



NEBRASKA

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DEPARTMENT OF TRANSPORTATION

FINAL TECHNICAL REPORT NEBRASKA STATEWIDE AVIATION SYSTEM PLAN

JANUARY 2025

 **McFARLAND JOHNSON**

Foreword

This Statewide Aviation System Plan, which began in 2020, aims to identify the needs of the Nebraska Aviation System as a whole. A total of 79 licensed, public use airports currently operate in Nebraska. To better understand the role each airport plays in the State, airports were categorized into one of four categories based on the type of activity present at the airport. How each airport was categorized is described below and further analyzed in *Chapter 5, Summary of Aviation Activity & Forecast*. These categories also helped guide funding discussions. *Chapter 7, Alternatives & Implementation Plan*, looks at how funding can be distributed to meet the most dire needs of the statewide system. Since the start of this project, legislators passed two bills that would provide funding to the aeronautics division. This legislation is described below as well as in *Chapter 7*.

STATE AVIATION SYSTEM PLAN ROLES

For this Statewide Aviation System Plan (SASP), public use airports in Nebraska were categorized into one of four categories: commercial service, complex activity, community activity, and non-NPIAS. Airports, for the purposes of this report, were categorized in 2020. The following benchmarks were used to determine which SASP role an airport fell into:

- **Commercial Service Airports:** The airports in this category offer scheduled commercial service at their facilities.
- **Complex Activity Airports:** Airports in this category include general aviation (GA) airports with 100 or more annual average B-II¹ or greater operations during our analysis period (2010-2019). 100 operations was used to identify the airports that may not meet the B-II critical aircraft category today, but could during the planning period. These airports have increased levels of complex operations that may reach levels of B-II activity that could justify change of needs in the future due to their varied user base. Therefore, future planning projects should take this into consideration.
- **Community Activity Airports:** Airports in this category include the remaining general aviation airports that are included in the NPIAS. These facilities either had no B-II operations or recorded fewer than 100 average annual operations by B-II aircraft, meaning the vast majority of operations are conducted by small aircraft with wingspans of 49 feet or less.

¹ B-II is a runway design code designated to airports that have a critical aircraft with approach speeds of 91 knots or more but less than 121 knots, have a tail height of 20 feet or more but less than 30 feet, and have a wingspan of 49 feet or more but less than 79 feet.

- **Non-NPIAS Airports:** Airports in this category include airports that are not in the NPIAS, but are part of the Nebraska Statewide system. Non-NPIAS airports range widely in activity levels and how they contribute to the statewide system. For the purposes of this Plan, non-NPIAS airports are classified together as they do not receive federal funding regardless of activity levels.

To determine the number of B-II+ operations at an airport, traffic flow management system count (TFMSC) data was pulled, showing all the filed flight plans for each SASP airport during the analysis period. The TFMSC is only as reliable as those reporting to the system, ADS-B reporting, which became a reporting requirement for most flight operations during this study, will be a more accurate resource for future projects. Most aerial applicators are not captured by TFMSC and many other aircraft are also left uncaptured by TFMSC due to the uniquely local nature of their operations that do not require them to use other, more complex airspace classifications.

With some of the newer aerial applicators falling into the B-II heavy category, if they do not report, these aircraft operations are not getting captured at the airports they are flying. By not having all aircraft operations captured, some of the data used to generate the decisions that determined what SASP role an airport would receive, was missing during the analysis period. Therefore, some airports may require individual detailed analysis not gathered as part of a system plan should their operating characteristics be more unique than what is analyzed at the system level.

COVID-19 IMPACTS AND RECOVERY

At the start of this State Aviation System Plan (project), COVID-19 was still having a profound impact on the aviation industry. For this reason, aviation forecasts and growth scenarios had a greater degree of uncertainty. Information available at the time of the writing of the forecast for this project were used to inform and project out 20 years.

When the COVID-19 virus was declared a pandemic on March 12, 2020, the aviation industry was devastated, and demand plummeted like that caused by the impacts of the 9-11 terrorist attacks. However, unlike shock events, the industry was slow to recover and pandemic related trends such as virtual meetings resulted in long-term impacts to demand. While the industry as a whole was impacted, each sector of aviation was not uniformly affected. There was a decline in overall operations, enplanements, and fuel sales due to the lack of activity. However, certain sectors, including medical transport and agriculture activity remained stable and charter operations even saw increased activity levels. Commercial passenger service was the most adversely effected sector of the industry. Never-the-less, the aviation industry had to adapt to the altered environment. With the help of government support and financial aid packages stabilizing the industry, aviation was able to stay afloat during the most uncertain times. While demand has stabilized in recent years, resulting implications continue to inform demand trends which should be monitored.

Despite the exorbitant impacts, aviation has made a remarkable recovery. As of September 2023, global passenger traffic has returned to near pre-pandemic levels reaching over 94 percent of

2019 levels. Furthermore, 2024 is expected to show substantial growth and surpass 2019 levels for the first time since the pandemic began².

LEGISLATIVE UPDATES

When this project began, the Nebraska Department of Transportation (NDOT) had discontinued its practice of providing federal matching grants and was only providing limited standalone state-aid grants. The discontinuation of federal matching grants was the result of inadequate funds to support both programs. During this time, NDOT did continue allocating funds for airports through the revolving hangar and fuel loan programs, which provides interest free loans to airports. In June 2023, two pieces of legislation were passed and signed that provide additional funding to aviation, as follows:

- **LB138³**: This legislation provides that administrative costs of the NDOT Aeronautics Division may be paid for out of the general NDOT budget. This potentially frees up approximately \$1.2 to \$2 million which can now be allocated for airport grants and programs⁴.
- **LB727⁵**: This legislation creates the Department of Transportation Aeronautics Capital Improvement Fund. This allows for sales and use tax proceeds from aircraft purchases and leases to be deposited into the aviation specific fund rather than the State General Fund. This is expected to provide approximately \$1.4 million in fiscal year (FY) 2023-2024 for airport grants and increase annually up to approximately \$1.9 million in FY 2027-2028⁶.

For the purposes of this report, the 5-year funding averages of LB138 (approximately \$1.6 million) and of LB727 (approximately \$1.65 million) were used as the no change funding scenario. This scenario shows an existing State revenue of approximately \$3.25 million for the alternatives chapter.

² <https://aci.aero/2023/09/27/latest-air-travel-outlook-reveals-2024-to-be-a-milestone-for-global-passenger-traffic/>

³ <https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB138.pdf>

⁴ https://nebraskalegislature.gov/FloorDocs/108/PDF/FN/LB138_20230526-141103.pdf

⁵ <https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB727.pdf>

⁶ https://nebraskalegislature.gov/FloorDocs/108/PDF/FN/LB727_20230526-162442.pdf

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CHAPTER 1 INTRODUCTION & VISION

1. Introduction & Vision

This Nebraska State Aviation System Plan (SASP or Plan) document summarizes and presents the technical work undertaken to develop recommendations for the maintenance and improvement of the Nebraska system of public-use airports. The purpose of this Plan is to guide and inform the work of the Division of Aeronautics (Division) of the Nebraska Department of Transportation (NDOT) and support decisions and policies regarding project and funding priorities for the system.

