AVIATION DEMAND FORECASTS

Facility planning requires a definition of demand that may be expected to occur during the useful life of the facility's crucial components. For York Municipal Airport, this involves projecting aviation demand for a 20-year timeframe. This report presents forecasts of the airport's service area registered aircraft, based aircraft, based aircraft fleet mix, annual operations, and operational peaking characteristics.

The forecasts generated for this study may be used for a multitude of purposes, including facility needs assessments and environmental evaluations. The forecasts will be submitted to the FAA for review and approval to ensure they are reasonable. The intent of the projections is to enable the airport to make facility improvements to meet demand in the most efficient and cost-effective manner possible.

It should be noted that aviation activity can be affected by numerous outside influences on local, regional, and national levels. As a result, forecasts of aviation demand should only be used for advisory purposes. It is recommended that planning strategies remain flexible enough to accommodate any unforeseen facility needs.

FORECASTING APPROACH

Typically, the most accurate and reliable forecasting approach is derived from multiple analytical forecasting techniques. Analytical forecasting methodologies include regression analysis, trend analysis and extrapolation, market share or ratio analysis, and smoothing. Using multiple forecasting techniques for each aviation demand indicator, an envelope of aviation demand projections can be generated.

Regression analysis can be described as a forecasting technique that correlates certain aviation demand variables (such as passenger enplanements or operations) with economic measures. When using regression analysis, the technique should be limited to relatively simple models that contain independent variables for which reliable forecasts are available (such as population or income forecasts).

Trend analysis and extrapolation is a forecasting technique that records historical activity (such as airport operations) and projects this pattern into the future. This technique is often beneficial when local conditions of the study area are differentiated from the region or other airports.

Market share analysis can be described as a forecasting technique that assumes the existence of a top-down relationship between national, regional, and local forecasts. The local forecasts are presented as a market share of regional forecasts, and regional forecasts are presented as a market share of national forecasts. Typically, historical market shares are calculated and used as a base to project future market shares.

Smoothing is a statistical forecasting technique that can be applied to historical data, giving greater weight to the most recent trends and conditions. Generally, this technique is most effective when generating short-term forecasts.

It is not necessary to employ all of these statistical methods for each demand indicator (i.e., based aircraft and operations); instead, the forecast analyst should employ those necessary to identify a range of reasonable forecasts from which a single forecast can be identified. In fact, the FAA prefers the use of simpler statistical methods, where appropriate.

NATIONAL AVIATION TRENDS

Each year, the FAA updates and publishes a national aviation forecast. This publication includes forecasts for large air carriers, regional/commuter air carriers, general aviation, and FAA workload measures. The forecasts are prepared to meet the budget and planning needs of the FAA and provide information that can be used by state and local authorities, the aviation industry, and the general public. The current edition upon preparation of this chapter was *FAA Aerospace Forecasts – Fiscal Years 2024-2044* (published in April 2024). The FAA primarily uses the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets. The following discussion is summarized from the FAA *Aerospace Forecasts*.

Since its deregulation in 1978, the U.S. commercial air carrier industry has been characterized by boom-to-bust cycles. The volatility that was associated with these cycles was thought by many to be a structural feature of an industry that was capital intensive but cash poor; however, the great recession of 2007-2009 marked a fundamental change in the operations and finances of U.S. airlines. Since the end of the recession in 2009, U.S. airlines revamped their business models to minimize losses by lowering operating costs, eliminating unprofitable routes, and grounding older, less fuel-efficient aircraft. To increase operating revenues, carriers initiated new services that customers were willing to purchase and started charging separately for services that were historically bundled in the price of a ticket. The industry experienced an unprecedented period of consolidation, with three major mergers in five years. The results of these efforts were impressive: 2019 marked the eleventh consecutive year of profitability for the U.S. airline industry.

The COVID-19 pandemic in 2020 effectively ended those boom years, with airline and activity and profitability plummeting almost overnight. In response, airlines cut capacity and costs, and most were able to weather the storm. Some small regional carriers ceased operations as a result of the pandemic, but no mainline carriers did. Some segments of aviation were less impacted: cargo activity surged, boosted by consumer purchases, and general aviation generally maintained pre-pandemic levels of activity. By the middle of 2021, leisure travel began to rebound with the introduction of vaccines and the lifting of some local restrictions. Two new low-cost carriers were formed and one regional carrier that ceased operations in 2020 was revived. Industry profitability neared the breakeven point by the third quarter of 2021, and by the end of 2022, U.S. airlines reported that business demand had recovered to 70-80 percent of pre-pandemic levels. There is confidence that U.S. airlines have transformed from a capital intensive, highly cyclical industry to an industry that can generate sustained profits.

ECONOMIC ENVIRONMENT

According to the FAA forecast, the annual gross domestic product (GDP) of the U.S. is expected to increase by 1.7 percent over the next 20 years. U.S. carriers posted profits in 2023, and the FAA expects carriers to remain profitable over the next few years, as increasing demand is expected to be more than sufficient to offset increased costs of labor and fuel, despite higher fares. Consistent profitability is expected to continue as yields stabilize and carriers shed excess debt and return to levels of capacity consistent with their fixed costs. A competitive and profitable aviation industry is anticipated over the long term, characterized by increasing demand for air travel and airfares growing more slowly than overall inflation, reflective of growing U.S. and global economies.

Prior to the COVID-19 pandemic, the economy was recovering from the most serious economic downturn and slow recovery since the Great Depression. Fundamentally, demand for aviation is driven by economic activity. As economic growth increases, so will growth in aviation activity. Overall, the FAA forecast calls for passenger growth over the next 20 years to average 2.7 percent annually. Oil prices surged to $93 per barrel 2022 – largely due to the Russian invasion of Ukraine – after averaging $55 per barrel over the five-year period from 2016 to 2021. Prices are expected to ease over the next two years before slowly climbing to $107 per barrel by the end of the forecast period in 2044.

FAA GENERAL AVIATION FORECASTS

The long-term outlook for general aviation is promising, as growth at the high end of the segment offsets continuing retirements at the traditional low end. The active general aviation fleet is forecast to remain relatively stable between 2024 and 2044, increasing by just 0.4 percent. While steady growth in both GDP and corporate profits results in continued growth of the turbine and rotorcraft fleets, the largest segment of the fleet – fixed-wing piston aircraft – continues to shrink over the forecast period.

The FAA forecasts the fleet mix and hours flown for single-engine piston (SEP) aircraft; multi-engine piston (MEP) aircraft; turboprops; business jets; piston and turbine helicopters; and light sport, experimental, and other aircraft (e.g., gliders and balloons). The FAA forecasts active aircraft, not total aircraft; an active aircraft is one that is flown at least one hour during the year. From 2010 through 2013, the FAA undertook an effort to have all aircraft owners re-register their aircraft. This effort resulted in a 10.5 percent decrease in the number of active general aviation aircraft, mostly in the piston category. **Table 2A** shows the primary general aviation demand indicators, as forecast by the FAA.

TABLE 2A | FAA General Aviation Forecast

Demand Indicator	2024	2044	CAGR
General Aviation (GA) Fleet			
Total Fixed-Wing Piston	136,485	130,790	-0.2%
Total Fixed-Wing Turbine	27,905	41,580	2.0%
Total Helicopters	10,090	14,025	1.7%
Total Other (experimental, light sport, etc.)	31,100	37,810	1.0%
Total GA Fleet	**210,105**	**228,975**	**0.4%**
General Aviation Operations			
Local	15,900,000	17,571,000	0.5%
Itinerant	15,125,000	16,569,000	0.5%
Total GA Operations	**31,026,000**	**34,140,000**	**0.5%**

CAGR = compound annual growth rate (2024-2044)

Source: FAA Aerospace Forecast – Fiscal Years 2024-2044

General Aviation Aircraft Fleet Mix

For 2024, the FAA estimates there are 136,485 piston-powered fixed-wing aircraft in the national fleet. That number is forecast to decline by 0.2 percent per year, resulting in 130,790 aircraft in 2044. This includes an annual decline of 0.2 percent of single-engine aircraft and an annual decline of 0.3 percent of multi-engine piston aircraft.

Total turbine aircraft are forecast to grow at an annual rate of 2.0 percent through 2044. The FAA estimates there are 27,905 fixed-wing turbine-powered aircraft in the national fleet in 2024, and there will be 41,580 by 2044. Turboprops are forecast to grow by 1.0 percent annually, while business jets are projected to grow by 2.6 percent annually through 2044.

Total helicopters are projected to grow by 1.7 percent annually in the forecast period. There are an estimated 10,090 total helicopters in the national fleet in 2024, and that number is expected to grow to a total of 14,025 by 2044. This includes annual growth rates of 0.8 percent for piston helicopters and 2.0 percent for turbine helicopters.

The FAA also forecasts experimental aircraft, light sport aircraft (LSA), and others. Combined, there are an estimated 31,100 of these aircraft in 2024, which are forecast to grow at an annual growth rate of 1.0 percent, resulting in 37,810 aircraft by 2044.

General Aviation Operations

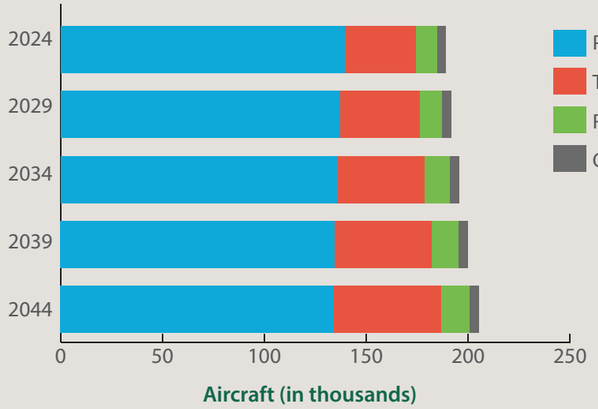
The FAA also forecasts total operations, based on activity at airports with control towers across the United States. Operations are categorized as air carrier, air taxi/commuter, general aviation, and military. While the fleet size remains relatively level, the number of general aviation operations at towered airports is projected to increase from 31.0 million in 2024 to 34.1 million in 2044, with an average increase of 0.5 percent per year as growth in turbine, rotorcraft, and experimental hours offsets a decline in fixed-wing piston hours. This includes annual growth rates of 0.5 percent for local general aviation operations, which involve a takeoff or landing performed by an aircraft that operates within sight of the airport. It also includes annual growth rates of 0.5 percent for itinerant general aviation operations, which are those performed by aircraft with specific origins or destinations away from the airport.

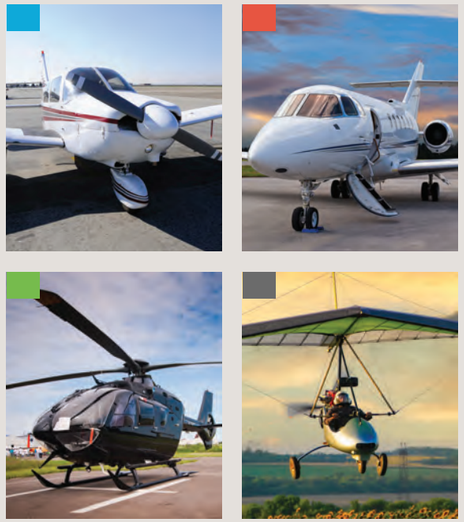
Exhibit L presents the historical and forecast U.S. active general aviation aircraft and operations.

General Aviation Aircraft Shipments and Revenue

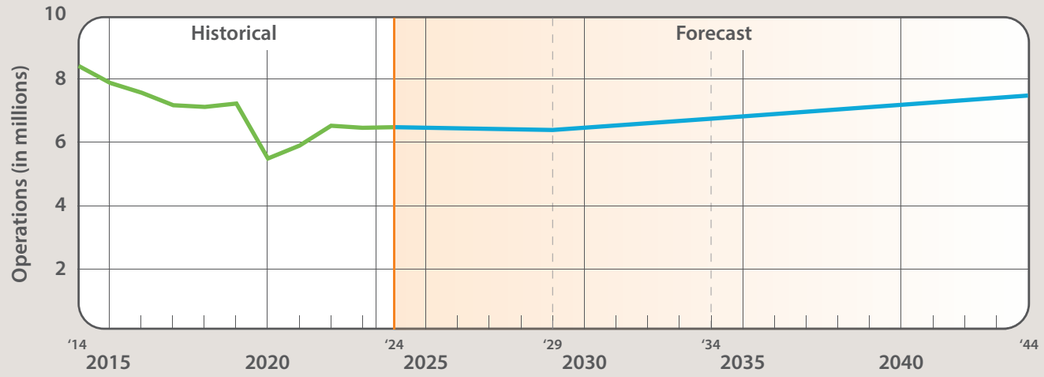
On an annual basis, the General Aviation Manufacturers Association (GAMA) publishes an aviation industry outlook that documents past and current trends and provides an assessment of the future condition of the general aviation industry. **Table 2B** presents historical data related to general aviation aircraft shipments.

