (PAL 1)	319,155	45,573	52,212	44,031	47,787	43,004
2035 (PAL 2)	328,734	46,973	53,779	45,353	51,683	43,673
2045 (PAL 3)	348,982	49,935	57,091	48,146	60,094	45,043
CAGR 2024-2045	0.77%	0.77%	1.42%	0.59%	1.67%	0.28%

Sources:

FAA Terminal Area Forecast (TAF), 2024.
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

(a) Total of TAF projected GA aircraft operations for the following airports: STP, MSP, MIC, ANE, FCM.
CAGR = Compound Annual Growth Rate.

2.6.2.5. Operations per Based Aircraft

The final methodology for forecasting GA operations employs the OPBA ratio to estimate future demand. This ratio is calculated by determining a historical or base year relationship between based aircraft and total operations at the Airport, then applying that ratio to projected based aircraft figures. OPBA can be a useful forecasting method as it captures a functional relationship between the number of aircraft based at an airport and how frequently they are used.

To develop this forecast, historical data from 2014 to 2024 was analyzed, resulting in a mean OPBA value of approximately 482. Using the recommended 10-year linear time series approach for forecasting based aircraft, this average OPBA was applied to generate projected operations throughout the



planning horizon. As illustrated in **Table 2.20**, this methodology yields a forecast of 53,169 aircraft operations by 2045, corresponding to a CAGR of 1.07%.

Table 2.20 - Aircraft Operations Forecasts: Operations per Based Aircraft (OPBA)

Year	Recommended Forecast – Based Aircraft ^(a)	Operations per Based Aircraft	Forecast Operations
2024	97	438	42,476
2030 (PAL 1)	100	483	48,305
2035 (PAL 2)	104	480	49,926
2045 (PAL 3)	110	483	53,169
CAGR 2024-2045	0.61%	-	1.07%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

(a) Based aircraft derived from recommended based aircraft forecast “Trend Analysis Methodologies: 10-Year Linear Time Series” as shown in Table 2.10.

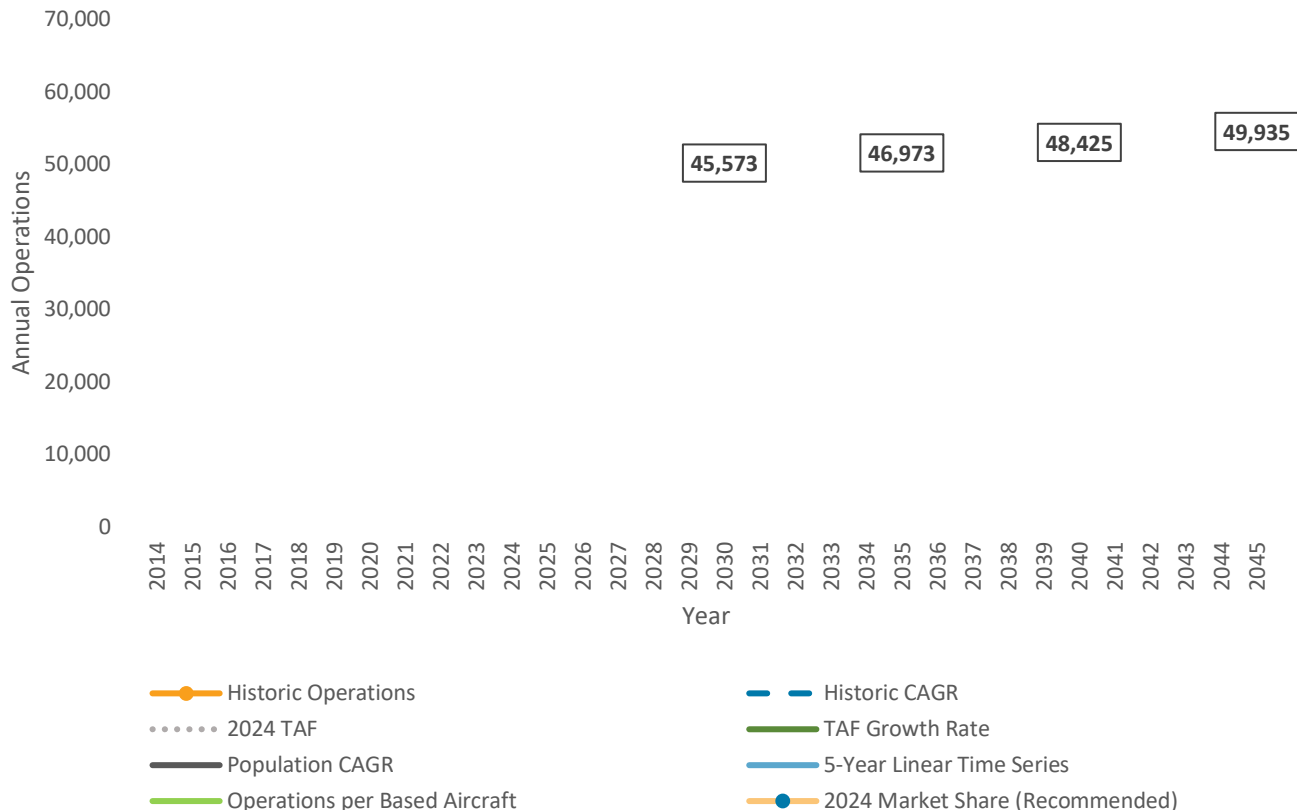
CAGR = Compound Annual Growth Rate.

2.6.2.6. Operations – Recommended Methodology

STP operates in a competitive regional environment with several nearby airports serving overlapping markets. Given STP’s proximity to six other reliever airports, five of which are controlled by MAC (i.e., the same Authority that operates STP), the market share methodology was identified as the most reliable forecasting approach. This is due to STP’s overlapping catchment area with nearby GA airports, MSP, and STP’s activity reflecting regional and national aviation trends.

Although STP’s market share declined from 24.7% in 2014 to 14.3% in 2024, the relatively stable average of 13.8% over the past five years suggests that the 2024 share is a reasonable basis for future projections. As such, the 2024 market share forecast represents the recommended forecast for aircraft operations. Under this scenario, operations are projected to grow from 42,476 in the 2024 base year to 49,935 by 2045, reflecting a CAGR of 0.77%.

Figure 2.7 illustrates the recommended aircraft operations forecast in context with representative scenarios from the alternative forecasting approaches.

**Figure 2.7 - Summary of Aircraft Operations Forecasts and Recommended Methodology****Sources:**

FAA Aerospace Forecasts Fiscal Years 2025-2045.
FAA Terminal Area Forecast (TAF), 2024.
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Woods & Poole Economics, Inc., 2024.
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.
TAF = Terminal Area Forecast.