Additionally, the Plan is formulated with the following stakeholders in mind:

- Nebraska Aeronautics Commission¹
- Nebraska Department of Transportation
- Federal Aviation Administration (FAA)
- Elected Representatives in the State Legislature,
- Airport Sponsors (owners),
- Local Communities' Elected and Appointed Officials,
- Airport, Aircraft, and Aviation Users
- General Public

The audience for the Plan also includes aviation industry professionals, associations, and advocacy groups such as the Nebraska Association of Airport Officials, Nebraska Aviation Council, Nebraska Aviation Trades Association, and the Nebraska Business Aviation Association.

The Plan documents thorough analysis and justification to provide decision-makers a solid foundation upon which to base commitment and investments in the continued maintenance and improvement of public-use airports in the State of Nebraska. To aid in the reading of this report, *Appendix A, Technical Supplement*, which includes a comprehensive explanation of acronyms and definitions pertinent to the understanding of this Plan, was created.

1.1. PROJECT BACKGROUND

The Division of Aeronautics set forth to develop this Plan to provide direction for public investments in airports and aviation infrastructure, programs, and initiatives for the next decade (2021-2030). While the Plan could be characterized as an update to the 2002 State Aviation System Plan (2002 Plan), the Division's directive was that the Plan development process was to be a fresh, strategic analysis rather than carrying forward conclusions or presumptions from the 2002 Plan. This approach allowed the project team to reconsider all aspects of the existing system for the

¹ The Nebraska Aeronautics Commission was created by the 1935 Legislature to oversee the development of aviation in the state. The Commission operated on its own in this capacity until the creation of the Department of Aeronautics in 1945.

<https://dot.nebraska.gov/about/aeronautics-commission/>

purposes of documenting and finding solutions that will address the real, long-term needs of stakeholders in Nebraska.

The project began by conducting a visioning process, which is described in **Section 1.4**.

1.2. AVIATION SYSTEM PLANNING: A CRITICAL ROLE

The main purpose of the airport system planning process² is to determine the type, extent, location, timing, and cost of the airport development needed in a State or metropolitan area to establish a viable system of airports. Metropolitan, state, and multi-state aviation system planning fits between the FAA's national planning effort, as documented in the National Plan of Integrated Airport Systems (NPIAS), and the more comprehensive master plans prepared for individual airports. It feeds information "up" to be consolidated into the NPIAS and "down" to provide goals and development recommendations for individual airports. The airport system planning process also clarifies Federal, State, and local sponsor objectives and helps make development of airports part of a regional transportation system.

Across the U.S., there are many markets and systems where the divide between struggling airports and successful airports continues to widen. Whether this widening gap is the result of local or regional economics or changes in needs of the local population, the State's role is to provide a perspective on what is needed that is different from airport master plans, which are often competitive or hyper-local in focus. As such, system plans can temper competitive forces by advocating for improvements that respond to systemwide needs.

Without an updated system plan and with the need to justify airport projects at the local level, airports may lose footing and become ineligible for important capital projects that help communities. Since the FAA looks to the States as partners for the national airports capital improvement plan (ACIP), not having a plan could threaten the State's role over time as a partner and advocate for itself, sponsors, and its communities. The SASP helps the State and airports make the best use of available funding.

1.3. LEGISLATIVE AUTHORITY & RESPONSIBILITIES

This section provides a brief overview of the legislative authority and basis for activities undertaken by the Division.

1.3.1. The Division of Aeronautics

Approved by the Governor on April 27, 2017, Legislative Bill 339³ eliminated the Department of Aeronautics as a standalone department of the State and merged it with the Department of Roads, together renamed as the Department of Transportation (DOT). The merger transferred powers,

² FAA Advisory Circular (AC) 150/5070-7 Change 1, https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5070-7-change1.pdf

³ Legislative Bill 339, <https://www.nebraskalegislature.gov/FloorDocs/105/PDF/Slip/LB339.pdf>

duties, personnel, funds, rights, and property to the Division of Aeronautics, one of 16 divisions overseeing infrastructure and policy within NDOT. These individual divisions oversee infrastructure such as bridges, construction, materials and research, right of way, roadway design, and traffic engineering, among others.

1.3.2. Division Responsibilities & Nebraska’s “Channeling Act”

Nebraska Revised Statutes detail the Division’s authorities and responsibilities pursuant to the State Aeronautics Act⁴. The “Channeling Act”, as detailed in Section 3-239⁵, refers to the work done by the Division to help direct or “channel” funds for airport projects eligible for federal funding under the FAA Airport Improvement Program (AIP). The provision works such that:

- (1) No city airport authority, county airport authority, joint airport authority, or municipality in this state ... shall submit to any federal agency or department any project application under the provisions of any act of Congress which provides airport planning or airport construction and development funds for the expansion and improvement of the airport system, unless the project and the project application have been first approved by the Division of Aeronautics.
- (2) Except as provided in subsection (3) of this section, no city airport authority, county airport authority, joint airport authority, or municipality shall directly accept, receive, receipt for, or disburse any funds granted by the United States under any act of Congress pursuant to subsection (1) of this section, but it shall designate the division as its agent and in its behalf to accept, receive, receipt for, and disburse such funds.
- (3) Any city airport authority, county airport authority, joint airport authority, or municipality operating a primary airport may directly accept, receive, receipt for, and disburse any funds granted by the United States for the primary airport under the provisions of any act of Congress pursuant to subsection (1) of this section by informing the division, in writing, of its intent to do so.

These provisions direct the Division to be the agent of airport sponsors for every nonprimary, public-use airport in the system. As the sponsor-agent, the Division takes a leadership role in system development and is structured to carry out a robust set of activities around approving projects and receiving and disbursing federal funds.