U.S. Active General Aviation Aircraft

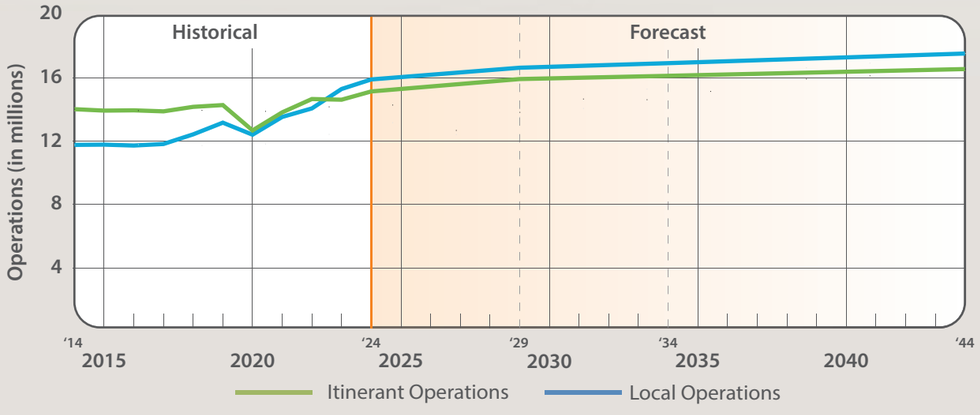




U.S. Air Taxi Operations



U.S. General Aviation Operations



Source: FAA Aerospace Forecasts – Fiscal Years 2024-2044 (April 2024)

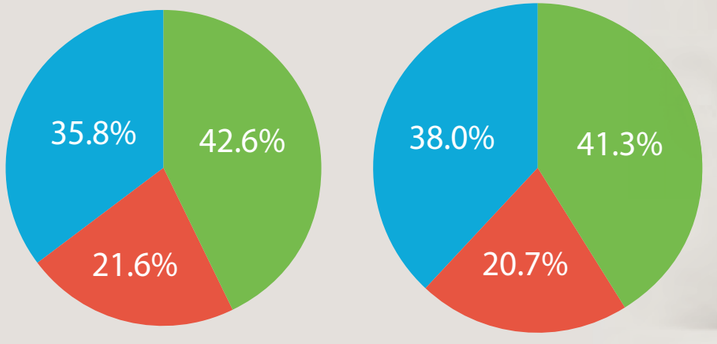
Active Pilots By Certificate

2024

Total Active Pilots: **500,406 ***

2044

Total Active Pilots: **538,990 ***



**Excludes Student Pilot Certificates*

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TABLE 2B | Annual General Aviation Airplane Shipments Manufactured Worldwide and Factory Net Billings						
Year	Total	SEP	MEP	TP	J	Net Billings ($millions)
2003	2,686	1,825	71	272	518	9,998
2004	2,962	1,999	52	319	592	12,093
2005	3,590	2,326	139	375	750	15,156
2006	4,054	2,513	242	412	887	18,815
2007	4,277	2,417	258	465	1,137	21,837
2008	3,974	1,943	176	538	1,317	24,846
2009	2,283	893	70	446	874	19,474
2010	2,024	781	108	368	767	19,715
2011	2,120	761	137	526	696	19,042
2012	2,164	817	91	584	672	18,895
2013	2,353	908	122	645	678	23,450
2014	2,454	986	143	603	722	24,499
2015	2,331	946	110	557	718	24,129
2016	2,268	890	129	582	667	21,092
2017	2,324	936	149	563	676	20,197
2018	2,441	952	185	601	703	20,515
2019	2,658	1,111	213	525	809	23,515
2020	2,408	1,164	157	443	644	20,048
2021	2,646	1,261	148	527	710	21,603
2022	2,813	1,361	158	582	712	22,866
2023	3,050	1,508	174	638	730	23,378

SEP = single-engine piston
MEP = multi-engine piston
TP = turboprop
J = turbofan/turbojet

Source: General Aviation Manufacturers Association (GAMA), 2023 Quarterly Shipments and Billings

Worldwide shipments of general aviation airplanes increased in 2023, with a total of 3,050 units delivered around the globe, compared to 2,813 units in 2022 – the third year in a row to experience an increase after the drop during the pandemic in 2020, when only 2,408 units were delivered. Worldwide general aviation billings were the highest in 2014. In 2022, an increase in new aircraft shipments generated more than $23 billion, compared to the previous year's $22.7 billion. North America continues to be the largest market for general aviation aircraft and leads in the manufacturing of piston, turboprop, and jet aircraft. Europe is the second largest market for all aircraft categories, while Latin America follows Europe closely in the turboprop market.

Business Jets | Business jet deliveries increased from 712 units in 2022 to 730 units in 20223. The North American market accounted for 74.9 percent of business jet deliveries, which is a 7.3 percent increase in market share, compared to 2022.

Turboprops | Turboprop shipments increased from 582 in 2022 to 638 in 2023. North America's market share of turboprop aircraft decreased by 2.1 percent in the last year. The Europe and Middle East & Africa market shares increased, while the Asia-Pacific and Latin America market shares decreased.

Pistons | Piston airplane shipments increased to 1,682 units in 2023, compared to 1,519 units in the prior year. North America's market share of piston aircraft deliveries rose 7.2 percent from the year 2022. The Europe, Latin America, and Middle East & Africa markets experienced positive market share rates during the past year, while the Asia-Pacific market experienced a decline.

U.S. PILOT POPULATION

There were 490,470 active pilots certificated by the FAA at the end of 2023, according to the U.S. Civil Airmen Statistics report published by the FAA. The FAA *Aerospace Forecast* also includes a forecast of pilots by certification categories. All pilot categories – except recreational-only certificates – are expected to continue to increase. Excluding student pilots, the number of active pilots is projected to increase by about 38,584 (0.4 percent annually) between 2023 and 2044. The airline transport pilot (ATP) category is forecast to increase by 25,800 (0.7 percent annually). Over the forecast period, sport pilots and commercial pilots are predicted to increase by 2.5 percent and 0.2 percent annually, respectively, while private pilot certificates are projected to decrease at an average annual rate of 0.1 percent through 2044. The FAA has suspended the student pilot forecast since 2018.

RISKS TO THE FORECAST

While the FAA is confident that its forecasts for aviation demand and activity can be reached, this is dependent on several factors, including the strength of the global economy, security (including the threat of international terrorism), and oil prices. Higher oil prices could lead to further shifts in consumer spending away from aviation, dampening a recovery in air transport demand. The COVID-19 pandemic introduced a new risk, and although the industry has rebounded, the threat of future global health pandemics and potential economic fallout remains.

AIRPORT SERVICE AREA FORECASTS

Before aviation demand can be determined for an airport, it is necessary to identify the airport's role. York Municipal Airport is classified in the NPIAS as a Local GA airport, meaning its primary role is to serve general aviation needs in the local service area. GA represents the largest component of the national aviation system and includes activities such as pilot training, recreational flying, and the use of turboprop and jet aircraft for business and corporate use.

The next step in defining an airport's demand is to identify its service area. The service area is a generalized geographical area in which a potential market for airport services – including based aircraft – exists. Several factors help determine the airport service area, including transportation networks, access to other GA airports, quality of aviation facilities, and distance and travel time between users and facilities.

The service area for a Local GA airport can extend up to a 30-nm radius around the airport and can stretch beyond this in more remote locations. The proximity and level of GA services offered by other nearby airports are largely the defining factors when describing the GA service area for a specific airport. As shown in **Table 2C**, there are five other NPIAS airports within 30 nm of York Municipal Airport.

TABLE 2C | Area Airports							
Identifier	Airport	Distance (nm) / Direction from JYR[1]	FAA Service Level[2]	Based Aircraft[2]	Annual Operations[3]	Longest Runway[1]	Lowest Visibility Minimum[1]
JYR	**York Municipal Airport**	**N/A**	**GA – Local**	**27**	**10,475**	**5,898'**	**¾-mile**
AUH	Aurora Municipal Airport	16.85 nm/W	GA – Local	18	20,550	4,301'	1-mile
FMZ	Fairmont State Airport	18.75 nm/S	GA – Local	15	1,625	4,317'	1-mile
07K	Central City Municipal Airport	23.3 nm/NW	GA – Local	23	5,610	3,700'	1-mile
SWT	Seward Municipal Airport	23.3 nm/E	GA – Local	49	13,000	4,200'	1¼-mile
08K	Harvard State Airfield	25.44 nm/SW	GA – Basic	11	5,000	3,873' (turf)	1-mile

Sources: [1]www.airnav.com; [2]FAA National Based Aircraft Inventory Program; [3]FAA Aviation System Performance Metrics

General aviation services offered to the public at each vicinity airport are as follows:

- Aurora Municipal Airport (AUH) is a public-use facility located approximately 17 nm west of York Municipal Airport. AUH offers a 4,301-foot-long by 75-foot-wide concrete runway and has 18 based aircraft.

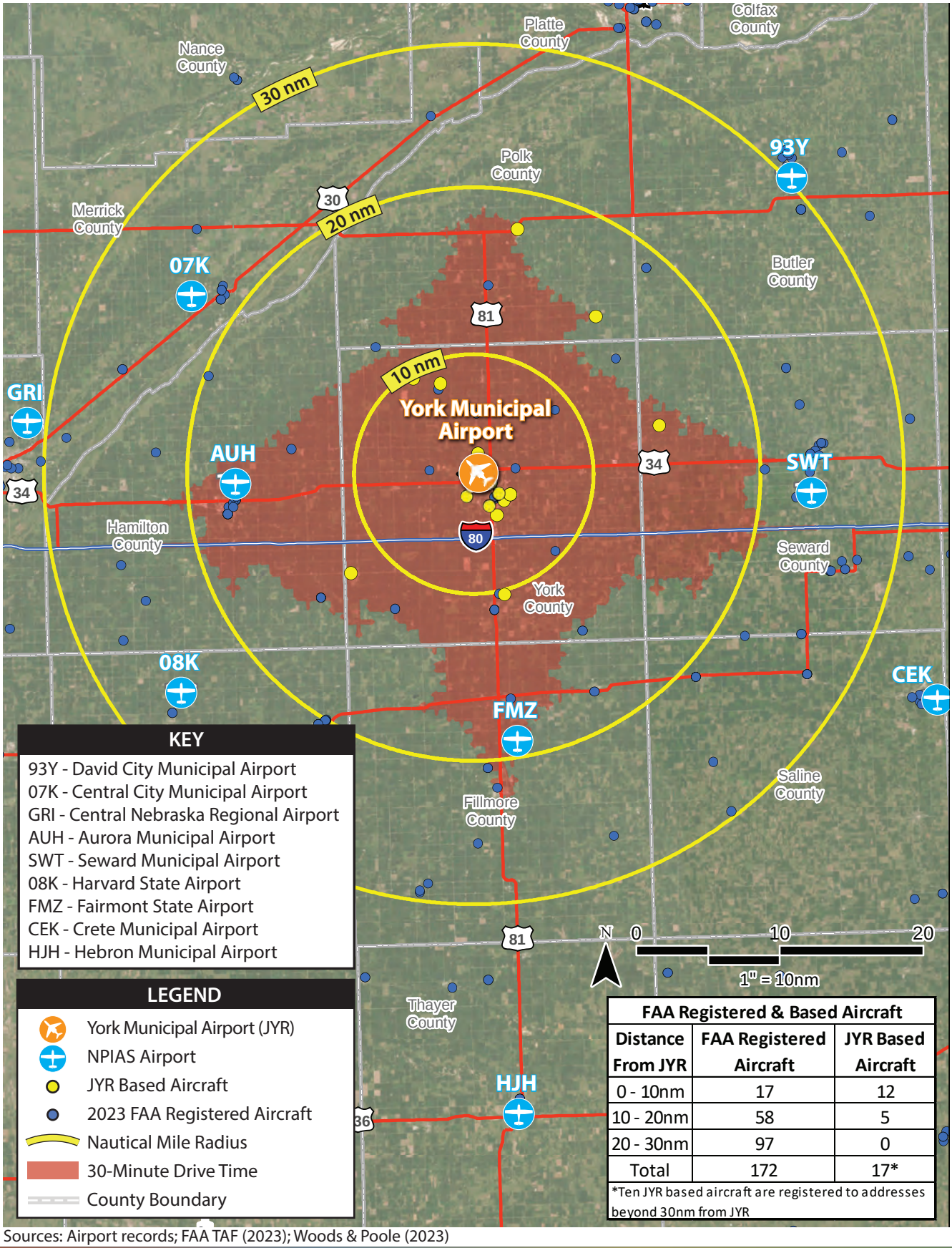
- Fairmont State Airport (FMZ) is a public-use facility located approximately 17 nm south of York Municipal Airport. FMZ has two concrete runways, which measure 4,317 feet and 3,021 feet, and 15 based aircraft. Tiedowns and fuel are available.

- Central City Municipal Airport (07K), also known as Larry Reineke Field, is located approximately 23 nm west-northwest of York Municipal Airport. 07K has one 3,700-foot runway and 23 based aircraft. 100LL fuel is available, as well as tiedowns and a variety of other services.

- Seward Municipal Airport (SWT) is a public-use facility located approximately 24 nm east of York Municipal Airport. SWT has a 4,200-foot runway and 49 based aircraft. Services provided include hangars, fuel, and tiedowns, as well as airframe and powerplant maintenance.

- Harvard State Airport (O8K) is a public-use facility located approximately 25 nm southwest of York Municipal Airport. O8K has one paved runway, which measures 3,722 feet, and 11 based aircraft. Tiedowns and fuel are available.

To define the GA service area, two primary demand segments must be evaluated. The first is the airport's ability to attract based aircraft. Convenience is typically the primary factor in an aircraft owner's decision to base at a particular airport, with proximity to their residence or business being the driving consideration. **Exhibit M** depicts a 30-minute drive time isochrone from York Municipal Airport that encompasses most of York County. As seen on the exhibit, the 30-nm service area also extends into 10 of the surrounding counties, including Hamilton, Clay, Fillmore, Saline, Seward, Butler, Polk, Platte, Nance, and Merrick Counties. **Exhibit M** also depicts registered aircraft in the region; as can be seen in the FAA Registered & Based Aircraft table, there are 172 FAA-registered aircraft in the 30-nm service area and approximately 10 percent are located within 10 nm of the airport.