2.6.2.7. Operational Fleet Mix Forecast

Table 2.21 presents the projected fleet mix of aviation operations at STP through 2045. The table provides projected annual operations by aircraft type at each planning milestone, along with the CAGR for the 2024-2045 period. Notably, the FAA Aerospace Forecasts for Fiscal Years 2025-2045 anticipate a 3.1% annual growth rate in GA hours flown by jet aircraft, while projecting a slight decline of -0.5% for single-engine piston aircraft. While these trends reflect national patterns, STP's operational history shows that jet traffic, while on the incline, has not yet reached pre-pandemic values as of base year 2024 as demonstrated earlier in **Figure 2.3**. This fact supports a more moderate local growth rate. Accordingly, jet operations at STP are forecasted to grow at 1.5% CAGR, while piston operations are projected to grow at 0.28% CAGR.

For the turboprop and helicopter categories, the 2024 operational mix was held constant and applied to the total operations forecast. As a result, the CAGRs for these categories are directly derived from the overall CAGR of 0.77%. This forecast assumes that aircraft categorized as "Other" (which represents



aircraft not otherwise specified by MACNOMS) are proportionally distributed among the fleet mix categories according to their respective operational shares.

Table 2.21 - Aircraft Operations Forecasts: Fleet Mix

Year	Piston	Turboprop	Jet	Helicopter	Other ^(a)	Total ^(b)
2024	20,140	5,072	12,168	4,502	594	42,476
2030 (PAL 1)	21,922	5,389	13,471	4,789	-	45,573
2035 (PAL 2)	21,884	5,600	14,512	4,977	-	46,973
2045 (PAL 3)	21,672	6,047	16,842	5,373	-	49,935
CAGR 2024-2045	0.28%	0.77%	1.50%	0.77%	-	0.77%

Sources:

FAA Aerospace Forecasts Fiscal Years 2025-2045.

FAA Terminal Area Forecast (TAF), 2024.

MAC Noise and Operations Monitoring System (MACNOMS).

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

(a) "Other" represents unknown aircraft or aircraft not otherwise specified by MACNOMS.

(b) Total operations derived from recommended operations forecast "Regional Market Share Methodologies: 2024 Market Share" as presented in Table 2.19.

CAGR = Compound Annual Growth Rate.

2.6.2.8. Peak Month, Day, and Hourly Operations

Peak activity forecasts assist in identifying airfield capacity constraints, potential levels of aircraft delay, transient aircraft parking requirements, and other facility needs. Identification of peak periods of activity are used to ensure that facilities are not underutilized or over-planned. Forecasts of peak levels of activity include:

- **Peak Month:** The calendar month when peak activity occurs
- **Average Day Peak Month (ADPM):** Daily average activity that occurs in the peak month
- **Peak Hour:** Representative hour that best reflects elevated levels of activity that occur on a regular basis

Historically, peak operations at STP have occurred in summer and fall months, with September representing the most recent peak month in 2024 when 4,334 operations (10.2% of annual operations) were recorded by FAA ATADS. To calculate future peak month activity, this percentage was held constant and applied to future annual operations forecasts. Similarly, to calculate future ADPM forecasts, the September 2024 daily average of 144 (4,334 monthly operations in September 2024 divided by 30 days) was applied to projections of future peak month activity.

According to the FAA's "Forecasting Aviation Activity by Airport," design-hour peaking forecasts should represent the peak hour of the average day in the busiest month. To develop 2024 estimates, TFMS individual hourly data for each day in September was analyzed. For each day, the peak hour was identified, and these daily peak hours were averaged to produce a granular estimate of regularly occurring peak activity, identified as 23 operations per hour. This approach accounts for the fact that non-peak months often include individual hours where this average is met or exceeded, making it an appropriate reference for long-term planning. Future peak-hour forecasts were derived by applying the



same growth rate used for annual operations to this base estimate. Results of peak operations are shown in **Table 2.22** and will be carried into the demand/capacity analysis in **Chapter 3**.

Table 2.22 - Peak Operations Forecasts

Year	Total Operations ^(a)	Peak Month Operations ^(b)	ADPM Operations	Peak Hour Operations
2024	42,476	4,334	144	23
2030 (PAL 1)	45,573	4,669	155	24
2035 (PAL 2)	46,973	4,809	160	25
2045 (PAL 3)	49,935	5,105	170	27
CAGR 2024-2045	0.77%	0.77%	0.77%	0.77%

Sources:

FAA Aviation System Performance Metrics (ASPM).

FAA Terminal Area Forecast (TAF), 2024.

FAA Traffic Flow Management System Counts (TFMSC).

MAC Noise and Operations Monitoring System (MACNOMS).

Kimley-Horn, 2025.

Notes:

(a) Total operations are derived from the recommended operations forecast "Regional Market Share Methodologies: 2024 Market Share" as presented in Table 2.19.

(b) Peak month was determined to be September.

CAGR = Compound Annual Growth Rate.

ADPM = Average Day Peak Month.

2.6.3. Operations Type Forecasts

This section utilizes the recommended forecast for operations (the 2024 market share forecast), as analyzed in **Section 2.6.2**, to review various operational activity subsets at the Airport, including military, local/itinerant, day/night, and instrument approaches over the 20-year planning horizon.

2.6.3.1. Civil and Military Operations

Identification of local and itinerant civil and military operations assists airports to better understand impacts to air traffic management, itinerant aircraft parking needs, and tenant needs.

The civil and military aviation operations forecasts at STP through 2045 were developed using a market share-based methodology. The 2024 operational data was sourced from MACNOMS, the TAF, and TFMS, and served as the baseline for projecting future activity. Forecasts were broken down into civil and military categories, with each further divided into itinerant and local operations. The 2024 market share forecast was used as the basis for total operations growth, with civil and military shares derived proportionally.

- **Civil Operations:** The 2024 civil operations total (40,035) was split into itinerant (29,225) and local (10,810) operations. These proportions were held constant and applied to the total civil operations forecast through 2045.
- **Military Operations:** The 2024 military operations total (2,441) was divided into itinerant (2,014) and local (427) operations. No growth in military activity is assumed over the forecast period.

Table 2.23 shows that the civil operations are projected to grow steadily, increasing from 40,035 in 2024 to 47,590 by 2045. This growth aligns with the overall operations forecast and corresponds to a



CAGR of 0.8%. Both itinerant and local civil operations are expected to maintain their 2024 proportional shares, with itinerant operations rising from 29,225 to 34,782 and local operations increasing from 10,810 to 12,808 over the same period. These forecasts assume that the operational mix between itinerant and local activity remains stable throughout the forecast period, preserving the baseline distribution established in 2024.

In contrast, military operations are assumed to remain steady over the planning horizon. The presence of the Army Air National Guard at the airfield assures that military activity will continue, but with the absence of justification for a future increase in military activity, no growth is assumed.