1.4. A VISION FOR NEBRASKA AIRPORTS

As an initial step in the development of the SASP, a visioning effort was conducted by a committee with the purpose of defining the desired future for the Nebraska aviation system of public-use

⁴ Nebraska Revised Statutes, Chapter 3 Aeronautics, <https://nebraskalegislature.gov/laws/browse-chapters.php?chapter=3>

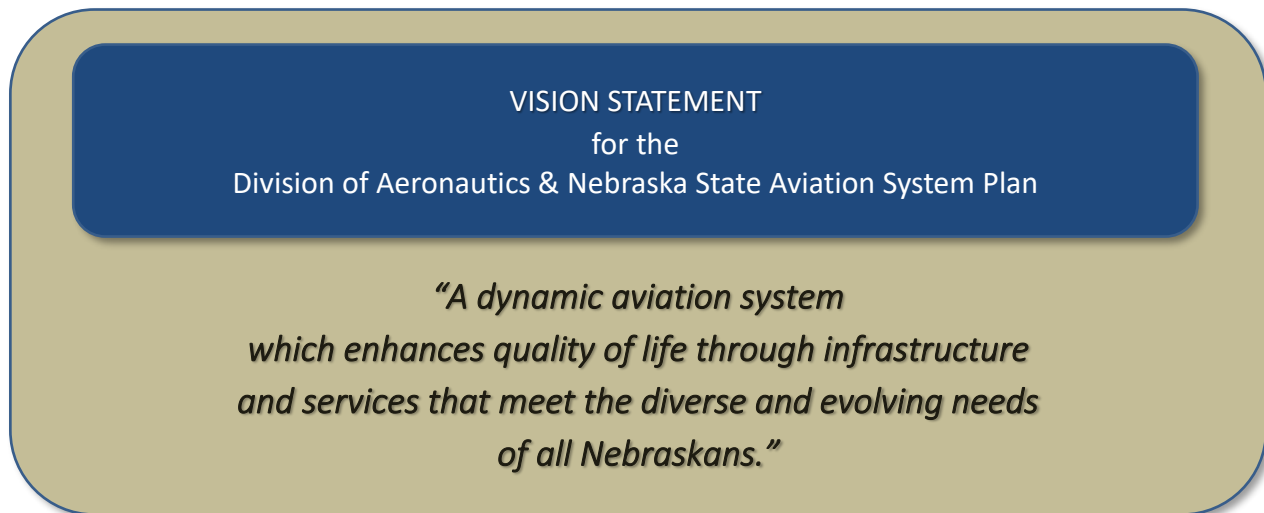
⁵ Ibid.

airports and the program activities performed by the Division of Aeronautics. This section summarizes the results of the visioning effort. Additional details from the visioning process are included in *Appendix B, Industry Engagement Summary*.

1.4.1. Vision Statement & Purpose

The visioning process produced the vision statement shown in **Figure 1-1**, which informs the overall direction of the SASP and provides high-level guidance to the NDOT Division of Aeronautics.

Figure 1-1: SASP Vision Statement



Source: Nebraska SASP Visioning Committee, 2021.

The purpose of this SASP is to provide forward-looking and aspirational insight into aviation within the State, direct decision making within the Division, identify projects, priorities, and programming for airports within the State, and estimate funding needs.

1.5. SUMMARY OF THE SCOPE OF WORK & PROJECT APPROACH

In pursuit of the vision statement, the project development approach was formulated to provide robust technical analysis, guided by, and incorporating input from industry stakeholder groups such as aviation industry professionals, airport managers, and regional economic development groups.

The Plan includes components of traditional system planning such as an airport data inventory, performance metrics, and forecasts, but approaches the conduct of these and other tasks with a bias towards real-world, actionable recommendations that are viable and worthwhile within the current and anticipated State and Federal aviation and airports funding environment.

The SASP details analyses, findings, and recommendations in the following chapters and appendices:

- Chapter 1: Introduction & Vision
- Chapter 2: Aviation System Overview
- Chapter 3: Facility & Service Objectives
- Chapter 4: Inventory of Existing System
- Chapter 5: Summary of Aviation Activity & Forecast
- Chapter 6: Existing System Performance Findings
- Chapter 7: Alternatives & Implementation Plan
- Chapter 8: Policy & Project Recommendations
- Appendix A: Technical Supplement
- Appendix B: Industry Engagement Summary
- Appendix C: Airport System Data
- Appendix D: Airport Pavement Condition Indexes (PCIs)
- Appendix E: 2021 Statewide Airports Capital Improvement Program (CIP)

Additionally, an innovative solution for this project is the development of a *Dynamic System Planning Technology Solution* for the Division of Aeronautics. This technology solution is designed to serve as a centralized, cloud-based information and planning tool to help the Division streamline and modernize procedures for capital improvement plan and grant management activities, among other component programs.



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CHAPTER 2 AVIATION SYSTEM OVERVIEW

2. Aviation System Overview

Seventy-nine (79) public-use airport facilities (SASP airports) are currently identified as part of the Nebraska State Aviation System Plan (SASP). According to the Federal Aviation Administration’s (FAA’s) Airport Master Records (Form 5010), as of July 2023, there are 244 airports and other landing facilities in the State of Nebraska. These include public-use and private-use landing fields, heliports, and seaplane bases¹. The SASP focuses on the 79 facilities that are licensed for public use by the Nebraska Department of Transportation (NDOT) Division of Aeronautics; however, the NDOT recognizes the contributions of all landing sites in the State to operators and the public.

Seventy-two (72) of the SASP airports are included in the National Plan of Integrated Airport Systems (NPIAS) for the 2021-2025 period². The FAA updates the NPIAS every two years to identify existing and proposed airports that are significant to national air transportation and thus eligible to receive federal grants under the Airport Improvement Program (AIP).

The data in this chapter serves as the foundation for analyses performed and presented in subsequent chapters of the SASP. The data provides information for objective analyses to examine the current state of the Nebraska Aviation System and identify areas of deficiency where improvements may be warranted. The SASP concludes with a recommended plan for infrastructure projects, priorities, and policy strategies ensuring that Nebraska system airports meet current and projected levels of aviation demand.

2.1. INTRODUCTION TO SYSTEM AIRPORTS

As stated, this SASP focuses on the 79 licensed public use airports in the State. These airports, which span across seven regions, are listed in **Table 2-1** and can be seen visually in **Figure 2-1**. Regions of Nebraska, as provided by NDOT, are consistent with the regions defined by Nebraska tourism³. For the purposes of this Plan, the Northwest region is referred to as the Panhandle in this document.

¹ As aviation continues to evolve, the definition of a landing site may change between this report and the next published report. For the purposes of this report, these four types of facilities are all that are included as part of the total number of landing sites.

² The 2021-2025 NPIAS is referenced for the purposes of this report. It does not reflect the most current 2023-2027 NPIAS. The NPIAS is updated and published every two years and some airports may change categories between this report and the next published report.