KEY

93Y - David City Municipal Airport
07K - Central City Municipal Airport
GRI - Central Nebraska Regional Airport
AUH - Aurora Municipal Airport
SWT - Seward Municipal Airport
08K - Harvard State Airport
FMZ - Fairmont State Airport
CEK - Crete Municipal Airport
HJH - Hebron Municipal Airport

LEGEND

- York Municipal Airport (JYR)
- NPIAS Airport
- JYR Based Aircraft
- 2023 FAA Registered Aircraft
- Nautical Mile Radius
- 30-Minute Drive Time
- County Boundary

FAA Registered & Based Aircraft

Distance From JYR	FAA Registered Aircraft	JYR Based Aircraft
0 - 10nm	17	12
10 - 20nm	58	5
20 - 30nm	97	0
Total	172	17*

*Ten JYR based aircraft are registered to addresses beyond 30nm from JYR

Sources: Airport records; FAA TAF (2023); Woods & Poole (2023)

The second demand segment to consider is itinerant aircraft operations. In most instances, pilots will opt to utilize airports nearer their intended destinations; however, this is also dependent on the airport's capabilities to accommodate aircraft operators. As a result, airports offering better services and facilities are more likely to attract itinerant operators in the region. The City of York recently acquired three parcels of land (200 total acres) for industrial development near the airport in the northwest part of the city, in response to increasing demand for commercial and industrial real estate in the area and the existing business park reaching its maximum capacity. The airport is conveniently located between Interstate 80 and State Highway 34, with easy access via State Highway 81. Class I rail service is provided to the area by BNSF. The new business park and associated local investments are expected to drive an increase in corporate operations at the airport.

Although there are competing airports in the region, York Municipal Airport provides the most convenience to aircraft owners and operators in the City of York, as well as businesses and travelers visiting the York area. Additionally, York Municipal Airport offers superior runway length and instrument approach capabilities compared to other airports within 30 nm; the existing runway at JYR is over 1,500 feet longer than any other runway within the service area. Registered aircraft are distributed uniformly throughout the surrounding counties, with additional registered aircraft supported by their own GA airports. As a result, the demand analysis will consider York County as the primary service area – the location generating the primary demand factors for the airport. Other contiguous counties will serve as a secondary service area in which some demand may be found, but such demand is not regular enough to support forecasting models.

REGISTERED AIRCRAFT FORECAST

Table 2D presents historical data regarding aircraft registered in York County since 2003. These figures are derived from the FAA aircraft registration database, which categorizes registered aircraft by county, based on the zip code of the registered aircraft. Although this information generally provides a correlation to based aircraft, it is not uncommon for some aircraft to be registered in the county but based at an airport outside the county, or vice versa.

As presented in the table, the number of registered aircraft in the service area is the same as it was in 2003, so no compound annual growth rate (CAGR) is associated with service area aircraft registrations; however, it should be noted that the number of registered aircraft during the period was generally variable, with a high count of 51 registered aircraft in 2009 and a low count of 28 registered aircraft in 2019. Growth has been stable since 2019.

The table also includes the types of aircraft registered in the service area. Single-engine piston aircraft dominate the total aircraft registrations, which is typical for nearly all areas in the United States; in 2024, 26 of the 41 registered aircraft in the service area were single-engine piston aircraft. Aircraft registrations in 2023 also included nine turboprops, two helicopters and four unmanned aerial vehicles (UAVs). No multi-engine pistons, turbojets, electric, or aircraft in the "other" category were registered in the service area during 2024. The "other" category includes gliders, balloons, and ultralight aircraft.

TABLE 2D | Historical Registered Aircraft – York County									
Year	Single-Engine Piston	Multi-Engine Piston	Turboprop	Turbojet	Helicopter	UAV	Electric	Other*	Total
2003	38	0	3	0	0	0	0	0	41
2004	39	0	3	0	0	0	0	0	42
2005	36	0	4	0	0	0	0	1	40
2006	33	0	1	0	0	0	0	1	34
2007	35	0	1	0	0	0	0	1	36
2008	36	0	3	0	0	0	0	1	39
2009	45	0	6	0	0	0	0	1	51
2010	41	0	5	0	0	0	0	1	46
2011	37	0	5	0	1	0	0	1	43
2012	33	1	7	0	1	0	0	1	42
2013	26	1	8	0	1	0	0	1	36
2014	25	1	9	0	1	0	0	0	36
2015	23	1	9	0	2	0	0	0	35
2016	22	1	10	0	2	0	0	0	35
2017	25	0	5	0	2	0	0	0	32
2018	24	0	6	0	2	0	0	0	32
2019	19	0	6	0	3	0	0	0	28
2020	21	0	7	0	3	0	0	0	31
2021	23	0	8	0	3	0	0	0	34
2022	24	0	9	0	2	0	0	0	35
2023	26	0	9	0	2	1	0	0	38
2024	26	0	9	0	2	4	0	0	41
*The "other" aircraft category includes aircraft such as gliders, balloons, and ultralights.									

Source: FAA Aircraft Registration Database, 2024

Exhibit N and **Table 2E** present six different forecasts of registered aircraft for the service area: three market share projections, two ratio projections, and a growth rate projection. The market share projections consider the relationship between registered aircraft located in the service area and active aircraft within the United States. The first market share projection is based on the service area maintaining a constant market share of U.S. active aircraft. In 2024, the county's share of the national market was 0.0195 percent. When this figure is held constant through the planning period, the result was virtually no growth in registrations over the planning period, with four aircraft added between 2024 and 2044 and 45 total aircraft in the county over the remainder of the planning period. This is reflective of a 0.41 percent CAGR.

The next two projections evaluate low- and high-range market share increases. The low-range market share forecast assumes the airport will experience slower growth, in line with the national average, and equates a minimal increase in aircraft registrations in the county. The projection increases the service area market share to the historical high of 0.0228 percent, which yields a CAGR of 1.18 percent and results in 43 registered aircraft in 2029, 46 in 2034, and 52 in 2044. The high-range market share forecast assumes adding the difference between the minimum 20-year market share and the current market share; thus, a more aggressive projection emerges, yielding a CAGR of 1.82 percent and 45 registered aircraft by 2029, 49 by 2034, and 59 by 2044.

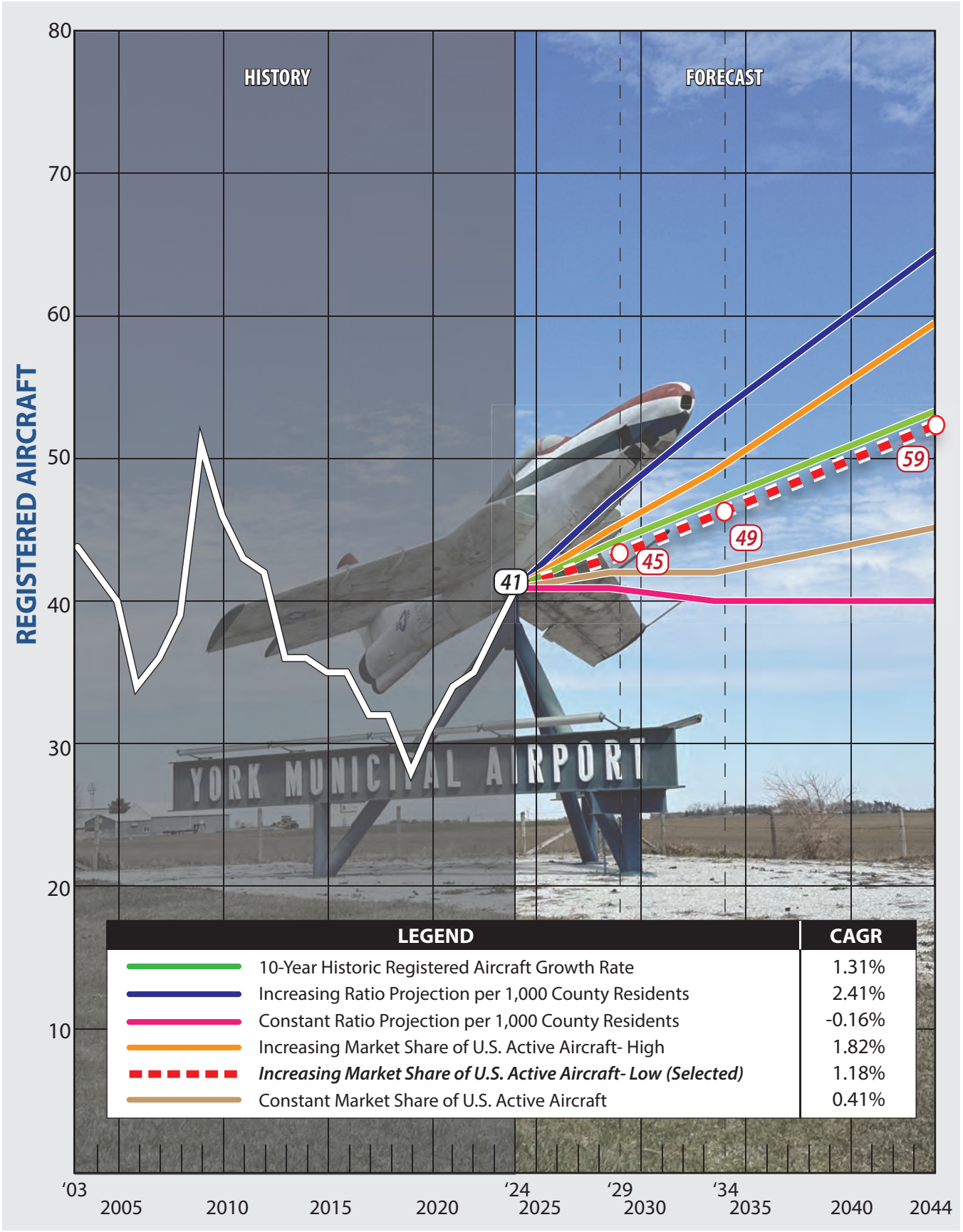

HISTORY
FORECAST
REGISTERED AIRCRAFT
80
70
60
50
40
30
20
10
41
45
49
59
YORK MUNICIPAL AIRPORT
'03
2005
2010
2015
2020
'24
2025
'29
2030
'34
2035
2040
2044
LEGEND
CAGR
10-Year Historic Registered Aircraft Growth Rate 1.31%
Increasing Ratio Projection per 1,000 County Residents 2.41%
Constant Ratio Projection per 1,000 County Residents -0.16%
Increasing Market Share of U.S. Active Aircraft- High 1.82%
Increasing Market Share of U.S. Active Aircraft- Low (Selected) 1.18%
Constant Market Share of U.S. Active Aircraft 0.41%

TABLE 2E | Registered Aircraft Projections					
Year	**Service Area Registrations**	**U.S. Active Aircraft**	**Market Share of U.S. Aircraft**	**Service Area Population**	**Aircraft per 1,000 Residents**
2004	42	219,319	0.0192%	13,952	3.01
2005	40	224,257	0.0178%	14,021	2.85
2006	34	221,942	0.0153%	14,130	2.41
2007	36	231,606	0.0155%	14,078	2.56
2008	39	228,664	0.0171%	13,881	2.81
2009	51	223,876	0.0228%	13,689	3.73
2010	46	223,370	0.0206%	13,669	3.37
2011	43	220,453	0.0195%	13,846	3.11
2012	42	209,034	0.0201%	13,957	3.01
2013	36	199,927	0.0180%	14,034	2.57
2014	36	204,408	0.0176%	14,159	2.54
2015	35	210,031	0.0167%	14,100	2.48
2016	35	211,794	0.0165%	14,096	2.48
2017	32	211,757	0.0151%	14,178	2.26
2018	32	211,749	0.0151%	14,200	2.25
2019	28	210,981	0.0133%	14,145	1.98
2020	31	204,140	0.0152%	14,103	2.20
2021	34	209,194	0.0163%	14,248	2.39
2022	35	209,540	0.0167%	14,354	2.44
2023	38	209,540	0.0181%	14,354	2.65
2024	41	209,730	0.0195%	14,332	2.86
Constant Market Share of U.S. Active Aircraft (CAGR 0.41%)					
2029	42	212,605	0.0195%	14,203	2.92
2034	42	216,740	0.0195%	14,097	3.00
2044	45	227,710	0.0195%	13,886	3.20
Increasing Market Share of U.S. Active Aircraft – Low Range (CAGR 1.18%) – *SELECTED FORECAST*					
2029	43	212,605	0.0204%	14,203	3.04
2034	46	216,740	0.0212%	14,097	3.25
2044	52	227,710	0.0228%	13,886	3.73
Increasing Market Share of U.S. Active Aircraft – High Range (CAGR 1.82%)					
2029	45	212,605	0.0211%	14,203	3.16
2034	49	216,740	0.0227%	14,097	3.48
2044	59	227,710	0.0258%	13,886	4.23
Constant Ratio Projection per 1,000 County Residents (CAGR -0.15%)					
2029	41	212,605	0.0191%	14,203	2.86
2034	40	216,740	0.0186%	14,097	2.86
2044	40	227,710	0.0175%	13,886	2.86
Increasing Ratio Projection per 1,000 County Residents (CAGR 2.26%)					
2029	47	212,605	0.0221%	14,203	3.30
2034	53	216,740	0.0243%	14,097	3.73
2044	64	227,710	0.0281%	13,886	4.61
10-Year Historical Registered Aircraft Growth Rate (CAGR 1.31%)					
2029	44	212,605	0.0206%	14,225	3.08
2034	47	216,740	0.0215%	14,118	3.31
2044	53	227,710	0.0234%	13,906	3.82

CAGR = compound annual growth rate

Sources: FAA Aircraft Registration Database; FAA Aerospace Forecast – Fiscal Years 2024-2044; Woods & Poole CEDDS 2023

Forecasts based on population trends were also developed. For these projections, service area registrations were compared to the population in York County, resulting in a ratio of registered aircraft per 1,000 residents. The analysis showed a low of 1.98 aircraft per 1,000 residents and a high of 3.73 since 2004. Two scenarios were evaluated: a constant ratio projection and an increasing ratio projection.