Table 2.23 - Civil Operations Forecast

Year	Total Operations ^(a)	Civil Operations Forecast		
		Civil Operations and % of Total	Local Civil and % of Total Civil	Itinerant Civil and % of Total Civil
2024	42,476	40,035 (94.3%)	10,810 (27%)	29,225 (73%)
2030 (PAL 1)	45,573	43,314 (94.7%)	11,677 (27%)	31,637 (73%)
2035 (PAL 2)	46,973	44,687 (94.8%)	12,040 (26.9%)	32,647 (73.1%)
2045 (PAL 3)	49,935	47,590 (95.1%)	12,808 (26.9%)	34,782 (73.1%)
CAGR 2024-2045	0.77%	0.80%	0.80%	0.80%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

FAA Traffic Flow Management System Counts (TFMSC).

MAC Noise and Operations Monitoring System (MACNOMS).

Kimley-Horn, 2025.

Notes:

(a) Total operations derived from recommended operations forecast "Regional Market Share Methodologies: 2024 Market Share" as presented in Table 2.19.

CAGR = Compound Annual Growth Rate.

2.6.3.2. Daytime and Nighttime Operations

Airports rely on forecasts of nighttime operations to effectively understand, and to the extent practicable, manage aircraft noise to minimize impacts to the surrounding community. Because residents are more sensitive to noise during nighttime hours, even a small number of late-night or early-morning flights can lead to increased complaints and public concern. The FAA defines nighttime operations as those that are conducted between 10:00 PM and 7:00 AM. According to MACNOMS, approximately 8.2% of 2024 operations occurred during nighttime hours. **Table 2.24** presents projected total, daytime, and nighttime operations at the Airport for planning years between 2024 and 2045 and their associated CAGRs. These projections assume a consistent distribution of 91.8% daytime and 8.2% nighttime operations throughout the forecast period.

**Table 2.24 - Daytime/Nighttime Operations Forecast**

Year	Total Operations ^(a)	Daytime Operations	% Daytime	Nighttime Operations ^(b)	% Nighttime
2024	42,476	38,978	91.8%	3,498	8.2%
2030 (PAL 1)	45,573	41,820	91.8%	3,753	8.2%
2035 (PAL 2)	46,973	43,105	91.8%	3,868	8.2%
2045 (PAL 3)	49,935	45,823	91.8%	4,112	8.2%
CAGR 2024-2045	0.77%	0.77%	-	0.77%	-

Sources:

FAA Aviation System Performance Metrics (ASPM).

FAA Terminal Area Forecast (TAF), 2024.

FAA Traffic Flow Management System Counts (TFMSC).

MAC Noise and Operations Monitoring System (MACNOMS).

Kimley-Horn, 2025.

Notes:

(a) Total operations derived from recommended operations forecast "Regional Market Share Methodologies: 2024 Market Share" as presented in Table 2.19.

(b) The FAA defines nighttime operations as those that are conducted between 10:00 PM and 7:00 AM.

CAGR = Compound Annual Growth Rate.

2.6.3.3. Touch-and-Go Operations

Forecasting touch-and-go operations is important because they directly affect airfield capacity, an element addressed in **Chapter 3**. According to data from MACNOMS, annual touch-and-go operations at the Airport more than doubled between 2019 and 2024. However, it is probable that MACNOMS has recorded more touch-and-go's recently than in previous years as more aircraft are equipped with ADS-B Out. Therefore, a more stable forecasting approach has been adopted, using the 5-year historical average share of touch-and-go operations (24.6% of total operations) as a basis. This percentage is applied consistently across the forecast period. **Table 2.25** illustrates this methodology, showing an increase in touch-and-go operations from 10,458 in 2024 to 12,294 by 2045.

Table 2.25 - Touch-and-Go Operations Forecast

Year	Total Operations ^(a)	Local Operations	Touch-and-Go Operations ^(b)
2024	42,476	11,237	10,458
2030 (PAL 1)	45,573	12,056	11,220
2035 (PAL 2)	46,973	12,427	11,565
2045 (PAL 3)	49,935	13,210	12,294
CAGR 2024-2045	0.77%	0.77%	0.77%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

MAC Noise and Operations Monitoring System (MACNOMS).

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

(a) Total operations derived from recommended operations forecast "Regional Market Share Methodologies: 2024 Market Share" as presented in Table 2.19.

(b) A touch-and-go is an operation conducted by an aircraft that lands and departs on a runway without stopping or exiting.

CAGR = Compound Annual Growth Rate.

2.7. Critical Aircraft Forecast

The critical aircraft establishes applicable design standards to an airport or runway and is defined by the FAA as the most demanding aircraft, or group of aircraft with similar characteristics, that conducts at least 500 annual operations at an airport, excluding touch-and-go activity. This aircraft places the greatest demand on airport infrastructure in terms of both operational and physical requirements.

Aircraft dimensions for these components were discussed in **Chapter 1. Table 2.26** below illustrates the historical aircraft operation counts (excluding touch-and-go's) by ARC for the years 2019 through 2024 as recorded by MACNOMS. As shown, C-III operations exceeded 500 annual operations in each year of available MACNOMS data. While MACNOMS does not capture all operations by ARC (as indicated by the Unknown category) at the Airport, the C-III group represents the most demanding aircraft group that regularly operates at STP.

Table 2.26 - Historical Operations by Airport Reference Code (ARC)

ARC	2019	2020	2021	2022	2023	2024
Airport Totals^(b)						
A-I	3,075	3,304	8,050	11,082	10,504	8,848
A-II	927	622	873	944	703	874
B-I	1,648	1,081	1,319	1,032	1,065	1,221
B-II	5,974	3,939	6,034	5,589	5,591	7,330
B-III	110	72	86	54	106	152
C-I	513	435	491	330	342	545
C-II	3,201	1,641	2,515	2,476	2,426	3,385
C-III	880	794	977	1,139	1,147	1,418
D-II	397	173	244	182	147	196
Helo	804	999	893	1,457	1,450	1,606
Unknown ^(a)	7,098	2,102	1,016	1,002	637	272
MACNOMS Total^(b)	24,627	15,162	22,498	25,287	24,118	25,847
Runway 14/32						
A-I	2,604	2,798	7,752	10,741	10,303	8,065
A-II	940	635	879	931	702	820
B-I	1,708	1,115	1,332	1,046	1,079	1,157
B-II	6,030	4,107	6,114	5,635	5,665	7,076
B-III	105	75	88	54	108	149
C-I	537	454	496	335	347	531
C-II	3,368	1,723	2,561	2,524	2,472	3,297
C-III	927	829	994	1,161	1,167	1,386
D-II	418	101	248	186	149	190
Helo	631	765	630	957	1,026	975
Unknown ^(a)	5,806	1,740	755	844	467	220
14/32 Subtotal	23,074	14,342	21,849	24,414	23,485	23,867
% of Total Ops	93.7%	94.6%	97.1%	96.5%	97.4%	92.3%
Runway 13/31						
A-I	99	85	135	179	107	219
A-II	8	3	0	11	5	11
B-I	12	7	5	4	3	18
B-II	15	10	12	35	12	44
C-I	2	1	1	1	1	0
C-II	5	1	1	4	1	17
C-III/D-II	1	3	2	2	1	4
Helo	29	45	100	182	139	196