³ <https://visitnebraska.com/cities>

Table 2-1: SASP Airports

City	Airport	Identifier	Region ¹
Ainsworth	Ainsworth Regional	ANW	Sandhills
Albion	Albion Municipal	BVN	Northeast
Alliance	Alliance Municipal	AIA	Panhandle
Alma	Alma Municipal	4D9	South Central
Alma	Harlan County Lake	H63	South Central
Arapahoe	Arapahoe Municipal	37V	South Central
Atkinson	Stuart-Atkinson Municipal	8V2	Sandhills
Auburn	Farington Field	K01	Southeast
Aurora	Aurora Municipal – Al Potter Field	AUH	Southeast
Bassett	Rock County	RBE	Sandhills
Beatrice	Beatrice Municipal	BIE	Southeast
Blair	Blair Executive	BTA	Northeast
Bloomfield	Bloomfield Municipal	84Y	Northeast
Broken Bow	Broken Bow Municipal / Keith Glaze Field	BBW	Sandhills
Burwell	Cram Field	BUB	Sandhills
Cambridge	Cambridge Municipal	CSB	South Central
Central City	Central City Municipal – Larry Reineke Field	07K	Northeast
Chadron	Chadron Municipal	CDR	Panhandle
Chappell	Billy G Ray Field	CNP	Panhandle
Columbus	Columbus Municipal	OLU	Northeast
Cozad	Cozad Municipal	CZD	South Central
Creighton	Creighton Municipal	6K3	Northeast
Crete	Crete Municipal	CEK	Southeast
Curtis	Curtis Municipal	47V	Southwest
David City	David City Municipal	93Y	Southeast
Fairbury	Fairbury Municipal	FBY	Southeast
Fairmont	Fairmont State	FMZ	Southeast
Falls City	Brenner Field	FNB	Southeast
Fremont	Fremont Municipal	FET	Northeast
Genoa	Genoa Municipal	97Y	Northeast
Gordon	Gordon Municipal	GRN	Panhandle
Gothenburg	Gothenburg Municipal	GTE	South Central
Grand Island	Central Nebraska Regional	GRI	South Central
Grant	Grant Municipal	GGF	Southwest
Hartington	Hartington Municipal / Bud Becker Field	0B4	Northeast
Harvard	Harvard State	08K	Southeast
Hastings	Hastings Municipal	HSI	South Central
Hay Springs	Hay Springs Municipal	4V6	Panhandle
Hebron	Hebron Municipal	HJH	Southeast
Holdrege	Brewster Field	HDE	South Central
Hyannis	Grant County	1V2	Sandhills

City	Airport	Identifier	Region ¹
Imperial	Imperial Municipal	IML	Southwest
Kearney	Kearney Regional	EAR	South Central
Kimball	Kimball Municipal / Robert E. Arraj Field	IBM	Panhandle
Lexington	Jim Kelly Field	LXN	South Central
Lincoln	Lincoln	LNK	Southeast
Loup City	Loup City Municipal	OF4	Sandhills
McCook	McCook Ben Nelson Regional	MCK	Southwest
Minden	Pioneer Village Field	OV3	South Central
Nebraska City	Nebraska City Municipal	AFK	Southeast
Neligh	Antelope County	4V9	Northeast
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	OFK	Northeast
North Platte	North Platte Regional / Lee Bird Field	LBF	Southwest
Ogallala	Searle Field	OGA	Southwest
Omaha	Eppley Airfield	OMA	Metro
Omaha	Millard	MLE	Metro
O’Neill	The O’Neill Municipal – John L. Baker Field	ONL	Sandhills
Ord	Evelyn Sharp Field	ODX	Sandhills
Oshkosh	Garden County / King Rhiley Field	OKS	Panhandle
Pawnee City	Pawnee City Municipal	50K	Southeast
Pender	Pender Municipal	OC4	Northeast
Plattsmouth	Plattsmouth Municipal	PMV	Southeast
Red Cloud	Red Cloud Municipal	7V7	South Central
Rushville	Modisett Field	9V5	Panhandle
Sargent	Sargent Municipal	09K	Sandhills
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	BFF	Panhandle
Scribner	Scribner State	SCB	Northeast
Seward	Seward Municipal	SWT	Southeast
Sidney	Sidney Municipal / Lloyd W. Carr Field	SNY	Panhandle
South Sioux City	Martin Field	7K8	Northeast
Superior	Superior Municipal	12K	Southeast
Tecumseh	Tecumseh Municipal	OG3	Southeast
Tekamah	Tekamah Municipal	TQE	Northeast
Theford	Thomas County	TIF	Sandhills
Valentine	Miller Field	VTN	Sandhills
Wahoo	Wahoo Municipal	AHQ	Southeast
Wallace	Wallace Municipal	64V	Southwest
Wayne	Wayne Municipal / Stan Morris Field	LCG	Northeast
York	York Municipal	JYR	Southeast

Sources: NDOT Division of Aeronautics, 2021 and McFarland Johnson Analysis, 2021.

¹ Regions of Nebraska, as provided by NDOT, are consistent with the regions defined by Nebraska tourism. For the purposes of this Plan, the Northwest region is referred to as the Panhandle in this document.

2.2. SYSTEM FRAMEWORK AND REVIEW OF AIRPORT CATEGORIES

Each public-use airport in the State of Nebraska contributes to an aviation system that is part of the larger Midwest region and connects local and regional centers of people and business to the National Airspace System (NAS). The State’s aviation system is comprised of component airports that complement and support each other. These component airports can be characterized as different from each other, and grouped or categorized by similarities in size, function, roles, customer or user markets served, and location.

2.2.1. FAA NPIAS Categories

For the NPIAS, the FAA defines airports in three broad categories: Commercial Service, Reliever, and General Aviation (GA). Further, airports can be commercial service airports can be designated as primary or nonprimary. Reliever and GA airports are both designated as nonprimary for the purposes of distributing entitlement funds. **Table 2-2** summarizes these categories.

Table 2-2: FAA Categories of Airport Activities

Statutory Definition	Criteria
Commercial Service (Primary or Nonprimary)	<ul style="list-style-type: none"> Publicly owned airports with at least 2,500 annual enplanements and scheduled air carrier service. Primary airports are commercial service airports with more than 10,000 annual enplanements. Nonprimary commercial service airports are airports with more than 2,500, but less than 10,000 annual enplanements.
Reliever (Nonprimary ¹)	<ul style="list-style-type: none"> An airport designated by the Secretary of Transportation to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community
General Aviation (Nonprimary ¹)	<ul style="list-style-type: none"> A public-use airport that does not have scheduled service or has scheduled service with less than 2,500 passenger boardings each year.

Source: Federal Aviation Administration.

¹ For the purposes of distributing entitlement funding, reliever and GA airports are considered nonprimary.

The FAA also differentiates commercial service airports; the NPIAS defines a range of commercial service airports based on the volume of annual passenger activity in terms of enplanements. An enplanement is any passenger boarding an aircraft. **Table 2-3** presents FAA criteria for airports in the commercial service category.