There were 2.86 aircraft per 1,000 residents in 2024. When this ratio is carried through the plan years as a constant, the result is a scenario with registered aircraft decreasing to 40 by 2044, which is reflective of the projected population decrease. For the increasing ratio projection, the delta between the historical high/low ratios was added to the current ratio and an increasing trend was examined. The increasing ratio projection resulted in 64 registered aircraft by 2044 and a CAGR of 2.26 percent.

Historically, registered aircraft in the county fluctuated between a minimum of 31 and a maximum of 51 between 2004 and 2024. Over the past 10 years, registered aircraft have increased from 36 to 41, for a CAGR of 1.31 percent. Carrying this growth rate forward results in 44 based aircraft in 2029, 47 in 2034, and 53 in 2044.

Despite the expected overall decrease in population, total employment in the service area is expected to increase from 11,243 jobs in 2024 to 12,896 jobs in 2044 (0.69 percent CAGR).[1] Growth is expected in professional categories – such as real estate (174 jobs, 1.79 percent CAGR), finance and insurance (106 jobs, 0.74 percent CAGR), and professional and technical services (47 jobs, 0.60 percent CAGR) – which could result in increases in business operations at the airport. The employment increase is consistent with statewide growth, which projects employment in Nebraska to increase at a CAGR of 0.79 percent from 2020 to 2030.[2] The addition of jobs and other economic development activities, including development of available property within the new industrial business park, is likely to support new registered aircraft growth; therefore, the selected forecast is the low-range increasing market share of U.S. active aircraft, which results in 43 registered aircraft by 2028, 46 by 2033, and 52 by 2043. These figures will be carried forward and used to determine a reasonable projection for based aircraft at York Municipal Airport.

BASED AIRCRAFT FORECAST

Determining the number of based aircraft at an airport can be a challenging task. Aircraft storage can be somewhat transient in nature, meaning aircraft owners can and do move their aircraft. Some aircraft owners may store their aircraft at an airport for only part of the year. For many years, the FAA did not require based aircraft records, so historical records are often incomplete or nonexistent. This has changed in recent years, and the FAA now mandates that general aviation airports report their based aircraft levels. These counts are recorded in the National Based Aircraft Inventory Program and are maintained and validated by the FAA to ensure accuracy.

The most recent FAA-validated based aircraft count for York Municipal Airport was 27 aircraft, as recorded at www.basedaircraft.com (as of April 2024). Based aircraft forecasts build upon the registered aircraft projections developed in the previous section, as the registered aircraft represent the extant available aircraft market for York Municipal Airport, as noted above. Market share and population ratio analyses were performed to produce a range of projections for based aircraft at the airport. Regression analyses did not provide a statistically significant correlation and were dismissed. The FAA's Terminal Area Forecast (TAF) is also included for comparison purposes, as required by the FAA.

[1] Woods and Poole, 2023
[2] Nebraska Department of Labor, 2020-2030 Long-Term Industry Employment Projects, Nebraska Statewide, July 2022

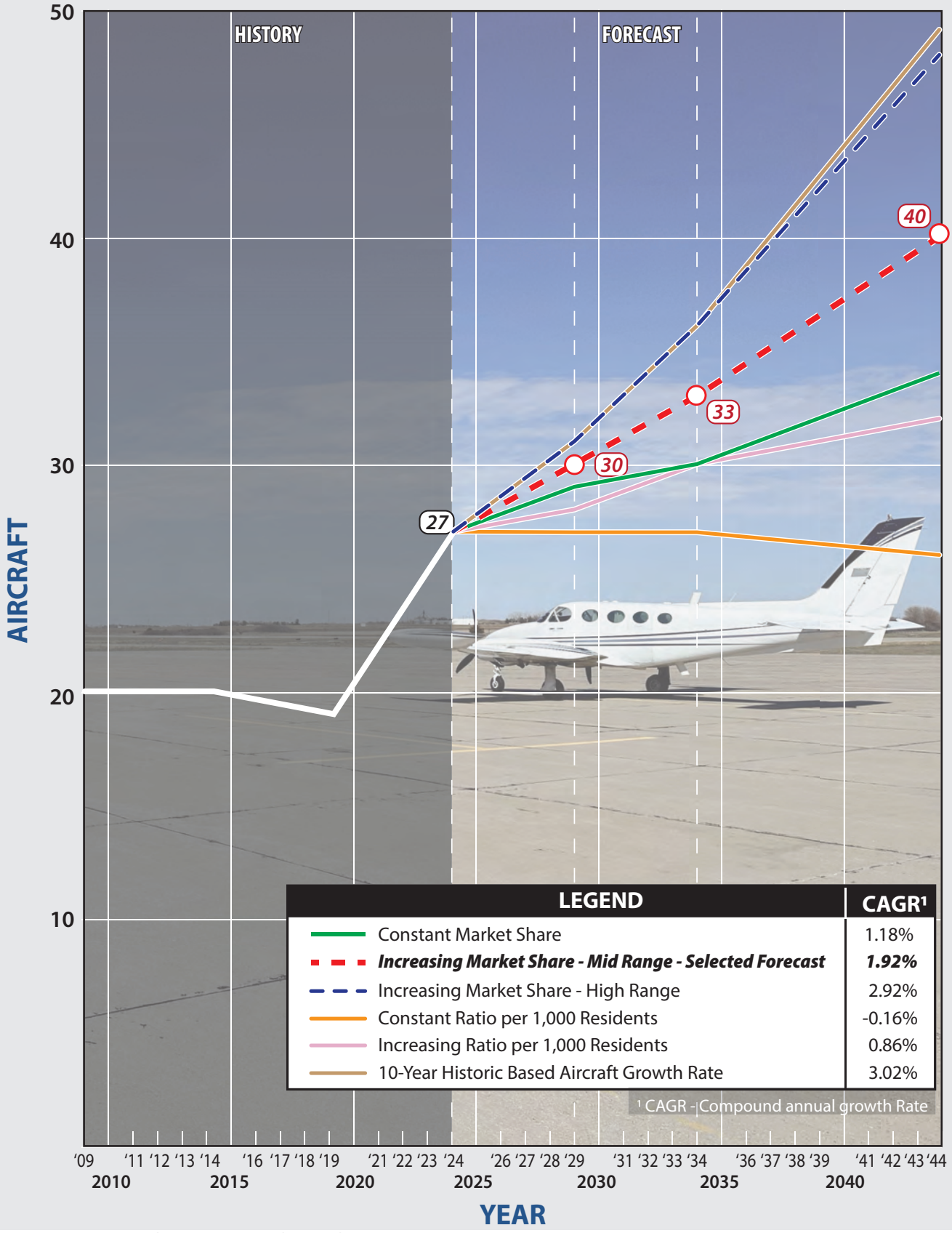
As presented in **Table 2F** and on **Exhibit P**, the first three forecasts show constant and increasing market shares for based aircraft. In 2024, the airport held 65.9 percent of the market share of registered aircraft in the county. This figure was carried forward through the planning period, resulting in 34 based aircraft by 2044 at a CAGR of 1.18 percent. Two variations of an increasing market share were also evaluated, based on historical trends. These reflect an increase in York Municipal Airport market share. Using the market share increase over the past 10 years, the mid-range forecast reflects steadily increasing market share growth, with the airport reaching 76.2 percent of the market share by 2044, or 42 based aircraft, representing a CAGR of 1.92 percent. Using the market share increase since 2009, a high-range scenario was also projected with greater incremental increases, resulting in based aircraft counts of 31 by 2029, 36 by 2034, and 48 by 2044. This represents a CAGR of 2.92 percent.

TABLE 2F | Based Aircraft Forecasts

Year	Based Aircraft	Service Area Registrations	Market Share	Service Area Population	Aircraft Per 1,000 Residents
2009	20	39	39.2%	13,689	1.46
2014	20	36	55.6%	14,159	1.41
2019	19	32	67.9%	14,145	1.34
2024	27	41	65.9%	14,332	1.88
Constant Market Share of Registered Aircraft (CAGR 1.18%)					
2029	29	43	65.9%	14,203	2.01
2034	30	46	65.9%	14,097	2.14
2044	34	52	65.9%	13,886	2.46
Increasing Market Share of Registered Aircraft – Mid Range (CAGR 1.92%) – *SELECTED FORECAST*					
2029	29	43	68.4%	14,203	2.09
2034	31	46	71.0%	14,097	2.31
2044	37	52	76.2%	13,886	2.84
Increasing Market Share of Registered Aircraft – High Range (CAGR 2.92%)					
2029	31	43	72.5%	14,203	2.21
2034	36	46	79.2%	14,097	2.58
2044	48	52	92.5%	13,886	3.46
Constant Ratio per 1,000 Residents (CAGR -0.15%)					
2029	27	43	61.8%	14,203	1.88
2034	27	46	57.9%	14,097	1.88
2044	26	52	50.4%	13,886	1.88
Increasing Ratio per 1,000 Residents (CAGR 0.87%)					
2029	28	43	65.3%	14,203	1.99
2034	30	46	64.4%	14,097	2.10
2044	32	52	61.7%	13,886	2.31
10-Year Historical Based Aircraft Growth Rate (CAGR 3.02%)					
2029	31	43	71.6%	14,203	2.18
2034	36	46	78.5%	14,097	2.55
2044	49	52	94.5%	13,886	3.53

Sources: Airport records; FAA TAF; Woods & Poole CEDDS 2023

The next two forecasts evaluate the ratio of based aircraft to the service area residents. There were 1.88 based aircraft per 1,000 residents in 2024. Due to the expected decrease in service area population, this ratio, when carried through as a constant, resulted in a reduction to 26 based aircraft at York Municipal Airport by 2044; however, as previously discussed, employment in the area is expected to increase.



Sources: Airport records; FAA TAF; Woods & Poole CEDDS 2022

The second population-related forecast considers an increasing ratio of based aircraft to residents, carrying forward the CAGR of the aircraft per 1,000 residents experienced since 2009. By 2044, a ratio of 2.31 based aircraft per 1,000 service area residents is projected. This results in 32 based aircraft by 2044 and a CAGR of 0.86 percent.

The FFA TAF has flatlined based aircraft growth at York Municipal Airport, with 20 based aircraft projected for each plan year, which is also the number of based aircraft reported in the TAF for the base year of 2024. It is important to note that there is a discrepancy of seven aircraft between the TAF number and the actual number of based aircraft in 2024, according to www.basedaircraft.com. For comparison purposes, a 10-year historical based aircraft forecast was prepared using the past 10 years of based aircraft growth, resulting in 43 based aircraft by 2024 and a CAGR of 2.35 percent.

These projections result in a forecast range between a low of 20 and a high of 49 based airplanes at York Municipal Airport by 2044. Although the population in the service area is expected to decrease over the planning period, employment is expected to increase. Aircraft registrations in the service area are projected to increase and growth in based aircraft at York Municipal Airport is expected to follow. This is partially due to the city's economic development plans, which include the purchase and marketing of a new business park located adjacent to the airport; this development should lead to an increase in aviation demand at the airport. Moreover, growth will likely require replacement of aging aircraft. It is believed that the increasing market share – with based aircraft reaching 40 by 2044 – is the most reasonable, as it includes 13 additional aircraft and the replacement of aged aircraft that are likely to be retired through the planning period.

BASED AIRCRAFT FLEET MIX

The type of aircraft based at an airport is another important consideration when planning for the future. The fleet mix at York Municipal Airport currently consists of primarily single-engine piston aircraft and three multi-engine aircraft. Because the total number of based aircraft at the airport is projected to increase over the planning period, it is necessary to project how the fleet mix may change over this time. A forecast of the evolving fleet mix will ensure that adequate facilities are planned to accommodate these aircraft in the future.

The fleet mix projection for the airport was determined by comparing the airport's existing fleet mix to national general aviation fleet mix trends. The forecast for the active U.S. GA fleet shows increasing trends in larger, more sophisticated aircraft, including jets, turboprops, and helicopters. Piston aircraft are projected to decrease nationally over the next 20 years.

Table 2G details the fleet mix projection prepared for the airport. While these forecasts take national trends into account, the fleet mix at York Municipal Airport is anticipated to continue to consist primarily of piston aircraft over the planning period, with the addition of 10 single-engine piston aircraft, one turboprop, one jet, and two classified as "other." The fleet mix includes the phasing out of one multi-engine piston aircraft, consistent with national trends. With additional economic development, more sophisticated aircraft are anticipated to utilize York Municipal Airport, and potentially base there over time, as presented in **Table 2G**.

TABLE 2G | Based Aircraft Fleet Mix								
	EXISTING		FORECAST					
Aircraft Type	2024	Percent	2029	Percent	2034	Percent	2044	Percent
Single-Engine Piston	22	81.5%	25	83.3%	26	78.8%	32	80.0%
Multi-Engine Piston	1	3.7%	1	3.3%	1	3.0%	0	0.0%
Turboprop	1	3.7%	1	3.3%	1	3.0%	2	5.0%
Jet	0	0.0%	0	0.0%	1	3.0%	1	2.5%
Helicopter	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Other	3	11.1%	3	10.0%	4	12.1%	5	12.5%
TOTALS	**27**	**100.0%**	**30**	**100.0%**	**33**	**100.0%**	**40**	**100.0%**

Sources: Airport records; Coffman Associates analysis

OPERATIONS

Operations are classified as either local or itinerant. A local operation is a takeoff or landing performed by an aircraft that operates within sight of the airport or executes simulated approaches or touch-and-go operations at the airport. Local operations are generally characterized by training operations. Itinerant operations are those performed by aircraft with specific origins or destinations away from the airport. Itinerant operations normally increase with business and commercial use because business aircraft are not typically used for large-scale training activities.