Unknown ^(a)	350	80	94	59	51	22
13/31 Subtotal	521	235	350	477	320	531
% of Total Ops	2.1%	1.5%	1.6%	1.9%	1.3%	2.1%
Runway 9/27						
A-I	196	211	140	182	129	255
A-II	22	9	8	10	4	18
B-I	13	6	3	2	1	8
B-II	45	10	12	14	8	38
C-I/C-II	8	1	3	2	0	5
C-III	3	1	0	1	0	1
Helo	133	135	62	137	115	192
Unknown ^(a)	612	212	73	51	53	16
9/27 Subtotal	1,032	585	301	399	310	533
% of Total Ops	4.2%	3.9%	1.3%	1.6%	1.3%	2.1%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Kimley-Horn, 2025.

Notes:

(a) Aircraft unidentified by the MACNOMS.
(b) Totals exclude touch-and-go's.
ARC = Airport Reference Code

An additional FAA aircraft classification that drives design standards is an aircraft's Taxiway Design Group (TDG). The TDG system ensures that taxiways are appropriately sized and configured to accommodate the aircraft that will use them, enhancing both safety and efficiency in airport operations. The TDG classification is primarily based on two key aircraft characteristics:

- **Main Gear Width (MGW):** the distance between the outer edges of the main landing gear.
- **Cockpit to Main Gear Distance (CMG):** the longitudinal distance from the cockpit (pilot's eye position) to the main landing gear.

Aircraft dimensions for these components were discussed in **Chapter 1**. These dimensions influence the required taxiway width, shoulder width, fillet design, and clearance standards. **Table 2.27** illustrates the historical aircraft operation counts by TDG categories.

**Table 2.27 - Historical Operations by Taxiway Design Group (TDG)**

TDG	2019	2020	2021	2022	2023	2024
Airport Totals						
1A	7,776	6,211	13,175	19,233	17,103	21,065
1B	6,290	3,879	5,998	6,412	6,027	6,441
2A	5,708	3,579	5,451	5,426	5,382	5,294
2B	1,134	962	1,258	1,613	1,547	1,414
3	21	28	80	137	119	115
N/A ^(a)	9,884	3,765	2,432	3,557	2,863	4,714
Runway 14/32						
1A	7,212	5,635	12,607	18,344	16,559	19,340
1B	6,260	3,859	5,968	6,364	5,988	6,219
2A	5,612	3,553	5,417	5,345	5,353	5,110
2B	1,129	955	1,255	1,605	1,543	1,381
3	21	28	79	135	119	114
N/A ^(a)	7,893	2,894	1,709	2,530	1,991	2,608
Runway 13/31						
1A	199	156	311	468	276	461
1B	16	5	13	33	28	43
2A	26	15	17	54	17	42
2B/3	0	5	3	7	5	4
N/A ^(a)	652	212	482	611	523	892
Runway 9/27						
1A	365	420	257	421	268	507
1B	14	15	17	15	11	21
2A	70	11	17	27	12	35
2B	5	2	0	2	1	2
N/A ^(a)	1339	659	241	416	349	500

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
 Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
 Kimley-Horn, 2025.

Notes:

(a) Includes helicopter operations and aircraft unidentified by the MACNOMS.
 TDG = Taxiway Design Group

In 2024, a total of 1,414 operations were identified as being conducted by aircraft in TDG 2B based on analysis of the MACNOMS dataset, making it the most demanding TDG category of aircraft to exceed 500 annual operations at the Airport.

Based on 2024 MACNOMS data, future operational activity by ARC and TDG was projected by applying the 2024 operational share of total operations to each year in the planning horizon. **Table 2.28** and **Table 2.29** present the results, with the assumption that aircraft categorized as “Unknown” were proportionally distributed among the known ARC and TDG categories according to their respective operational shares.

**Table 2.28 - Critical Aircraft Forecasts: Operations by Airport Reference Code (ARC)**

ARC	2024	2030 (PAL 1)	2035 (PAL 2)	2045 (PAL 3)
Airport Totals^(b)				
A-I	8,848	10,524	10,840	11,508
A-II	874	1,040	1,071	1,137
B-I	1,221	1,452	1,496	1,588
B-II	7,330	8,719	8,980	9,534
B-III	152	181	186	198
C-I	545	648	668	709
C-II	3,385	4,026	4,147	4,403
C-III	1,418	1,687	1,737	1,844
C-IV	2	2	2	3
D-II	196	233	240	255
Helicopter	1,606	1,910	1,968	2,089
Unknown ^(a)	576	-	-	-
Total^(b)	26,153	30,423	31,336	33,266
Runway 14/32				
A-I	8,065	9,970	10,269	10,902
A-II	820	1,001	1,031	1,095
B-I	1,157	1,434	1,477	1,568
B-II	7,076	8,601	8,859	9,405
B-III	149	180	186	197
C-I	531	648	668	709
C-II	3,297	3,998	4,118	4,371
C-III	1,386	1,682	1,732	1,839
C-IV	2	2	2	3
D-II	190	233	240	255
Helicopter	975	1,242	1,279	1,358
Unknown ^(a)	220	-	-	-
Runway 13/31				
A-I	219	270	278	295
A-II	11	15	16	17
B-I	18	15	15	16
B-II	44	68	70	74
C-II	17	22	22	24
C-III	4	4	5	5
Helicopter	196	429	442	469
Unknown ^(a)	22	-	-	-
Runway 9/27				
A-I	255	284	293	311
A-II	18	23	24	25
B-I	8	3	4	4
B-II	38	49	51	54
C-II	6	7	7	8
Helicopter	192	239	246	261
Unknown ^(a)	16	-	-	-

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Kimley-Horn, 2025.

Notes:

(a) Aircraft unidentified by MACNOMS.
(b) Totals exclude touch-and-go's.