Table 2-3: FAA Commercial Service Airport Criteria

Airport Type	Criteria ¹
Large Hub	One percent or more of annual U.S. enplanements
Medium Hub	0.25 to 1.0 percent of enplanements
Small Hub	0.05 to 0.25 percent of enplanements
Non-Hub	more than 10,000 enplanements
Nonprimary	2,500 to 10,000 enplanements

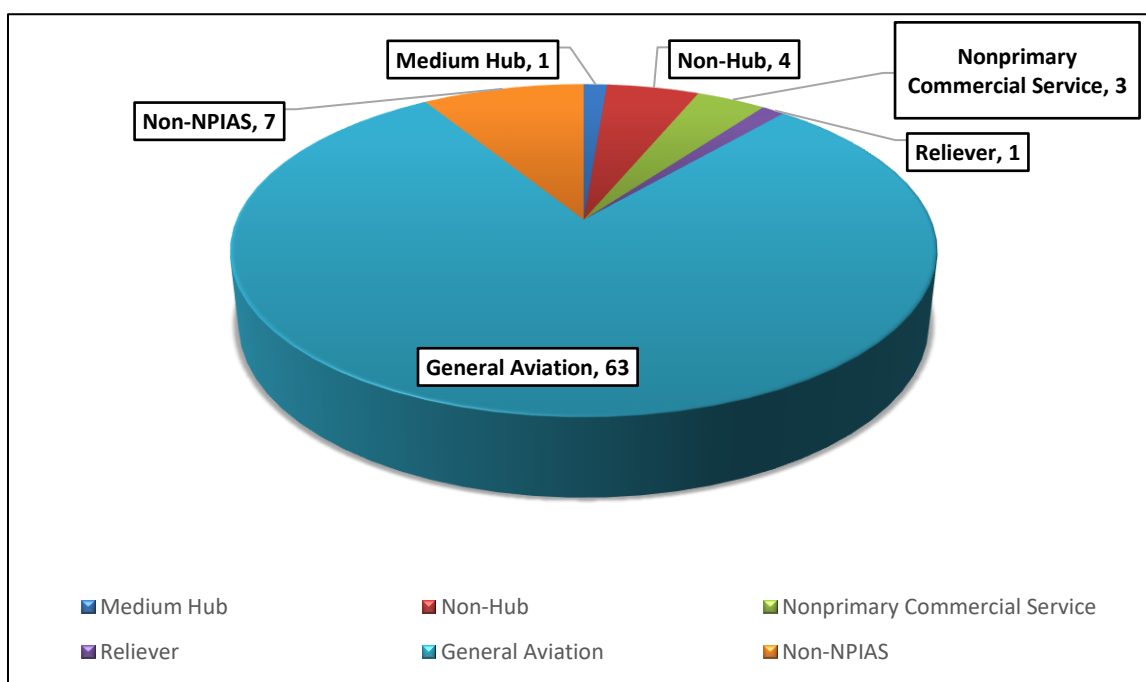
Source: FAA, https://www.faa.gov/airports/planning_capacity/categories/

¹Based on the number of enplanements, airports can switch between hub types as well as between primary and nonprimary designations.

Airports designated as GA in the NPIAS may also have commercial service activity. McCook Ben Nelson Airport, which provides commercial service, is classified as a nonprimary, GA airport due to enplaning less than 2,500 passengers annually. All other commercial service airports in Nebraska are considered nonprimary commercial service or larger in the NPIAS.

Thus, of the 79 SASP airports, Nebraska has 63 GA airports in the NPIAS, one is classified as a reliever, eight are classified as commercial service facilities, and another seven are not included in the NPIAS. All SASP airports by NPIAS category are shown graphically in **Figure 2-2**.

Figure 2-2: SASP – All Airports by NPIAS Category



Source: FAA NPIAS, 2021-2025.

2.2.2. FAA ASSET Roles

The FAA established categories for nonprimary GA airports in the NAS in the 2012 publication, *General Aviation Airports: A National Asset (ASSET)*⁴. These categories incorporate a range of criteria and thresholds that are helpful for organizing the aviation system.

Table 2-4 presents a summary of GA airport roles from largest to smallest as defined in ASSET.

Table 2-4: FAA NPIAS – GA ASSET Roles

Role	Definition
National	<ul style="list-style-type: none"> • Very high levels of activity with many jets and multi-engine propeller aircraft. • Supports the national and state system by providing communities with access to national and international markets in multiple states and throughout the United States.
Regional	<ul style="list-style-type: none"> • High levels of activity with some jets and multi-engine propeller aircraft. • Supports regional economies by connecting communities to statewide and interstate markets.
Local	<ul style="list-style-type: none"> • Moderate levels of activity with some multi-engine propeller aircraft. • Supplements communities by providing access to primarily intrastate and some interstate markets.
Basic	<ul style="list-style-type: none"> • Moderate to low levels of activity. • Supports GA activities (e.g., emergency services, charter or critical passenger service, cargo operations, flight training and personal flying).
Unclassified	<ul style="list-style-type: none"> • Low levels of activity. • Provides access to the aviation system.

Source: *General Aviation Airports: A National Asset, 2012.*

According to the ASSET, National airports are generally located within metropolitan areas and near major business centers that support the nation and the world. National airports support operations of the most sophisticated GA aircraft, while also providing an alternative to sometimes congested commercial service airports. The FAA sets the following threshold criteria for airports considered to serve in a National role:

- 5,000+ annual instrument operations, 11+ based jets, 20+ annual international flights, or 500+ annual interstate departures; or
- 10,000+ annual enplanements and at least 1 charter enplanement by a certified carrier; or

⁴ General Aviation Airports: A National Asset, https://www.faa.gov/airports/planning_capacity/ga_study/#:~:text=The%20FAA%20conducted%20a%20national,of%20the%20current%20NPIAS%20Report.

- 500+ million pounds of landed cargo weight annually.

At the time of this Plan, no SASP airports meet ASSET criteria to be classified as a National airport in the NPIAS⁵.

Regional airports are also predominantly located in metropolitan areas and serve relatively larger populations than other GA roles. Regional airports support a substantial amount of charter, jet, and rotorcraft operations. According to the 2021-2025 NPIAS, there are four regional airports; Blair (BTA), Kearney (EAR), Norfolk (OFK), Omaha – Millard (MLE) in the State of Nebraska. The FAA sets the following threshold criteria for airports considered to serve in a Regional role:

- Metropolitan Statistical Area (MSA) and 10+ annual domestic flights over 500 miles, 1,000+ annual instrument operations, 1+ based jet, or 100+ based aircraft; or
- The airport is in an MSA, and the airport meets the definition of commercial service.

The FAA has identified Local airports as the backbone of GA in the NAS. Local airports largely support the operation of piston-engine aircraft for personal or business needs. These operations remain within the state or the immediate region. According to the 2021-2025 NPIAS, there are 30 local airports in the State of Nebraska. The FAA sets the following threshold criteria for airports considered to serve in a Local role:

- 10+ annual instrument operations and 15+ based aircraft; or
- 2,500+ annual passenger enplanements

Basic airports are typically limited in terms of airside and landside infrastructure and services, and they fulfill a singular role linking communities to the national system. According to the 2021-2025 NPIAS, there are 31 basic airports in the State of Nebraska. The FAA sets the following threshold criteria for airports considered to serve in a Basic role:

- 10+ based aircraft or 4+ based helicopters;
- Located more than 30 miles from the nearest other NPIAS airport; and
- Used by the U.S. Forest Service, U.S. Marshals, U.S. Customs and Border Protection, or U.S. Postal Service, or participates in the EAS (Essential Air Service) program.