As a non-towered airport, operational estimates for York Municipal Airport are derived from several sources, including the FAA TAF and FAA Form 5010, *Airport Master Record*, as well as previous planning studies. The TAF reflects 10,475 total operations in 2024 and for every year thereafter through 2044. For planning purposes, there is no current or anticipated commercial service at JYR; therefore, the scope of this study excludes air carrier operations from the forecasts.

Additional calculations to estimate annual operations were also conducted for comparison purposes. The first – Equation 15 in the FAA's *Model for Estimating General Aviation Operations at Non-Towered Airports Using Towered and Non-Towered Airport Data* – factors in regional population and based aircraft data to develop a baseline operational count. When this data was input, the result was 9,986 operations.

The second calculation multiplies validated based aircraft by an estimated number of operations per based aircraft (OPBA), as outlined in Airport Cooperative Research Program (ACRP) Report 129, *Evaluating Methods for Counting Aircraft Operations at Non-Towered Airports*. In FAA Order 5090.5, the FAA recommends using a multiplier of 350 OPBA for local GA airports. This resulted in an estimated 9,450 total annual operations.

In summary, estimates of annual operations derived from various sources are as follows:

- FAA Form 5010 – 10,475
- 2024 FAA TAF – 10,475
- FAA Equation No. 15 – 9,986
- OPBA – 9,450

Based on activity levels in the region and at similar airports, the FAA TAF estimation of 10,475 annual operations is most likely consistent with actual operations. As such, the following figures will be carried forward for us as the base year counts:

- 4,275 annual itinerant GA operations, including 300 air taxi operations (40.8 percent of total)
- 6,200 annual local GA operations (59.2 percent of total)

ITINERANT GA OPERATIONS FORECAST

Several new forecasts for itinerant general aviation (GA) operations have been prepared, as presented on **Exhibit Q** and in **Table 2F**. Itinerant operations have been estimated to be 3,950 in 2024, based on the FAA TAF. Market share and ratio comparisons have been prepared using 3,950 as the base number of annual general aviation itinerant operations.

For the market share projections, York Municipal Airport's estimated annual itinerant GA operations have been compared to total U.S. itinerant GA operations occurring at towered airports. The first projection examines York Municipal Airport's constant market share of total operations. In 2024, the airport held a market share of 0.0261 percent of total GA itinerant operations. Maintaining this market share at a constant over the planning period results in slow operational growth, with 4,330 total GA operations projected by 2044 at a CAGR of 0.46 percent.

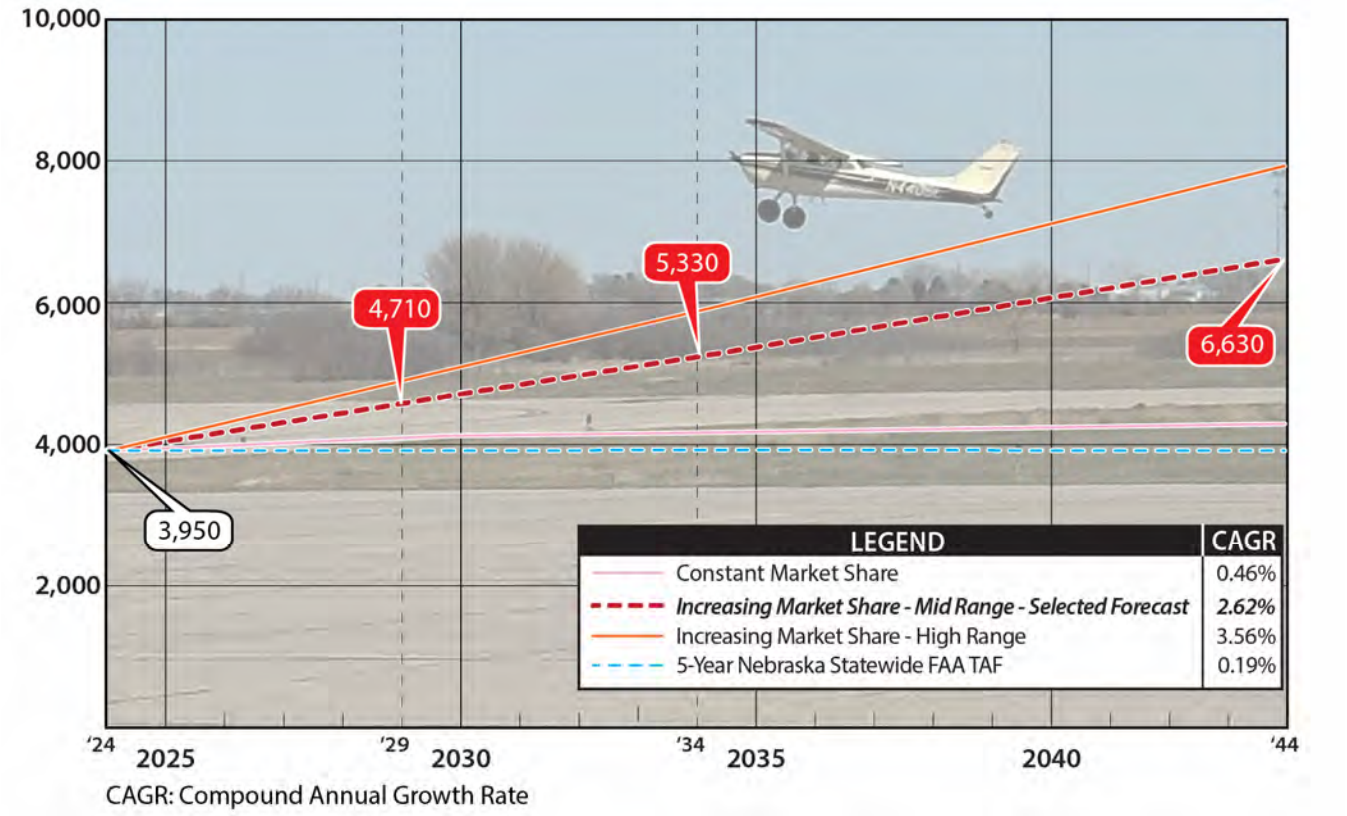


EXHIBIT Q | General Aviation Itinerant Operations – York Municipal Airport

TABLE 2F | General Aviation Itinerant Operations – York Municipal Airport			
Year	**JYR Itinerant Operations**	**U.S. ATCT GA Itinerant Operations**	**JYR Share %**
2024	3,950	15,125,333	0.0261%
Constant Market Share of U.S. Itinerant GA Operations (CAGR 0.46%)			
2029	4,160	15,924,000	0.0261%
2034	4,210	16,133,000	0.0261%
2044	4,330	16,569,000	0.0261%
Increasing Market Share of U.S. Itinerant GA Operations – Mid Range (CAGR 2.62%) – *SELECTED FORECAST*			
2029	4,710	15,924,000	0.0296%
2034	5,330	16,133,000	0.0331%
2044	6,630	16,569,000	0.0400%
Increasing Market Share of U.S. Itinerant GA Operations – High Range (CAGR 3.56%)			
2029	5,030	15,924,000	0.0316%
2034	5,980	16,133,000	0.0371%
2044	7,950	16,569,000	0.0480%
5-Year Historical Nebraska Statewide FAA TAF (CAGR 0.19%)			
2029	3,954	15,924,000	0.0248%
2034	3,957	16,133,000	0.0245%
2044	3,965	16,569,000	0.0239%

Sources: FAA Aerospace Forecast 2024-2044; FAA Form 5010; 2023 FAA TAF

Two increasing market shares were also prepared. The first evaluated a mid-range growth scenario, which derived a growth rate of 2.62 percent CAGR with 6,630 operations projected by 2044. The second increasing market share considered a high-range scenario, which took a more aggressive approach and produced a 3.56 percent CAGR with 7,950 operations by 2044.

Because the York Municipal Airport TAF is static throughout the planning period, historical growth from the statewide TAF for Nebraska was included for comparison purposes. The statewide TAF shows an increase in general aviation operations, with a CAGR of 0.19 percent from 2019 to 2024. When applied at York Municipal Airport, the forecast results in 3,954 itinerant operations by 2029, 3,957 operations by 2034, and 3,965 itinerant operations by 2044.

The forecasts prepared resulted in a range between 3,965 and 7,950 annual itinerant GA operations at York Municipal Airport. The market share mid-range forecast with a CAGR of 2.62 percent has been selected as the most reasonable projection. York Municipal Airport is conveniently located near the city's newest industrial park development, with convenient highway and rail access, and JYR's superior runway length (compared to other airports within 30 nm) makes the airport an attractive choice to itinerant operators.

LOCAL GA OPERATIONS FORECAST

Like the forecasts prepared for itinerant GA operations, new projections for local GA operations have been prepared. These forecasts are detailed on **Exhibit R** and in **Table 2G**. Based on industry norms and the TAF, local operations are estimated to account for approximately 60 percent of operations at York Municipal Airport. As mentioned previously, a local operation is one that stays within the airport's traffic pattern, such as training or touch-and-go operations. There are an estimated 6,200 annual local GA operations at York Municipal Airport, which translates to a market share of 0.0390 percent of the local GA operations conducted nationwide.

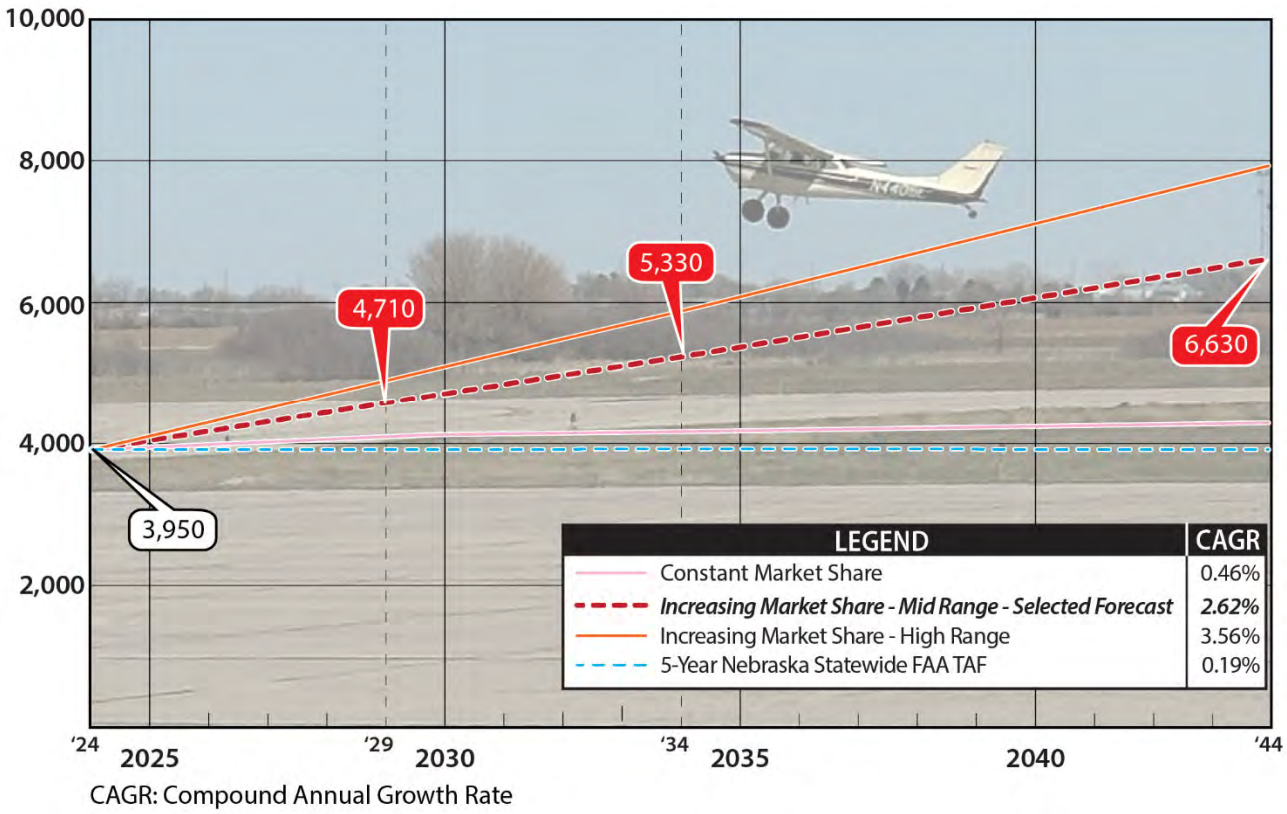


EXHIBIT R | General Aviation Local Operations – York Municipal Airport

TABLE 2G | General Aviation Local Operations Projections – York Municipal Airport

Year	JYR Local Operations	U.S. ATCT GA Local Operations	JYR Share %
2024	6,200	15,900,404	0.0390%
Constant Market Share of U.S. Local GA Operations (CAGR 0.50%)			
2029	6,490	16,655,000	0.0390%
2034	6,610	16,950,000	0.0390%
2044	6,850	17,571,000	0.0390%
Increasing Market Share of U.S. Itinerant GA Operations – Mid Range (CAGR 1.48%) – *SELECTED FORECAST*			
2029	6,840	16,655,000	0.0415%
2034	7,310	16,950,000	0.0435%
2044	8,310	17,571,000	0.0473%
Increasing Market Share of U.S. Itinerant GA Operations – High Range (CAGR 2.23%)			
2029	7,330	16,655,000	0.0519%
2034	8,300	16,950,000	0.0600%
2044	10,370	17,571,000	0.0800%
5-Year Historical Nebraska Statewide FAA TAF (CAGR 0.0.31%)			
2029	6,297	16,655,000	0.0378%
2034	6,395	16,950,000	0.0377%
2044	6,596	17,571,000	0.0375%

Sources: FAA Aerospace Forecast 2024-2044; FAA Form 5010; 2023 FAA TAF

Market share and ratio forecasts have been prepared. The first forecast considers a constant market share, maintaining the airport's 2024 market share of 0.0390 percent through 2044. This produces 6,850 local GA operations by the end of the planning period and a CAGR of 0.50 percent. Mid-range and high-range increasing market share forecasts were also prepared. The mid-range projection considered a growth scenario based on a CAGR of 1.48 percent and resulted in 8,310 operations by 2044. The second increasing market share assessed a more aggressive growth scenario of 2.23 percent, which equates to 10,370 operations by 2044.