**Table 2.29 - Critical Aircraft Forecasts: Operations by Taxiway Design Group (TDG)**

TDG	2024	2030 (PAL 1)	2035 (PAL 2)	2045 (PAL 3)
Airport Totals^(a)				
1A	20,308	21,789	23,105	25,981
1B	6,283	6,741	7,148	8,038
2A	5,187	5,565	5,901	6,636
2B	1,414	1,486	1,576	1,772
3	115	122	130	146
Unknown ^(b)	4,009	-	-	-
Runway 14/32				
1A	19,340	20,750	22,004	24,743
1B	6,219	6,673	7,076	7,956
2A	5,110	5,483	5,814	6,537
2B	1,414	1,482	1,571	1,767
3	114	122	130	146
Unknown ^(b)	3,353	-	-	-
Runway 13/31				
1A	461	495	524	590
1B	43	46	49	55
2A	42	45	48	54
2B	3	3	3	4
3	1	-	-	-
Unknown ^(b)	377	-	-	-
Runway 9/27				
1A	507	544	577	649
1B	21	23	24	27
2A	35	38	40	45
2B	1	1	1	1
3	1	-	-	-
Unknown ^(b)	357	-	-	-

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
 Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
 Kimley-Horn, 2025.

Notes:

(a) Totals do not include helicopter operations.
 (b) Aircraft unidentified by the MACNOMS.

Critical aircraft designations for individual runways at an airport are determined based on operational use. This is an important distinction as FAA funding eligibility for runway improvements is typically tied to the most demanding aircraft that uses that runway. This is discussed further in the Facility Requirements analysis of this LTP Update. For forecasting purposes, identification of the critical aircraft by runway is intended to provide MAC and the FAA an understanding of the most demanding aircraft types that utilize each runway.

To determine the future critical aircraft, MACNOMS data were analyzed by aircraft type and characteristics. Projections of future critical aircraft operations by runway were based on the same growth rates as the recommended forecast for total operations. As a result, the 2024 operational



shares of the critical aircraft are applied consistently across the forecast horizon. The analysis showed no change in the critical aircraft categorizations for any runway over the forecast period. In reviewing the operational data, the following conclusions were made regarding existing and future critical aircraft designations for the three runways:

- **Runway 14/32:** 2024 operations indicate the existing C-III critical aircraft (Gulfstream V or similar) will continue to be the most demanding aircraft for Runway 14/32. Total operations, excluding touch-and-go's, in 2024 exceeded 500 annual (1,386) and is forecasted to continue to rise through 2045. The existing TDG for Runway 14/32 is 2B based on the 500 annual operations threshold requirement. However, TDG 3 operations are expected to increase through 2045. Additionally, the MAC intends to continue operational support of TDG 3 aircraft to and from Runway 14/32 and will use a different representative aircraft to establish future standards in **Chapter 3. Therefore, the existing and future critical aircraft standards are C-III, TDG 2B, but the MAC has elected to plan and protect for TDG 3.**
- **Runways 13/31 and 9/27:** 2024 operations data, excluding touch-and-go activity, show that combined counts for A-I small aircraft (such as the Cessna 172) and more demanding aircraft exceed the 500-operation threshold when Runways 13/31 and 9/27 are considered together. As a result, these aircraft are identified as the critical aircraft for both runways. They represent the intended users of these runways under current and future conditions.

Table 2.30 summarizes these projections, showing:

- Runway 14/32 critical aircraft operations increase from 5,406 in 2024 to 7,177 by 2045. These counts consist of AAC-C operations in addition to AAC-D operations.
- Runway 13/31 critical aircraft operations increase to 431.
- Runway 9/27 critical aircraft operations increase to 402.

Table 2.30 - Critical Aircraft Forecasts: Critical Aircraft Fleet Operations by Runway

Year	Runway 14/32	Runway 13/31	Runway 9/27
ARC	C-III ^(a)	A-I Small ^(b)	A-I Small ^(c)
2024	5,406	313	325
2030 (PAL 1)	6,563	394	366
2035 (PAL 2)	6,760	406	379
2045 (PAL 3)	7,177	431	402
CAGR 2024-2045^(d)	1.43%	1.61%	1.07%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Kimley-Horn, 2025.

Notes:

(a) The critical aircraft counts in this column consist of the sum of AAC-C and AAC-D operations on Runway 14/32, excluding touch-and-go's.
(b) The critical aircraft counts in this column consist of the sum of A-I, A-II, B-I, B-II, C-II and C-III operations on Runway 13/31, excluding touch-and-go's.
(c) The critical aircraft counts in this column consist of the sum of A-I, A-II, B-I, B-II, and C-II operations on Runway 9/27, excluding touch-and-go's.
(d) CAGR is higher than the overall operations forecast CAGR (0.77%) because aircraft categorized as "unknown" were proportionally distributed among the known ARC categories according to their respective operational shares. Critical aircraft counts were then combined with more demanding counts and CAGRs were calculated based on the combined values.
ARC = Airport Reference Code
CAGR = Compound Annual Growth Rate.



Likewise, **Table 2.31** summarizes TDG projections, showing:

- Runway 14/32 TDG 2B operations increase from 1,528 in 2024 to 1,913 by 2045.
- Runway 13/31 TDG 1A operations increase to 703.
- Runway 9/27 1A operations increase to 722.

Table 2.31 - Critical Aircraft Forecasts: Critical Aircraft TDG Operations by Runway

Year	Runway 14/32	Runway 13/31	Runway 9/27
TDG	2B ^(a)	1A ^(b)	1A ^(c)
2024	1,528	550	565
2030 (PAL 1)	1,604	589	606
2035 (PAL 2)	1,701	624	642
2045 (PAL 3)	1,913	703	722
CAGR 2024-2045^(d)	1.13%	1.23%	1.23%

Sources:

MAC Noise and Operations Monitoring System (MACNOMS).
Kimley-Horn, 2025.

Notes:

(a) The critical aircraft counts in this column consist of the sum of TDG 2B and 3 operations on Runway 14/32.

(b) The critical aircraft counts in this column consist of the sum of TDG 1A, 1B, 2A, 2B and 3 operations on Runway 13/31.

(c) The critical aircraft counts in this column consist of the sum of TDG 1A, 1B, 2A, 2B and 3 operations on Runway 9/27.

(d) CAGR is higher than the overall operations forecast CAGR (0.77%) because aircraft categorized as "unknown" were proportionally distributed among the known TDG categories according to their respective operational shares. Critical aircraft counts were then combined with more demanding counts and CAGRs were calculated based on the combined values.

TDG = Taxiway Design Code

CAGR = Compound Annual Growth Rate.

2.8. Low Growth Scenario Aviation Forecasts

A Low Growth Scenario serves as a conservative planning tool that enables Airport decision-makers to prepare for less favorable or uncertain economic or operational conditions such as slower regional development, regulatory shifts, or evolving aviation trends. By anticipating potential stagnation or downturns in activity, this scenario supports more resilient infrastructure planning, budgeting, and resource allocation, while helping to avoid overbuilding or inefficient investment. The Low Growth Scenario Forecasts for aircraft operations and aircraft based at STP were developed using the following assumptions:

1. **Post-Pandemic Recovery:** The post-2020 increase in aviation activity at STP is viewed as a recovery from the COVID-19 pandemic, not a sustained upward trend.
2. **Jet Fuel Prices:** Jet fuel prices are projected to rise by 1.0% annually over the planning horizon, consistent with FAA Aerospace Forecasts.
3. **Inflation vs. GDP Growth:** The Consumer Price Index (CPI) is expected to grow at a CAGR of 2.2%, outpacing GDP growth at 1.65%, indicating persistent inflationary pressure.
4. **Pilot Population:** The number of active private pilots nationwide is forecast to decline at a CAGR of -0.1%, per FAA projections.
5. **Seasonal Floodwall Deployment:** The seasonal deployment of the floodwall due to recurring Mississippi River flooding is assumed to continue without substantial improvements, periodically reducing available runway lengths and limiting aircraft operations during deployment periods.