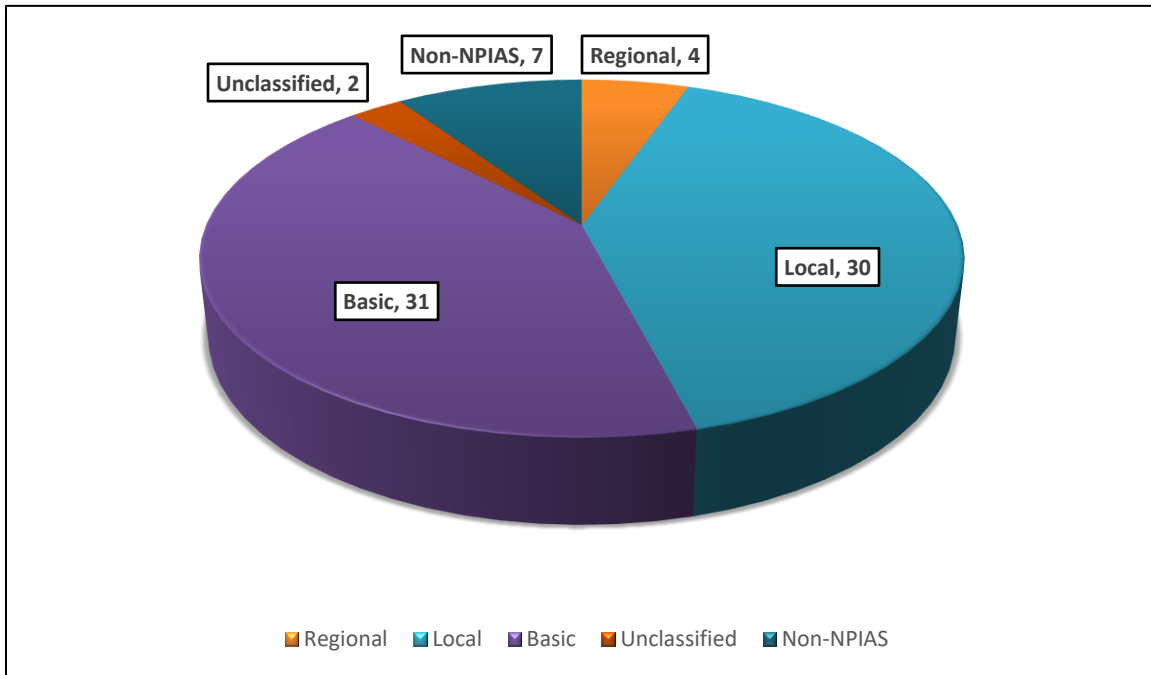
The FAA also recognizes several hundred GA airports that do not meet activity thresholds as “Unclassified”. These were studied separately by the FAA⁶. According to the 2021-2025 NPIAS, there are two such airports, Chappell (CNP) and Sargent (09K), in Nebraska’s SASP.

Nonprimary SASP airports by role are shown in **Figure 2-3**.

⁵ General Aviation Airports: A National Asset, https://www.faa.gov/airports/planning_capacity/ga_study/#:~:text=The%20FAA%20conducted%20a%20national,of%20the%20current%20NPIAS%20Report.

⁶ ASSET 2: In-Depth Review of the 497 Unclassified Airports, https://www.faa.gov/airports/planning_capacity/ga_study/media/2014-ASSET-2-Report.pdf

Figure 2-3: SASP – Nonprimary SASP Airports by Role



Source: FAA NPIAS, 2021-2025.

¹Non-NPIAS airports do not have a role in the ASSET.

2.2.3. Nebraska SASP Roles

The role of airports in Nebraska varies by activity level. These activity levels, referred to as SASP roles, consist of commercial service airports and three categories of GA airports, which are broken out as complex activity airports, community activity airports, and Non-NPIAS airports. Further information on the SASP roles of each airport can be found in [Chapter 5, Summary of Aviation Activity & Forecast](#)⁷.

- **Commercial Service Airports:** The nine airports in this category offer scheduled commercial service at their facilities (i.e.: OMA, LNK, GRI, AIA, CDR, EAR, MCK, LBF, and BFF).

⁷ Airport categories were determined in 2020 and approved by NDOT based on an analysis period of operations from 2010-2019. For the purposes of this document, it should be noted that some information may have been missing and therefore some airports may require individual detailed analysis of operations that is not captured as part of this system plan should their operating characteristics be more unique than what was analyzed.

- **Complex Activity Airports:** Airports in this category include general aviation airports with 100 or more annual average B-II⁸ or greater operations during our analysis period (2010-2019). 100 operations was used to identify the airports that may not meet the B-II critical aircraft category today, but could during the planning period. While 100 annual operations is not a metric used by the FAA (FAA requires 500), this project selected it to identify airports with between 100 and 500 annual B-II or greater operations better captures the complex activity of these airports compared to peers that see predominantly Group I operations. Identifying airports with between 100 and 500 annual complex operations helps to identify and plan projects as these airports approach the FAA eligibility threshold of 500 operations. These airports have increased levels of complex operations that may reach levels of B-II activity that could justify change of needs in the future due to their varied user base. Therefore, future planning projects should take this into consideration.
- **Community Activity Airports:** Airports in this category include the remaining general aviation airports that are included in the NPIAS. These facilities either had no B-II operations or recorded fewer than 100 average annual operations by B-II aircraft, meaning the vast majority of operations are conducted by small aircraft with wingspans of 49 feet or less.
- **Non-NPIAS Airports:** Airports in this category include airports that are not in the NPIAS, but are part of the Nebraska Statewide system. Non-NPIAS airports range widely in activity levels and how they contribute to the statewide system. For the purposes of this Plan, non-NPIAS airports are classified together as they do not receive federal funding regardless of activity levels.

Airports by SASP role and geographic region can be seen in **Figure 2-4**.