The Nebraska statewide TAF growth rate over the last five years was also included for comparison purposes, with 6,200 local GA operations forecast for each of the plan years, resulting in a decreasing market share to 0.0375 percent.

With a range of forecasts resulting in outcomes between 6,200 and 10,370 local GA operations, a moderate growth rate of 1.48 percent CAGR has been determined to be the most reasonable, as the addition of local business would most likely cause this projection to be met or exceeded.

AIR TAXI OPERATIONS FORECAST

The air taxi category can be classified as a subset of the itinerant operations category and includes aircraft involved in on-demand passenger charter operations, fractional ownership aircraft operations, small parcel transport, and air ambulance activity. While not typically a large percentage of total airport operations, air taxi operations can be conducted via more sophisticated aircraft, ranging from multi-engine piston aircraft up to large business jet aircraft. As a result, it is important to factor these types of operations at airports that experience substantial amounts of air taxi operations.

The FAA national air taxi forecast projects a 0.7 percent CAGR increase in air taxi operations from 2024 through 2044. The primary reason for this increase is the technological advancements of the electric vertical takeoff and landing (eVTOL) aircraft and the continued national growth in the business jet segment of the air taxi category.

Based on the *Airport Master Record* (FAA Form 5010) and the TAF, York Municipal Airport experiences 300 annual air taxi operations. Annual operations for 2024 are estimated to be approximately 498, based on data obtained from AirportIQ cross-referenced with the FAA's Traffic Flow Management System Counts database. These databases utilize instrument flight rule (IFR) filings and other sources – such as Automatic Dependent Surveillance-Broadcast (ADS-B) and radar – to provide operational information for all airports. Air taxi operations, especially in support of new business and agriculture ventures, will likely increase as information and marketability of the industrial park development increase; therefore, it is reasonable to expect air taxi activity to increase moderately over time at York Municipal Airport. Over the last 10 years, air taxi operations at York Municipal Airport have fluctuated from 183 to 563, as shown in **Table 2H**. The constant market share of U.S. air taxi operations, carried forward for each plan year, yields a total of 576 air taxi operations by 2044 and a CAGR of 0.73 percent.

TABLE 2H | Historical and Projected Air Taxi Operations			
Year	JYR Air Taxi Operations	U.S. Air Taxi Operations	Market %
2015	369	7,895,478	0.0047%
2016	563	7,580,119	0.0074%
2017	547	7,179,651	0.0076%
2018	534	7,125,556	0.0075%
2019	482	7,234,239	0.0067%
2020	249	5,471,641	0.0046%
2021	392	5,884,738	0.0067%
2022	183	6,522,238	0.0028%
2023	432	6,456,202	0.0067%
2024*	498	6,475,738	0.0077%
Constant Market Share Air Taxi Operations (CAGR 0.73%)			
2029	491	6,386,000	0.0077%
2034	519	6,748,000	0.0077%
2044	576	7,490,000	0.0077%
*2024 counts are from June 1, 2023, through May 31, 2024.			

Sources: AirportIQ; Coffman Associates analysis

MILITARY OPERATIONS FORECAST

It is common for military aircraft to utilize civilian airports for training or other purposes; however, forecasting military operations is challenging due to their national security nature and the fact that missions can change daily. This makes it difficult to project future operations based on historical data; thus, it is not unusual for the FAA to flatline military operations projections. The FAA TAF for York Municipal Airport currently reflects 25 itinerant military operations for 2024 and the military operations count is planned to remain at 25 for the duration of the forecast period.

TOTAL OPERATIONS FORECAST SUMMARY

Exhibit S presents the total number and classification of the selected operations forecast. The airport experiences a mix of operation types, including general aviation, air taxi, and military operations.

PEAK PERIOD FORECASTS

Forecasts of peak activity at an airport are important in determining facility requirements for the future. The peaking periods used to develop the capacity analysis and facility requirements are:

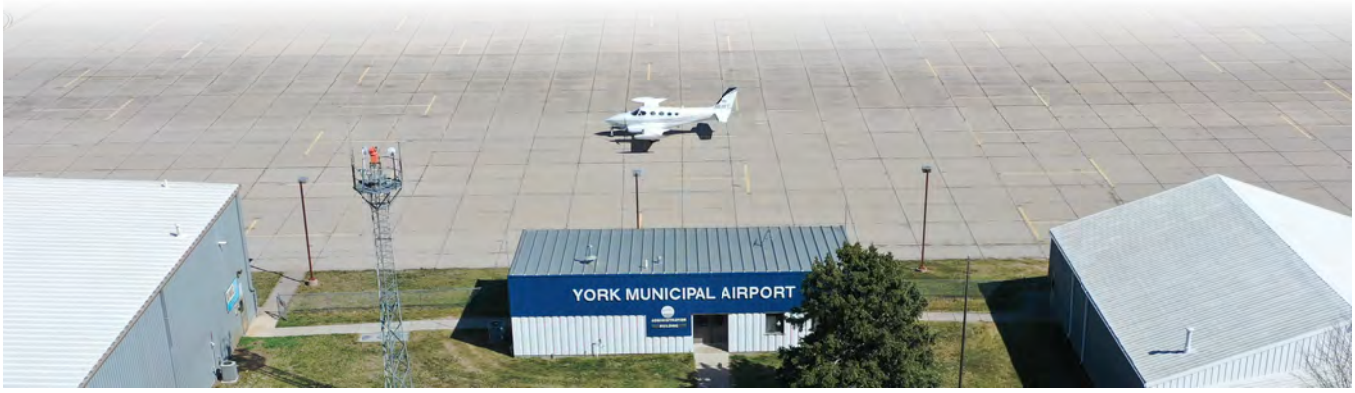
- **Peak month** – the calendar month in which traffic activity is highest;
- **Design day** – the average day in the peak month; and
- **Design hour** – the peak hour within the design day.

Because York Municipal Airport is not equipped with an airport traffic control tower, precise operational data are not available for establishing true peaking characteristics. For this reason, estimated peaking characteristics have been developed based on knowledge of other general aviation airports with control towers. For this study, the peak month was estimated at 10 percent of the annual operations, which resulted in 1,067 operations during the peak month of the base year. By the end of the planning period,

	Base Year	Forecast			CAGR
	2024	2029	2034	2044	
ANNUAL OPERATIONS					
Itinerant					
Other Air Taxi	498	491	519	576	0.73%
General Aviation	3,950	4,710	5,330	6,630	2.62%
Military	25	25	25	25	0.00%
Total Itinerant	***4,473***	***5,226***	***5,874***	***7,231***	***2.43%***
Local					
General Aviation	6,200	6,920	7,370	8,310	1.48%
Military	0	0	0	0	0.00%
Total Local	***6,200***	***6,840***	***7,310***	***8,310***	***1.48%***
Total Annual Operations	***10,673***	***12,066***	***13,184***	***15,541***	***1.90%***
BASED AIRCRAFT					
Single Engine	22	25	26	32	
Multi-Engine	1	1	1	0	
Turboprop	1	1	1	2	
Jet	0	0	1	1	
Helicopter	0	0	0	0	
Other	3	3	4	5	
TOTAL BASED AIRCRAFT	**27**	**30**	**33**	**40**	**1.98%**

CAGR: Compound Annual Growth Rate

	2023	2028	2033	2043
PEAKING ACTIVITY PROJECTIONS				
Total Annual Operations	***10,673***	***12,066***	***13,184***	***15,541***
Peak Month	1,067	1,207	1,318	1,554
Design Day	34	39	43	50
Design Hour	5	6	6	8
Busy Day	43	49	53	63
Design Hour	6	7	8	9



1,554 operations are projected to occur during the peak month. The design day is estimated by dividing the peak month by the average number of days in a month. The design hour is estimated at 15 percent of the design day. Peak period forecasts are presented in **Table 2J**.

TABLE 2J | Peak Periods

	2024	2029	2034	2044
Total Annual Operations	**10,673**	**12,066**	**13,184**	**15,541**
Peak Month	1,067	1,207	1,318	1,554
Design Day	34	39	43	50
Design Hour	5	6	6	8
Busy Day	43	49	53	63
Busy Day Design Hour	6	7	8	9

FORECAST COMPARISON TO THE TAF

A summary of the selected forecasts is presented on **Exhibit S**. Elements such as local socioeconomic indicators, anticipated regional development, historical aviation data, and national aviation trends were all considered when determining future conditions. The FAA will review the forecasts presented in this aviation planning study and compare them to the *Terminal Area Forecast*. The forecasts are considered consistent with the TAF if they meet the following criteria:

- Forecasts differ by less than 10 percent in the five-year forecast period and less than 15 percent in the 10-year forecast period;
- Forecasts do not affect the timing or scale of an airport project; or
- Forecasts do not affect the role of the airport, as defined in the current version of FAA Order 5090.5, *Formulation of the National Plan of Integrated Airport Systems (NPIAS) and the Airports Capital Improvement Plan (ACIP)*.

If the forecasts exceed these parameters, they may be sent to FAA headquarters in Washington, D.C., for further review. **Table 2K** presents the direct comparison of the planning forecasts prepared in this study with the TAF that was published in January 2024. It is important to note that there is a discrepancy of seven based aircraft between the TAF and the verified number of based aircraft for the base year. When correcting for the discrepancy, the based aircraft forecast is within tolerance for the five-year period and outside tolerance by 3.04 percent for the 10-year period, despite a flatlined number of based aircraft in the TAF. The TAF operations forecast is also flatlined; however, the selected operations forecasts exceed the tolerance by only 4.12 percent for the five-year period and 7.9 percent for the 10-year period.

The based aircraft and operations forecasts are outside the FAA TAF tolerance for the five-year forecast period and for the 10-year period. These discrepancies are a result of the TAF projections being flatlined for operations and based aircraft throughout the plan years. This is an unlikely scenario, and some level of growth in based aircraft and annual operations is likely to occur at York Municipal Airport due to new development in the community and the need for improvements to the airport, which will serve to increase overall aviation growth.

TABLE 2K | Forecast Comparison to the *Terminal Area Forecast*					
	Base Year	FORECAST			CAGR
	2024	2029	2034	2044	2024-2044
Total Operations					
Selected Forecast	10,673	12,066	13,184	15,541	1.90%
2022 FAA TAF	10,475	10,475	10,475	10,475	0.00%
% Difference	1.87%	14.12%	22.90%	38.95%	–
Based Aircraft					
Selected Forecast	27	30	33	40	1.92%
2022 FAA TAF	20	20	20	20	0.00%
% Difference	29.79%	38.76%	47.82%	65.55%	–
% Difference (corrected)[1]	0.00%	8.97%	18.04%	35.76%	–

[1] Percentages corrected by 29.79% to account for discrepancy between the TAF and verified number of based aircraft.
CAGR = compound annual growth rate

Source: Coffman Associates analysis

AIRCRAFT/AIRPORT/RUNWAY CLASSIFICATION

The FAA has established several aircraft classification systems that group aircraft types based on their performance (approach speed and landing configuration) and design characteristics (wingspan and landing gear configuration). These classification systems are used to determine the appropriate airport design standards for specific airport elements, such as runways, taxiways, taxilanes, and aprons.

AIRCRAFT CLASSIFICATION

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily on the characteristics of the aircraft that currently use or are expected to use an airport. The critical design aircraft is used to define the design parameters for an airport. The design aircraft may be a single aircraft type or, more commonly, a composite aircraft that represents a collection of aircraft with similar characteristics. The critical design aircraft is defined by three parameters: aircraft approach category (AAC), airplane design group (ADG), and taxiway design group (TDG). FAA AC 150/5300-13B, *Airport Design*, describes the following airplane classification systems, the parameters of which are presented on **Exhibit T**.

Aircraft Approach Category (AAC) | The AAC is depicted by a letter (A through E) and relates to aircraft approach speed (operational characteristics). The AAC generally applies to runways and runway-related facilities, such as runway width, runway safety area (RSA), runway object free area (ROFA), runway protection zone (RPZ), and separation standards. The AAC is a grouping of aircraft, based on a reference landing speed (V_{REF}), if specified, or if V_{REF} is not specified, 1.3 times stall speed (V_{SO}) at the maximum certificated landing weight. V_{REF}, V_{SO}, and the maximum certificated landing weight are values established for the aircraft by the certification authority of its country of registry. The AAC generally refers to the approach speed of an aircraft in landing configuration; the higher the approach speed, the more restrictive the applicable design standards.