6. **Aircraft Operations:** Aircraft operations are assumed to grow, but at a slower rate than in the Baseline Scenario due to factors one through four.
7. **Based Aircraft:** Similarly, based aircraft are assumed to grow, but at a slower rate.

The Low Growth Scenario Forecast accounts for the possibility that the recent growth observed at STP may not be sustainable and considers risk of slower long-term growth due to situational factors, such as more frequent deployment of the floodwall at STP in response to increased Mississippi River flooding.

Under the Low Growth Scenario, the factors outlined would result in a subdued upward growth trajectory. This slow growth trajectory aligns with broader national trends and reflects a conservative outlook shaped by several key assumptions, including rising fuel prices, declining private pilot numbers, and persistent inflationary pressures.

Therefore, the FAA's TAF projected CAGR of 0.37% for STP which is a lower growth rate than the Baseline Scenario. This CAGR was applied to the 2024 base year activity, with the expectation that military activity at the Airport would remain constant. Accordingly, total aircraft operations at STP are projected to increase modestly from 42,476 in 2024 to 45,901 by 2045, reflecting this CAGR of 0.37%. Civil operations are expected to maintain a dominant share of total activity, growing from 40,035 operations in 2024 (94.3%) to 43,460 in 2045 (94.7%), with a CAGR of 0.39%. Within civil operations, the local vs. itinerant split remains constant, with 27% local and 73% itinerant operations throughout the forecast period.

Military operations are projected to remain flat at 2,441 annually, comprising a gradually shrinking share of total operations (from 5.7% in 2024 to 5.3% in 2045) due to the growth in civil activity. The local/itinerant military split also remains unchanged at 17.5% local and 82.5% itinerant. This forecast (summarized in **Table 2.32** and **Figure 2.8**) assumes factors identified earlier including the potential increase in seasonal deployment of the floodwall, which temporarily limits operational functionality, as well as the challenges of developing aircraft storage hangars within a floodplain. This constraint is expected to limit operational flexibility and suppress potential growth.



Table 2.32 - Low Growth Scenario Operations Forecast

Year	Total Aircraft Operations	Civil Operations			Military Operations		
		Civil Operations and % of Total	Local Civil and % of Total Civil	Itn. Civil and % of Total Civil	Military Operations and % of Total	Local Military and % of Total Military	Itn. Military and % of Total Military
2024	42,476	40,035 (94.3%)	10,810 (27%)	29,225 (73%)	2,441 (5.7%)	427 (17.5%)	2,014 (82.5%)
2030 (PAL 1)	43,428	40,987 (94.4%)	11,061 (27%)	29,925 (73%)	2,441 (5.6%)	427 (17.5%)	2,014 (82.5%)
2035 (PAL 2)	44,237	41,796 (94.5%)	11,276 (27%)	30,521 (73%)	2,441 (5.5%)	427 (17.5%)	2,014 (82.5%)
2045 (PAL 3)	45,901	43,460 (94.7%)	11,716 (27%)	31,745 (73%)	2,441 (5.3%)	427 (17.5%)	2,014 (82.5%)
CAGR 2024-2045	0.37%	0.39%	0.38%	0.39%	0.0%	0.0%	0.0%

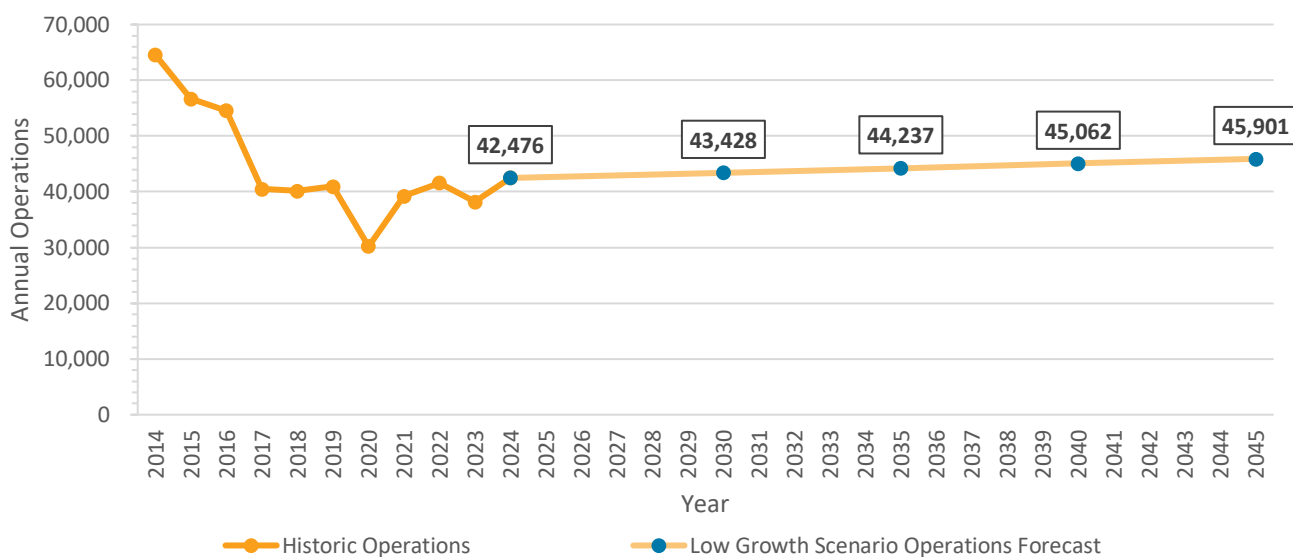
Sources:

FAA Terminal Area Forecast (TAF), 2024.
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.
Itn. = Itinerant

Figure 2.8 - Low Growth Scenario Operations Forecast



Sources:

FAA Terminal Area Forecast (TAF), 2024.
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.