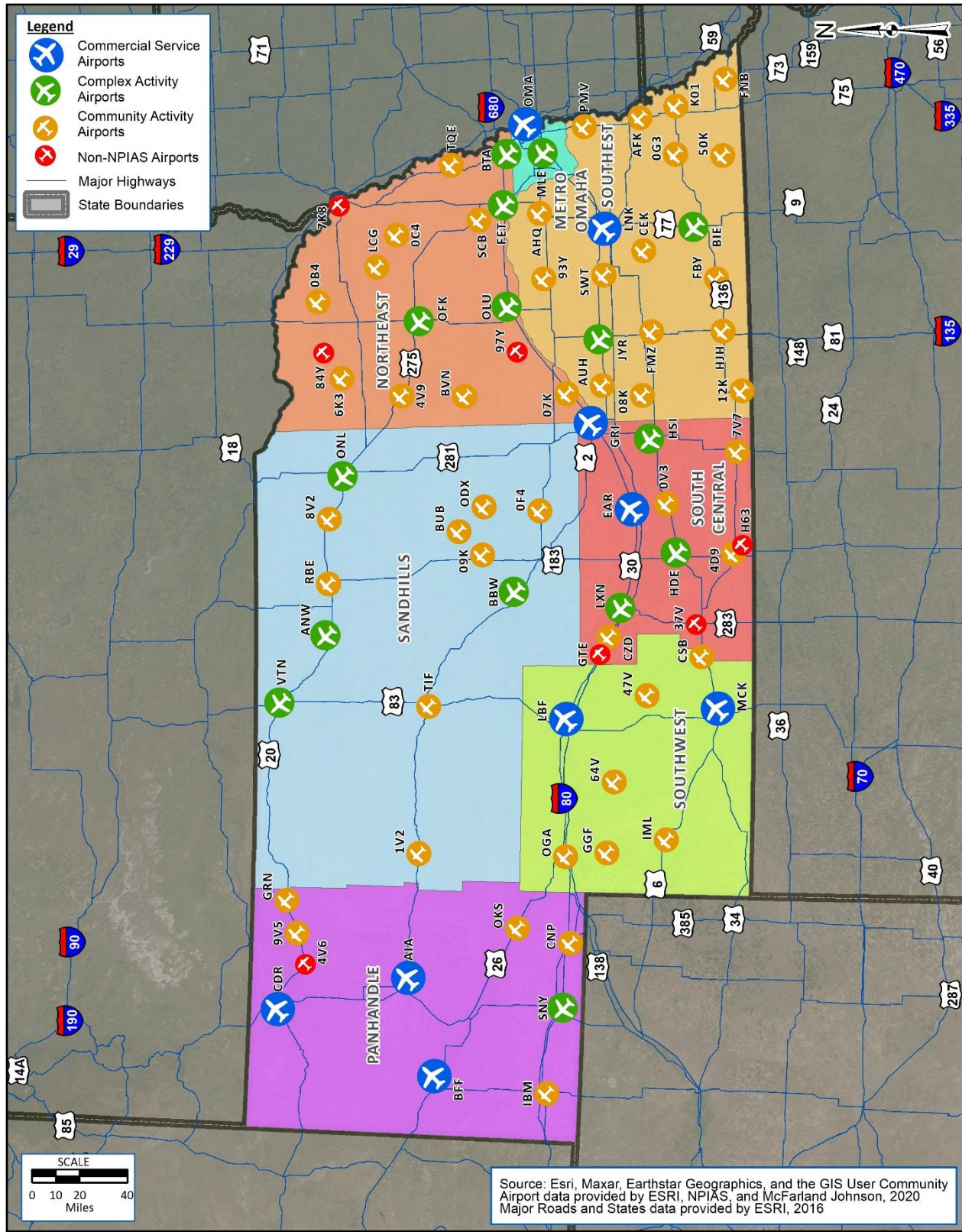
2.3. SUMMARY OF SYSTEM AIRPORTS

This section summarizes general data about SASP airports from a system perspective. Data pertaining to individual SASP airports is included in [Chapter 4, Inventory of Existing System](#) and [Appendix C, Airport System Data](#).

Table 2-5 presents summary data of the 79 public use airports in the Nebraska SASP, as well as each airport's NPIAS category, ASSET role, and SASP role.

⁸ B-II is a runway design code designated to airports that have a critical aircraft with approach speeds of 91 knots or more but less than 121 knots, have a tail height of 20 feet or more but less than 30 feet, and have a wingspan of 49 feet or more but less than 79 feet.

Figure 2-4: SASP Airports by Role and Region



Source: McFarland Johnson Analysis, 2021.

Table 2-5: SASP System Airports Summary

City	Name	NPIAS Category	ASSET Role ^{1,2}	SASP Role
Ainsworth	Ainsworth Regional	General Aviation	Local	Complex
Albion	Albion Municipal	General Aviation	Basic	Community
Alliance	Alliance Municipal	Commercial Service: Nonprimary	Local	Commercial Service
Alma	Alma Municipal	General Aviation	Basic	Community
Alma	Harlan County Lake	Non-NPIAS	-	Non-NPIAS
Arapahoe	Arapahoe Municipal	Non-NPIAS	-	Non-NPIAS
Atkinson	Stuart-Atkinson Municipal	General Aviation	Basic	Community
Auburn	Farington Field	General Aviation	Basic	Community
Aurora	Aurora Municipal – Al Potter Field	General Aviation	Local	Community
Bassett	Rock County	General Aviation	Basic	Community
Beatrice	Beatrice Municipal	General Aviation	Local	Complex
Blair	Blair Executive	General Aviation	Regional	Complex
Bloomfield	Bloomfield Municipal	Non-NPIAS	-	Non-NPIAS
Broken Bow	Broken Bow Municipal / Keith Glaze Field	General Aviation	Local	Complex
Burwell	Cram Field	General Aviation	Basic	Community
Cambridge	Cambridge Municipal	General Aviation	Basic	Community
Central City	Central City Municipal – Larry Reineke Field	General Aviation	Local	Community
Chadron	Chadron Municipal	Commercial Service: Nonprimary	Local	Commercial Service
Chappell	Billy G Ray Field	General Aviation	Unclassified	Community
Columbus	Columbus Municipal	General Aviation	Local	Complex
Cozad	Cozad Municipal	General Aviation	Local	Community
Creighton	Creighton Municipal	General Aviation	Basic	Community
Crete	Crete Municipal	General Aviation	Local	Community
Curtis	Curtis Municipal	General Aviation	Basic	Community
David City	David City Municipal	General Aviation	Basic	Community
Fairbury	Fairbury Municipal	General Aviation	Local	Community
Fairmont	Fairmont State	General Aviation	Local	Community
Falls City	Brenner Field	General Aviation	Local	Community
Fremont	Fremont Municipal	General Aviation	Local	Complex
Genoa	Genoa Municipal	Non-NPIAS	-	Non-NPIAS
Gordon	Gordon Municipal	General Aviation	Basic	Community
Gothenburg	Gothenburg Municipal	Non-NPIAS	-	Non-NPIAS
Grand Island	Central Nebraska Regional	Commercial Service: Non-Hub	-	Commercial Service
Grant	Grant Municipal	General Aviation	Basic	Community