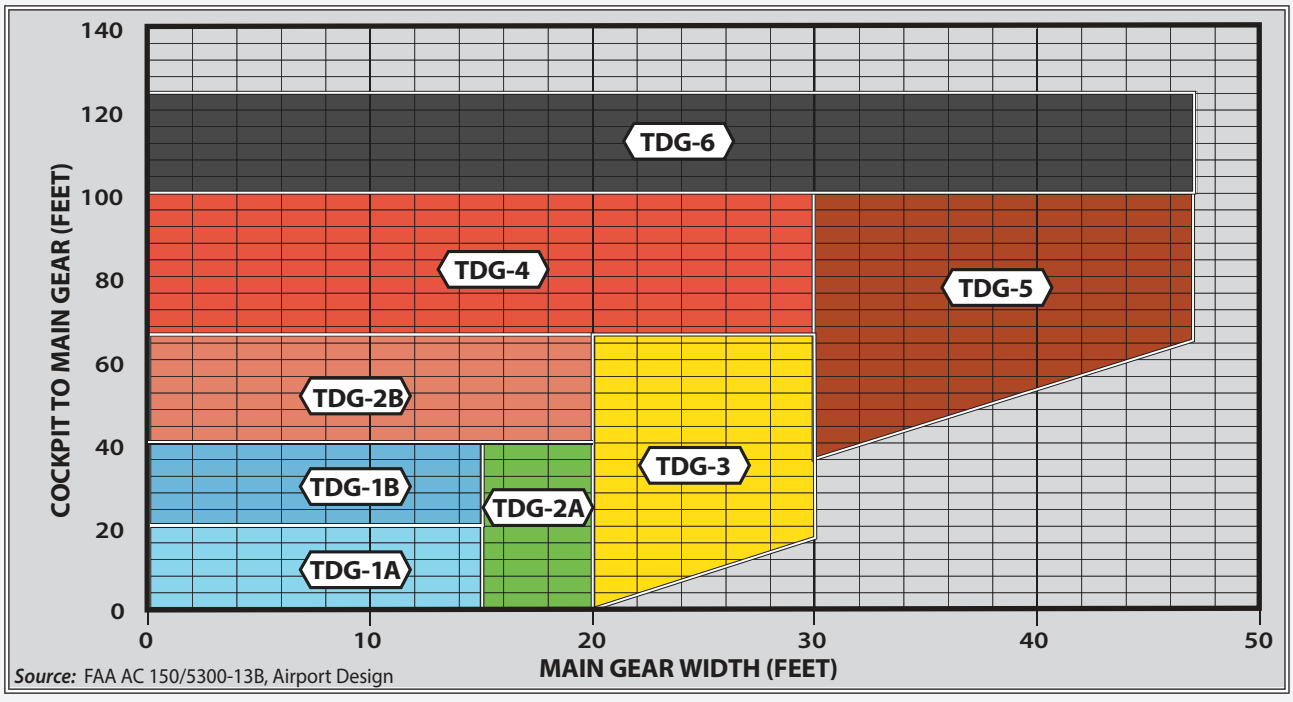
AIRCRAFT APPROACH CATEGORY (AAC)	
Category	**Approach Speed**
A	Less than 91 knots
B	91 knots or more but less than 121 knots
C	121 knots or more but less than 141 knots
D	141 knots or more but less than 166 knots
E	166 knots or more

AIRPLANE DESIGN GROUP (ADG)		
Group #	**Tail Height (ft)**	**Wingspan (ft)**
I	<20	<49
II	20≤30	49≤79
III	30≤45	79≤118
IV	45≤60	118≤171
V	60≤66	171≤214
VI	66≤80	214≤262

VISIBILITY MINIMUMS	
RVR* (ft)	**Flight Visibility Category (statute miles)**
VIS	3-mile or greater visibility minimums
5,000	Not lower than 1-mile
4,000	Lower than 1-mile but not lower than ¾-mile
2,400	Lower than ¾-mile but not lower than ½-mile
1,600	Lower than ½-mile but not lower than ¼-mile
1,200	Lower than ¼-mile

***RVR**: Runway Visual Range

TAXIWAY DESIGN GROUP (TDG)



Source: FAA AC 150/5300-13B, Airport Design

Airplane Design Group (ADG) | The ADG is depicted by a Roman numeral (I through VI) and is a classification of aircraft that relates to aircraft wingspan or tail height (physical characteristics). When the aircraft wingspan and tail height fall in different groups, the most restrictive group is used. The ADG influences design standards for the taxiway safety area (TSA), taxiway object free area (TOFA), apron wingtip clearance, and various separation distances.

Taxiway Design Group (TDG) | The TDG is a classification of airplanes that is based on outer-to-outer main gear width (MGW) and cockpit to main gear (CMG) distance. The TDG relates to the undercarriage dimensions of the design aircraft. The taxiway design elements determined by the application of the TDG include the taxiway width, taxiway edge safety margin, taxiway shoulder width, taxiway fillet dimensions, and (in some cases) the separation distance between parallel taxiways/taxilanes. Other taxiway elements – such as the TSA, TOFA, taxiway/taxilane separation to parallel taxiway/taxilanes or fixed or movable objects, and taxiway/taxilane wingtip clearances – are determined solely based on the wingspan (ADG) of the design aircraft utilizing those surfaces. It is appropriate for taxiways to be planned and built to different TDG standards, based on expected use.

Exhibit U summarizes the classifications of the most common aircraft currently in operation across the U.S.

AIRPORT AND RUNWAY CLASSIFICATION

These classifications, along with the aircraft classifications defined previously, are used to determine the appropriate FAA design standards to which the airfield facilities should be designed and built.

Airport Reference Code (ARC) | The ARC is an airport designation that signifies the airport's highest runway design code (RDC) minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport.

Runway Design Code (RDC) | The RDC is a code that signifies the design standards to which the runway should be built. The RDC is based on planned development and has no operational component. The AAC, ADG, and runway visual range (RVR) are combined to form the RDC of a particular runway. The RDC provides the information needed to determine certain design standards that apply. The first component, depicted by a letter, is the AAC and relates to aircraft approach speed (operational characteristics). The second component, depicted by a Roman numeral, is the ADG and relates to either the aircraft wingspan or tail height (physical characteristics), whichever is most restrictive. The third component relates to the visibility minimums, expressed by RVR values in feet of 1,200 (⅛-mile); 1,600 (¼-mile); 2,400 (½-mile); 4,000 (¾-mile); and 5,000 (1-mile). The RVR values approximate standard visibility minimums for instrument approaches to the runways. The third component should be labeled "VIS" for runways that are designed for visual approach use only.

Approach Reference Code (APRC) | The ARC is a code that signifies the current operational capabilities of a runway and associated parallel taxiway with regard to landing operations. of the APRC has the same three components as the RDC: the AAC, ADG, and RVR. The APRC describes the current operational capabilities of a runway under particular meteorological conditions in which no special operating procedures are necessary, as opposed to the RDC, which is based on planned development with no operational component. The APRC for a runway is established based on the minimum runway-to-taxiway centerline separation.

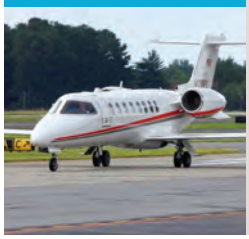
A-I	Aircraft	TDG
	• Beech Bonanza	1A
	• **Cessna 150**, 172	**1A**
	• Piper Comanche, Seneca	1A

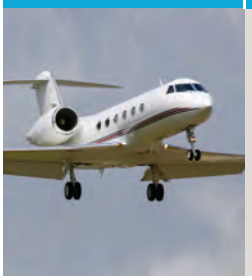
B-I	Aircraft	TDG
	• Eclipse 500	1A
	• Beech Baron 55/58	1A
	• **Beech King Air 100**	**1A**
	• Cessna 421	2A
	• Cessna Citation M2 (525)	1A
	• Cessna Citation 1(500)	1A
	• Embraer Phenom 100	1A

A/B-II *12,500 lbs. or less*	Aircraft	TDG
	• Beech Super King Air 200	2A
	• Beech King Air 90	1A
	• **Cessna 441 Conquest**	**1A**
	• Cessna Citation CJ2	2A
	• Pilatus PC-12	2

B-II *over 12,500 lbs.*	Aircraft	TDG
	• Beech Super King Air 350	2A
	• Cessna Citation CJ3(525B)	2A
	• **Cessna Citation CJ4 (525C)**	**1B**
	• Cessna Citation Latitude	1B
	• Embraer Phenom 300	1B
	• Falcon 20	1B
	• Pilatus PC-24	2A

A/B-III	Aircraft	TDG
	• Bombardier Dash 8	3
	• **Bombardier Global 7500**	**2B**
	• Falcon 7X, 8X	2A

C/D-I	Aircraft	TDG
	• **Lear** 35, 40, **45**, 55, 60XR	**1B**
	• F-16	1A

C/D-II	Aircraft	TDG
	• Challenger 600/604	1B
	• Cessna Citation III, VI,VII, X	1B
	• Embraer Legacy 135/140	2B
	• **Gulfstream IV** (D-II)	**2A**
	• Gulfstream G280	1B
	• Lear 70, 75	1B
	• Falcon 50, 900, 2000	2A
	• Hawker 800XP, 4000	1B

C/D-III *less than 150,000 lbs.*	Aircraft	TDG
	• Gulfstream V	2B
	• **Gulfstream** 550, 600, **650**	**2B**
	• Global 5000, 6000	2B

C/D-III *over 150,000 lbs.*	Aircraft	TDG
	• **Airbus** A319, **A320**, A321	3
	• Boeing 737-800, 900	3
	• MD-83, 88	4

C/D-IV	Aircraft	TDG
	• Airbus A300	5
	• Boeing 757-200	4
	• **Boeing 767**-300, 400	**5**
	• MD-11	6

C/D-V	Aircraft	TDG
	• Airbus A330-200, 300	5
	• Airbus A340-500, 600	6
	• Boeing 747-100 - 400	5
	• Boeing 777-300	6
	• **Boeing 787-8**, 9	**5**

Note: Aircraft pictured is identified in bold type.

Departure Reference Code (DPRC) | The DPRC is a code that signifies the current operational capabilities of a runway and associated parallel taxiway with regard to takeoff operations. The DPRC represents those aircraft that can take off from a runway while any aircraft are present on adjacent taxiways, under particular meteorological conditions with no special operating conditions. The DPRC is similar to the APRC but has two components: the AAC and ADG. A runway may have more than one DPRC, depending on the parallel taxiway separation distance.

CRITICAL DESIGN AIRCRAFT

The selection of appropriate FAA design standards for the development and location of airport facilities is based primarily on the characteristics of the aircraft that currently use or are expected to use an airport. The critical design aircraft is used to define the design parameters for an airport. The design aircraft may be a single aircraft, or a composite aircraft that represents a collection of aircraft, classified by the three parameters: AAC, ADG, and TDG.

According to FAA AC 150/5300-13B, *Airport Design*, "airport designs based only on aircraft currently using the airport can severely limit the airport's ability to accommodate future operation of more demanding aircraft." Selection of the current and future critical design aircraft must be supported by current data and realistic projections. By definition, the critical aircraft is the aircraft (or grouping of similar aircraft) that completes a minimum of 500 annual operations at an airport.

As stated previously, it is important to have an accurate understanding of the types of aircraft that currently operate at the airport and are expected to use the airport in the future. Many believe the aggregate operational totals are the most meaningful statistics to consider; however, the critical aircraft determination has the greatest impact on planning an airport. The critical aircraft leads to justification for airport facility dimensional standards, such as pavement strengths, widths, and lengths, and also establishes the sizing and location of the airfield's critical safety areas.

The FAA maintains a database of aircraft operations that file flight plans and/or that are captured on radar, called the Traffic Flow Management System Counts (TFMSC) database. The FAA indicates a belief that this database is more than 95 percent accurate in documenting operations, especially by more sophisticated aircraft, such as turboprops and business jets. Some activity by smaller piston aircraft is captured by the TFMSC database, but those aircraft typically operate under visual conditions and do not file flight plans; nevertheless, the TFMSC data for the airport were examined for use in this analysis and are presented on **Exhibit V**.

It is important to note that agricultural spraying operations are not typically captured by the TFMSC database. Interviews with the airport manager indicate that two agricultural spraying operators utilize between one to three Air Tractor 802s and one Air Tractor 602 at any given time, depending on job requirements. Automatic Dependent Surveillance-Broadcast (ADS-B) data collected from April through September 2024, suggests that the most common aircraft operating at the airport are agricultural spraying turboprops in the Air Tractor family. Agricultural spraying operations recorded during this time period are summarized in **Table 2L**.

TABLE 2L | 2024 Agricultural Spraying Turboprop Operations – York Municipal Airport		
Aircraft	**ARC**	**Number of Operations**
AT-502A	A-II	35
AT-502B	A-II	179
Subtotal A-II		**214**
AT-602	B-II	2
AT-802A	B-II	802
Subtotal B-II		**804**
Total Air Tractor Ops		**1,018**

Source: 1200.aero ADS-B data collected from April 24, 2024, through September 30, 2024.

Existing and Ultimate Critical Aircraft

In addition to using ADS-B data, which identified Air Tractor AT-802 as the most common aircraft operating at JYR, a TFMSC report was prepared to identify other aircraft types operating at York Municipal Airport. The data in the TFMSC database included over 300 annual turbine operations for eight of the last 10 years. The airport experienced more than 350 annual turbine operations during the last three years (2021-2023); however, no single aircraft or family of aircraft is reported to have conducted 500 or more operations at the airport over the last 10 years, other than the Air Tractor AT-802. The largest groupings reported in the TFMSC database are conducted by aircraft in the B-II category, in which the King Air 200/300/350 is the predominant aircraft. B-II groupings consisted of 142 operations in 2023, or approximately 34 percent of the total annual turbine operations. B-II operations have been consistent throughout the 10 years examined, regularly exceeding 100 annual operations. The second most physically demanding aircraft grouping is the B-I category – represented by aircraft such as the King Air Cessna 425 Corsair and the Citation M2 – conducting 80 operations: approximately 19 percent of all turbine operations.