The based aircraft forecast for the Low Growth Scenario applies the same ratio of annual operations to based aircraft as used in the Baseline Scenario. Therefore, the number of aircraft based at STP is projected to grow from 97 in 2024 to 104 by 2045 as summarized in **Table 2.33** and shown in **Figure 2.9**, reflecting a CAGR of 0.33%. Piston aircraft are expected to increase modestly from 21 to 22. Turboprop, helicopter, and military aircraft counts remain flat over the forecast period, reflecting limited demand and replacement activity in these categories. Jet aircraft, which currently represent the largest segment of based aircraft at STP, are projected to grow from 53 to 59, which is slightly higher than the overall growth rate and reflects continued demand for business aviation, albeit at a slower pace. The forecast assumes no significant shifts in aircraft type preferences or operational patterns beyond current trends. The flat projections for several categories underscore the conservative nature of the Low Growth Scenario, which is designed to reflect minimal market expansion and cautious economic assumptions.

Table 2.33 - Low Growth Scenario Based Aircraft Forecast

Year	Piston	Turboprop	Jet	Helicopter	Military	Total
2024	21	9	53	3	11	97
2030 (PAL 1)	21	9	55	3	11	99
2035 (PAL 2)	22	9	56	3	11	101
2045 (PAL 3)	22	9	59	3	11	104
CAGR 2024-2045	0.18%	0.0%	0.45%	0.0%	0.0%	0.33%

Sources:

FAA Terminal Area Forecast (TAF), 2024.

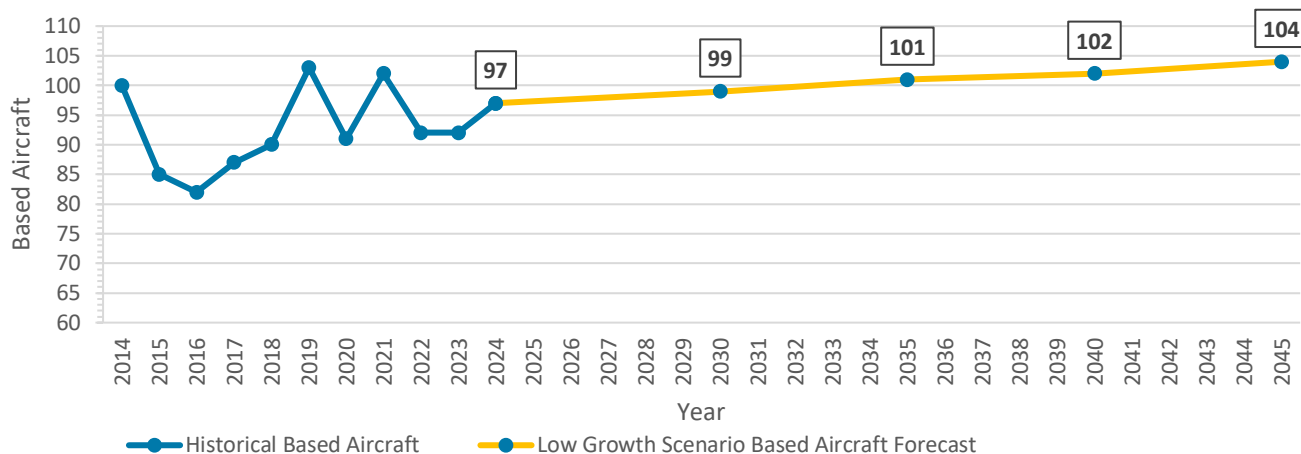
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn, 2025.

Notes:

CAGR = Compound Annual Growth Rate.

Figure 2.9 - Low Growth Scenario Based Aircraft Forecast



Sources:

FAA Terminal Area Forecast (TAF), 2024.

Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).

Kimley-Horn 2025



2.9. International Travel at STP

Between 2019 and 2024, STP recorded a total of 1,955 international aircraft operations, with 935 departures from the U.S. to foreign destinations and 1,020 arrivals from abroad. These figures, sourced from TFMSC and summarized in **Table 2.34**, reflect a steady stream of international activity at the Airport, underscoring its role as a regional hub for GA and business travel.

Table 2.34 - Historical International Operations at STP

Year	US to Foreign Departures ^(a)	Foreign to US Arrivals ^(b)	Total International Operations
2019	202	241	443
2020	82	88	170
2021	117	114	231
2022	190	219	409
2023	185	204	389
2024	159	154	313
CAGR 2019-2024	-4.7%	-6.8%	-6.7%

Sources:

FAA Traffic Flow Management System Counts (TFMSC).
Kimley-Horn, 2025.

Notes:

(a) Flights that depart from STP to international destinations.

(b) Arrivals to STP from international origins.

CAGR = Compound Annual Growth Rate.

The data shows that international operations were highest in 2019 (443), followed by a sharp decline in 2020 to 170 operations, largely due to the global impact of the COVID-19 pandemic. However, activity rebounded in the following years, with 2022 and 2023 seeing 409 and 389 operations, respectively. In 2024, international operations decreased slightly to 313, though this appears to be a temporary fluctuation rather than a reversal of the recovery trend. Over the six-year period, the CAGR for total international operations was -6.7%, reflecting the initial pandemic-related drop and the gradual stabilization that followed. This consistent level of international traffic, averaging more than 325 operations annually, highlights a sustained need for U.S. Customs and Border Protection (CBP) services at STP. Although the Airport currently offers these services, an expanded standalone CBP building is being planned for near-term.

The nature of international travel at STP is assumed to be predominantly non-scheduled GA, including business jets traveling to and from destinations such as Canada, Mexico, the Caribbean, and occasionally Europe. These flights often involve corporate executives, government officials, entertainers, and sports teams who benefit from the convenience and discretion that STP offers. Seasonal leisure travel by private aircraft also contributes to the international traffic mix.

Looking ahead, international operations at STP are expected to remain stable or experience modest growth, particularly as global travel continues to normalize and demand for business aviation increases. The new CBP facility positions the Airport to better accommodate this demand and to support the broader economic development of the region. However, it is important to note that while international



operations are a valuable and strategic component of STP's activity, they do not represent a large enough share of total operations to significantly influence the overall forecast.

2.10. Forecast Summary

Table 2.35 summarizes the recommended Baseline Scenario Forecasts developed in this chapter. As outlined, Baseline Scenario Forecasts for based aircraft and operations are grounded in reliable historical data and aviation market share trends specific to the Minneapolis-Saint Paul metropolitan area. Consequently, the number of based aircraft is expected to grow in line with historical patterns. Between 2014 and 2024, the number of based aircraft at STP experienced only a slight net decrease (from 100 to 97) despite notable year-to-year fluctuations. Due to this variability, the 10-year linear time series model, using annual data from 2014 to 2024, is the recommended forecast for based aircraft. Additionally, the table reflects how the total based aircraft forecast is comprised of the FAA's validated based aircraft list for STP, the military aircraft stationed at the Airport, and STP's long-term transient aircraft. Operational activity is projected to grow in proportion to STP's current market share within the metro area over the 20-year planning horizon. Given STP's unique role as one of many GA airports in the Twin Cities region, the 2024 market share methodology was identified as the most reliable forecasting approach. This is particularly relevant due to STP's overlapping catchment area with nearby GA airports. These forecasts, as presented in this chapter and as shown below, serve as the foundation for identifying facility needs, which are addressed in **Chapter 3**.