Notable growth during the last three years (2021-2023) has also occurred in the C-II category. Combined operations increased from eight in 2021 to 24 in 2022 and 34 in 2023. The C-II category comprises eight percent of operations reported in the TFMSC data, as shown on **Exhibit V**.

When planning for future facilities at York Municipal Airport, it is necessary to consider the types of aircraft that operate the most frequently at the airport in order to identify the existing and ultimate critical aircraft. Using data sourced from ADS-B data and the TFMSC database, the majority of operations fall in the B-II category, so the existing critical aircraft is identified as B-II, with the Air Tractor AT-802 serving as the representative aircraft; however, the C-II category has experienced the most recent growth. This growth is evidenced by over three times more C-I and C-II activity occurring at the airport in 2022 and 2023 than occurred in previous years including 2019 and 2021. Therefore, the ultimate critical aircraft is identified as C-II for primary Runway 17-35, with the C-I/C-II family of aircraft serving as the representative aircraft. Operations of aircraft in this family are expected to continue to increase over the planning period as a result of increases in employment and economic development in the new industrial park, as well as FAA projections for increased jet and turbine operations nationally. As noted in the previous section, the critical aircraft is the aircraft (or grouping of similar aircraft) that completes a minimum of 500 annual operations at an airport. Therefore, although the existing airfield and ALP have been planned to at least C-II standards, a C-II runway is not justified at this airport until over 500

ARC	Aircraft	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A-I	Cirrus Vision Jet	0	0	0	0	0	0	0	2	10	0
	Kodiak Quest	0	0	10	6	2	2	0	0	0	0
	Lancair Evolution/Legacy	0	0	0	2	2	2	0	0	0	0
	Piper Malibu/Meridian	24	8	12	10	8	10	2	4	6	8
	Socata TBM 7/850/900	98	74	50	8	10	6	4	4	4	28
	Total	122	82	72	26	22	20	6	10	20	36
A-II	Cessna Caravan	10	6	2	2	2	0	0	6	0	0
	Pilatus PC-12	4	28	74	100	102	82	50	120	86	120
	Total	14	34	76	102	104	82	50	126	86	120
B-I	Aero Commander 690	2	4	0	2	2	0	0	0	0	0
	Beechjet 400	0	2	2	16	4	4	0	2	4	2
	Cessna 425 Corsair	0	0	2	14	10	8	0	20	18	20
	Challenger 300	8	12	6	4	14	0	0	0	2	0
	Citation CJ1	50	30	22	30	32	28	4	0	8	10
	Citation I/SP	2	2	4	0	2	0	2	0	0	0
	Citation M2	0	0	0	0	0	0	0	4	18	32
	Citation Mustang	8	0	0	2	2	2	8	16	30	10
	Eclipse 400/500	2	0	8	6	4	2	2	4	0	4
	Honda Jet	0	0	0	0	6	4	0	0	0	0
	King Air 90/100	0	0	34	0	0	0	0	0	0	0
	Learjet 31	0	0	0	2	0	0	0	0	0	0
	Mitsubishi MU-2	2	2	2	0	8	6	4	2	2	0
	Phenom 100	8	0	2	4	4	0	0	2	0	0
	Piper Cheyenne	2	2	2	0	4	6	2	2	6	2
	Premier 1	4	0	0	2	0	6	0	2	2	0
	Total	88	54	84	82	92	66	22	54	90	80
B-II	Beech 1900	0	0	0	0	0	0	0	0	2	0
	Cessna Conquest	2	0	12	4	10	0	2	6	0	0
	Citation CJ2/CJ3/CJ4	20	14	12	8	12	22	2	34	24	26
	Citation II/SP/Latitude	2	2	14	8	10	8	2	18	8	12
	Citation V/Sovereign	18	6	20	12	22	4	2	18	14	14
	Citation XLS	6	2	14	4	6	4	2	18	8	6
	Embraer 500/450 Legacy	0	0	0	0	2	0	0	0	0	0
	Gulfstream 100/150	0	0	0	0	0	0	0	2	0	0
	King Air 200/300/350	46	40	42	40	22	42	20	34	46	54
	King Air 90/100	88	26	0	10	22	28	0	4	0	4
	Phenom 300	2	2	0	0	6	18	4	6	8	14
	Pilatus PC-24	0	0	0	0	0	2	0	0	0	12
	Swearingen Merlin	0	0	0	0	2	0	0	0	0	0
	Total	184	92	114	86	114	128	34	140	110	142
B-III	De Havilland Dash 8 Series	0	0	0	0	0	0	2	2	0	0
	Total	0	0	0	0	0	0	2	2	0	0
C-I	Learjet 35/36	0	0	10	4	6	0	0	0	2	0
	Learjet 40 Series	4	8	2	12	12	4	10	2	10	4
	Learjet 50 Series	0	0	2	0	0	0	0	0	0	0
	Learjet 60 Series	2	0	0	0	2	0	4	2	0	0
	Piaggio Avanti	0	0	2	2	0	2	2	0	2	0
	Rockwell Sabre 40/60	2	2	0	0	0	0	0	0	0	0
	Total	8	10	16	18	20	6	16	4	14	4
C-II	Challenger 300	0	0	0	0	0	0	2	0	0	0
	Challenger 600/604	0	0	2	0	0	0	2	0	0	0
	Citation III/VI	0	0	0	0	0	0	0	0	0	2
	Citation X	0	0	0	0	0	0	0	0	0	2
	Embraer ERJ-135/140/145	0	0	0	0	0	0	2	0	0	0
	Falcon 900	0	0	0	2	4	2	0	2	12	8
	Gulfstream 200	0	0	0	0	0	0	0	4	0	0
	Gulfstream 280	0	0	0	0	0	0	0	0	0	2
	Gulfstream G-III	0	0	0	0	0	2	0	0	0	0
	Hawker 800 (Formerly Bae-125-800)	2	2	2	0	2	0	0	0	2	8
	Learjet 70 Series	0	0	2	0	0	0	0	2	10	12
	Total	2	2	6	2	6	4	6	8	24	34
D-II	Gulfstream 450	2	0	0	2	0	0	0	0	0	2
	Total	2	0	0	2	0	0	0	0	0	2
D-III	Gulfstream 500/600	0	0	0	0	0	0	0	4	0	0
	Total	0	0	0	0	0	0	0	4	0	0

AIRPORT REFERENCE CODE (ARC) SUMMARY

ARC CODE	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A-I	122	82	72	26	22	20	6	10	20	36
A-II	14	34	76	102	104	82	50	126	86	120
A-III	0	0	0	0	0	2	0	0	0	0
B-I	88	54	84	82	92	66	22	54	90	80
B-II	184	92	114	86	114	128	34	140	110	142
B-III	0	0	0	0	0	0	2	2	0	0
C-I	8	10	16	18	20	6	16	4	14	4
C-II	2	2	6	2	6	4	6	8	24	34
D-II	2	0	0	2	0	0	0	0	0	2
D-III	0	0	0	0	0	0	0	4	0	0
Total	**420**	**274**	**368**	**318**	**358**	**308**	**136**	**348**	**344**	**418**

Aircraft Approach Category

AAC	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A	136	116	148	128	126	104	56	136	106	156
B	272	146	198	168	206	194	58	196	200	222
C	10	12	22	20	26	10	22	12	38	38
D	2	0	0	2	0	0	0	4	0	2
Total	**420**	**274**	**368**	**318**	**358**	**308**	**136**	**348**	**344**	**418**

Airplane Design Group

ADG	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
I	218	146	172	126	134	92	44	68	124	120
II	202	128	196	192	224	214	90	274	220	298
III	0	0	0	0	0	2	2	6	0	0
Total	**420**	**274**	**368**	**318**	**358**	**308**	**136**	**348**	**344**	**418**

Source: TFMSC 2014-2023. Data Normalized Annually

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operations are realized. In summary, the current critical aircraft for York Municipal Aircraft is identified as B-II-1B, represented by the Air Tractor AT-802, and the future critical aircraft is classified as C-II-2A, represented by the C-I/C-II family of aircraft. Projected increases within the C-II category are outlined in **Table 2M.**

TABLE 2M | AAC Category C Operation Projections

ARC	Representative Aircraft	2019	2020	2021	2022	2023	Short Term	Intermediate Term	Long Term
C-I	Learjet 35/36	0	0	0	2	0	4	6	9
C-I	Learjet 40 Series	4	10	2	10	4	20	30	45
C-I	Learjet 50 Series	0	0	0	0	0	0	0	0
C-I	Learjet 60 Series	0	4	2	0	0	8	12	18
C-I	Piaggio Avanti	2	2	0	2	0	4	6	9
C-I	Rockwell Sabre 40/60	0	0	0	0	0	0	0	0
Total C-I		**6**	**16**	**4**	**14**	**4**	**36**	**54**	**81**
C-II	Challenger 300	0	2	0	0	0	4	4	12
C-II	Challenger 600/604	0	2	0	0	0	4	6	18
C-II	Citation III/VI	0	0	0	0	2	5	10	30
C-II	Citation X	0	0	0	0	2	5	10	30
C-II	Embraer ERJ-135/140/145	0	2	0	0	0	4	6	18
C-II	Falcon 900	2	0	2	12	8	24	36	108
C-II	Gulfstream 200	0	0	4	0	0	8	12	36
C-II	Gulfstream 280	0	0	0	0	2	6	9	27
C-II	Gulfstream G-III	2	0	0	0	0	4	6	18
C-II	Hawker 800 (Bae-125-800)	0	0	0	2	8	16	24	72
C-II	Learjet 70 Series	0	0	2	10	12	24	36	137
Total C-II		**4**	**6**	**8**	**24**	**34**	**104**	**159**	**506**
Total AAC C Operations		**10**	**22**	**12**	**38**	**38**	**140**	**213**	**587**

[1]Growth projections are based on recent increases in employment and economic development and include projected increases in activity levels of the following magnitudes: 1-2 times in the short term (5 years), 2-5 times in the intermediate (10 years), and up to 12 times in the long term (20 years), depending on the ACC.

RUNWAY DESIGN CODE

The RDC relates to specific FAA design standards that should be met in relation to a runway. The RDC takes into consideration the AAC, the ADC, and the RVR. In most cases, the critical design aircraft will also be the RDC for the primary runway.

As the primary runway, Runway 17-35 should be designed to accommodate the overall airport design aircraft. The primary runway is 5,898 feet long, 100 feet wide, and has non-precision instrument approaches with visibility minimums as low as ¾-mile on each runway end. It has been established that the current critical aircraft falls within ARC B-II and the future critical aircraft falls within ARC C-II; therefore, when factoring in the RVR, the existing RDC for Runway 17-35 is B-II-4000 and the ultimate RDC is classified as C-II-4000, which accounts for maintenance of the existing instrument approach procedure with visibility minimums not lower than ¾-mile.

Turf Runway 5-23 accommodates small aircraft exclusively and should be planned to meet an RDC of A-I(Small)-VIS (visual approaches) now and in the future.

APPROACH AND DEPARTURE REFERENCE CODES

The approach and departure reference codes (APRC and DPRC) describe the current operational capabilities of each runway and the adjacent parallel taxiways, where no special operating procedures are necessary; essentially, the APRC and DPRC describe the current conditions at an airport in runway classification terms when considering the parallel taxiway.

The parallel taxiway for Runway 17-35 is located 300 feet from the runway (centerline to centerline) at its closest point. Each runway end has non-precision instrument approaches with ¾-mile visibility minimums. The APRC for Runway 17-35 is B/III/4000 and D/II/4000, and its DPRC is B/III and D/II.

AIRPORT AND RUNWAY CLASSIFICATION SUMMARY

Table 2N summarizes the airport and runway classification currently and in the future. The existing and ultimate critical aircraft are now defined by those aircraft in ARC C-II.

TABLE 2N | Airport and Runway Classifications

	Runway 17-35		Runway 5-23
	Existing	Ultimate	Existing & Ultimate
Airport Reference Code (ARC)	B-II	C-II	A-1(S)
Airport Critical Aircraft	B-II-1B	C-II-2A	A-I(S)-1A
Critical Aircraft (Typ.)	Air Tractor AT-802	C-I/C-II Family	Cessna 172
Runway Design Code (RDC)	B-II-4000	C-II-4000	A-I(S)-VIS
Approach Reference Code (APRC)	B/III/4000 and D/II/4000	Same as Existing	–
Departure Reference Code (DPRC)	B/III and D/II	Same as Existing	–
Taxiway Design Group (TDG)	1B	2A	–

Source: FAA AC 150/5300-13B, Airport Design

SUMMARY

The preceding narrative has outlined the various activity levels that might reasonably be anticipated over the planning period, as well as the critical aircraft for the airport. Total based aircraft are forecast to grow from 27 in 2024 to 40 by 2044. Operations are forecast to grow from an estimated 10,673 in 2024 to 15,541 by 2044. The projected growth is driven by the FAA's positive outlook for general aviation activity nationwide, as well as generally positive outlooks for the region.

The critical aircraft for the airport was determined by examining radar flight track data and the FAA's TFMSC database of flight plans. For the primary runway, the current critical aircraft is described as B-II-1B, represented by the Air Tractor AT-802, and the future critical aircraft is described as C-II-2A, representing the C-I/C-II family of aircraft.

The next step in the planning process is to assess the capabilities of the existing facilities to determine what upgrades may be necessary to meet future demands. The range of forecasts developed here will be utilized in the next chapter as planning horizon activity levels that will serve as milestones or activity benchmarks in evaluating facility requirements.