Table 2.35 - Aviation Activity Forecast Summary

Year	Validated Based Aircraft	Military Based Aircraft	Transient Based Aircraft ^(a)	Total Based Aircraft	Total Operations
2024	45	11	41	97	42,476
2030 (PAL 1)	46	11	43	100	45,573
2035 (PAL 2)	48	11	45	104	46,973
2045 (PAL 3)	52	11	46	110	49,935
CAGR 2024-2045	0.61%	0%	0.61%	0.61%	0.77%

Sources:

FAA Terminal Area Forecast (TAF), 2024.
MAC Noise and Operations Monitoring System (MACNOMS).
Metropolitan Airports Commission (MAC) Annual Reports (2014-2024).
Kimley-Horn, 2025.

Notes:

(a) Civil aircraft occupying hangar space at STP that are not validated in the FAA's Based Aircraft Database.
CAGR = Compound Annual Growth Rate.

2.11. TAF Comparisons and FAA Forecast Review Process

The FAA's Airport District Offices (ADOs) are responsible for reviewing and approving airport sponsor forecasts. During this review, the FAA ensures that the forecast is built on sound planning assumptions, uses up-to-date data, and applies appropriate forecasting methods. Detailed guidance on these assumptions and methodologies is available in the FAA's Forecasting Aviation Activity by Airport report, published by the Office of Aviation Policy and Plans (APO). Once the forecast is reviewed, the FAA evaluates whether it aligns with the TAF. A forecast is considered consistent with the TAF if it differs by



less than 10 percent over a 5-year period and less than 15 percent over a 10-year period. If a forecast exceeds these thresholds, the differences must be resolved before it can be used in FAA decision-making. This may involve revising the sponsor's forecast, adjusting the TAF, or both. However, forecasts that are not consistent with the TAF may still be reviewed by an ADO if two conditions are met: the 5- and 10-year forecasts do not exceed 200 based aircraft or 200,000 total annual operations, and any associated development does not require an Environmental Impact Statement (EIS) or a Benefit/Cost Analysis (BCA).

Table 2.36 and **Table 2.37** present tables for FAA review that contain a 20-year comparison of recommended forecasts for STP developed in this chapter and forecasts identified in the TAF, issued in 2024. For the purposes of FAA TAF comparison, review, and approval, only FAA-validated based aircraft at the Airport are included in the based aircraft forecast figures. As shown in **Table 2.36**, operations forecasts for STP meet the criteria for approval at the ADO level, but the based aircraft forecast exceeds the TAF's 10 percent threshold for the 5-year planning horizon and 15 percent threshold for the 10-year planning horizon. The discrepancy for based aircraft is likely attributed to the fact that STP has significant corporate aviation activity. There are a high number of long-term transient aircraft that lease hangar space and reside at STP for the majority of the year but are registered in other locations for company reasons and, therefore, are not validated in the NBAIP. This discrepancy is reflected in the difference between based aircraft reported in the FAA's TAF for base year 2024 (75) and what was identified as validated aircraft in the FAA's Based Aircraft Database (45).



Table 2.36 - FAA Template for Comparing Airport Planning and TAF Forecasts

Planning Activity Level (PAL)	Year	Airport Forecast (AF)	2024 TAF	AF/TAF (% Difference)
General Aviation Operations				
Base Year	2024	40,035	38,667	3.5%
PAL 1	2030	43,314	41,512	4.3%
PAL 2	2035	44,687	41,677	7.2%
-	2040	46,111	41,842	10.2%
PAL 3	2045	47,590	42,008	13.3%
Military Operations				
Base Year	2024	2,441	2,358	3.5%
PAL 1	2030	2,441	2,358	3.5%
PAL 2	2035	2,441	2,358	3.5%
-	2040	2,441	2,358	3.5%
PAL 3	2045	2,441	2,358	3.5%
Total Operations				
Base Year	2024	42,476	41,025	3.5%
PAL 1	2030	45,573	43,870	3.9%
PAL 2	2035	46,973	44,035	6.7%
-	2040	48,425	44,200	9.6%
PAL 3	2045	49,935	44,366	12.6%
NBAIP Validated Based Aircraft				
Base Year	2024	45	75	-40.0%
PAL 1	2030	47	83	-43.4%
PAL 2	2035	48	89	-46.1%
-	2040	50	96	-47.9%
PAL 3	2045	52	103	-49.5%

Sources:

FAA Terminal Area Forecast, 2024 (Accessed June 2025).
Kimley-Horn, 2025.



Table 2.37 - FAA Template for Summarizing and Documenting Airport Planning Forecasts

Operations Type	Operations Type Forecasts					CAGR				
	2024	2030 (PAL 1)	2035 (PAL 2)	2040 -	2045 (PAL 3)	2030 (PAL 1)	2035 (PAL 2)	2040 -	2045 (PAL 3)	Total Growth
<u>Itinerant</u>	31,239	33,516	34,547	35,615	36,725	1.2%	0.9%	0.8%	0.8%	0.8%
Commuter/Air Taxi	6,580	7,059	7,276	7,501	7,735	1.2%	0.9%	0.8%	0.8%	0.8%
General Aviation	22,645	24,443	25,257	26,099	26,975	1.2%	1.0%	0.9%	0.8%	0.8%
Military	2,014	2,014	2,014	2,014	2,014	0.0%	0.0%	0.0%	0.0%	0.0%
<u>Local</u>	11,237	12,056	12,427	12,811	13,210	1.2%	0.9%	0.8%	0.8%	0.8%
General aviation	10,810	11,629	11,999	12,383	12,783	1.2%	0.9%	0.8%	0.8%	0.8%
Military	427	427	427	427	427	0.0%	0.0%	0.0%	0.0%	0.0%
TOTAL OPERATIONS	42,476	45,573	46,973	48,425	49,935	1.2%	0.9%	0.8%	0.8%	0.8%
Based Aircraft Type	Based Aircraft Fleet Mix Forecasts ^(a)					CAGR				
Piston	9	9	9	9	10	0.2%	0.2%	0.2%	0.2%	0.2%
Turboprop	8	8	9	9	9	0.6%	0.6%	0.6%	0.6%	0.6%
Jet	26	28	28	30	31	0.8%	0.8%	0.8%	0.8%	0.8%
Helicopter	2	2	2	2	2	0.6%	0.6%	0.6%	0.6%	0.6%
TOTAL VALIDATED BASED AIRCRAFT^(a)	45	47	48	50	52	0.6%	0.6%	0.6%	0.6%	0.6%

Sources:

Kimley-Horn, 2025.

Notes:

(a) FAA-validated in the NBAIP.