City	Name	NPIAS Category	ASSET Role ^{1,2}	SASP Role
Hartington	Hartington Municipal / Bud Becker Field	General Aviation	Basic	Community
Harvard	Harvard State	General Aviation	Basic	Community
Hastings	Hastings Municipal	General Aviation	Local	Complex
Hay Springs	Hay Springs Municipal	Non-NPIAS	-	Non-NPIAS
Hebron	Hebron Municipal	General Aviation	Basic	Community
Holdrege	Brewster Field	General Aviation	Local	Complex
Hyannis	Grant County	General Aviation	Basic	Community
Imperial	Imperial Municipal	General Aviation	Local	Community
Kearney ³	Kearney Regional	Commercial Service: Nonprimary	Regional	Commercial Service
Kimball	Kimball Municipal / Robert E. Arraj Field	General Aviation	Basic	Community
Lexington	Jim Kelly Field	General Aviation	Local	Complex
Lincoln	Lincoln	Commercial Service: Non-Hub	-	Commercial Service
Loup City	Loup City Municipal	General Aviation	Basic	Community
McCook	McCook Ben Nelson Regional	General Aviation	Local	Commercial Service
Minden	Pioneer Village Field	General Aviation	Basic	Community
Nebraska City	Nebraska City Municipal	General Aviation	Basic	Community
Neligh	Antelope County	General Aviation	Local	Community
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	General Aviation	Regional	Complex
North Platte	North Platte Regional / Lee Bird Field	Commercial Service: Non-Hub	-	Commercial Service
Ogallala	Searle Field	General Aviation	Basic	Community
Omaha	Eppley Airfield	Commercial Service: Medium Hub	-	Commercial Service
Omaha	Millard	Reliever	Regional	Complex
O'Neill	The O'Neill Municipal - John L. Baker Field	General Aviation	Local	Complex
Ord	Evelyn Sharp Field	General Aviation	Basic	Community
Oshkosh	Garden County / King Rhiley Field	General Aviation	Basic	Community
Pawnee City	Pawnee City Municipal	General Aviation	Basic	Community
Pender	Pender Municipal	General Aviation	Local	Community
Plattsmouth	Plattsmouth Municipal	General Aviation	Local	Community
Red Cloud	Red Cloud Municipal	General Aviation	Basic	Community
Rushville	Modisett Field	General Aviation	Basic	Community
Sargent	Sargent Municipal	General Aviation	Unclassified	Community

City	Name	NPIAS Category	ASSET Role ^{1,2}	SASP Role
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	Commercial Service: Non-Hub	-	Commercial Service
Scribner	Scribner State	General Aviation	Basic	Community
Seward	Seward Municipal	General Aviation	Local	Community
Sidney	Sidney Municipal / Lloyd W. Carr Field	General Aviation	Local	Complex
South Sioux City	Martin Field	Non-NPIAS	-	Non-NPIAS
Superior	Superior Municipal	General Aviation	Basic	Community
Tecumseh	Tecumseh Municipal	General Aviation	Basic	Community
Tekamah	Tekamah Municipal	General Aviation	Local	Community
Thedford	Thomas County	General Aviation	Basic	Community
Valentine	Miller Field	General Aviation	Local	Complex
Wahoo	Wahoo Municipal	General Aviation	Local	Community
Wallace	Wallace Municipal	General Aviation	Basic	Community
Wayne	Wayne Municipal / Stan Morris Field	General Aviation	Local	Community
York	York Municipal	General Aviation	Local	Complex

Sources: National Plan of Integrated Airport Systems (2021-2025) and McFarland Johnson analysis, 2021.

¹ Airports that are included as commercial service airports in the NPIAS do not necessarily have an ASSET role. Only Alliance, Chadron, and Kearney are considered commercial service airports in the NPIAS while also possessing an ASSET role.

² Airports that have a Non-NPIAS designation do not have an ASSET designation.

³ Since the completion of this chapter in March 2024, Kearney has since been designated as a commercial service: non-hub airport. With a primary designation, future ASSET studies may exclude Kearney. However, at this time, Kearney still retains an ASSET role.

2.4. EXISTING CONDITIONS DATA COLLECTION PROCESS

The primary and foundational element of any airport planning study is the data collection phase, which ensures that the most current and accurate information is considered in the study.

Primary and secondary sources of data used for the SASP include:

- Airport Master Record (FAA Form 5010-1)⁹,
- Airport Manager Survey
- Division of Aeronautics

⁹ FAA Airport Master Record Download, December 31, 2020.

Airport managers from each of Nebraska’s 79 public-use airports were issued surveys to collect primary relevant data pertaining to activity characteristics, tenant and itinerant users, and issues and needs for each airport, among other data points. Each of the completed airport manager surveys are provided for reference in [Appendix B, Industry Engagement Summary](#) and on file with NDOT.

2.5. STATE AIRPORT SERVICES AND REGIONAL CONTEXT

2.5.1. Airport Critical Use Functions and Services

Critical Use Functions

The Nebraska aviation system is a robust system of airports with a range of uses and functions. While each airport serves multiple roles, five critical use functions were identified to better define the primary use that each airport fulfills within the State. A general description of these airport functions is as follows:

- **Agricultural Spraying and Agricultural Business Support:** Airports that are predominately used to facilitate aerial spraying/application operations in support of the agriculture industry in the local/regional community. These airports are typically located within regions with extensive agricultural operations.
- **Based and Itinerant Business Oriented:** Airports that are predominately used for business/industrial purposes. This includes both aircraft that are based on-site flying out of the region and itinerant flights flying into the region, supporting the local and regional economy. These airports are frequently used by jet and turboprop aircraft and must be accessible in a variety of weather conditions.
- **Community All-Purpose:** Airports primarily used to support a diverse array of local community activities, including small business flights, agricultural, flight training, remote access, skydiving, recreation, aerial advertising, gliders or ultra-light operations, or even occasional military or light air freight activity.
- **Critical Community Access for Remote Locations:** Airports that play a critical function in providing access to a remote community for a variety of purposes including medical services, emergency response/support, etc. This typically includes airports that support communities located 60 minutes or more from a major highway and that do not have scheduled air carrier service.
- **Scheduled Passenger Service:** Airports providing scheduled commercial air transportation access to a community. This includes airports identified in the NPIAS as commercial service airports, including airports with EAS.

Additional Airport Services

Airports in the Nebraska system represent valuable and critical assets that are a lifeline for people, communities, and businesses. Nebraska airports also play a vital role in the following:

- **Air Freight/Cargo:** Airports are the origin and destination for the intrastate, interstate, and international movement of cargo, raw materials, finished products and goods. Airports additionally are important logistical points for mail, including for large carriers like UPS and Federal Express, and for regional operators like Suburban Air Freight, which is based in Omaha. Eppley Airfield serviced more than 470 million pounds of freight in 2019, ranking as the 60th highest volume cargo airport in the United States.¹⁰ Eppley Airfield also acts as a critical link to other parts of the State, shuttling packages from OMA to smaller airports throughout Nebraska and facilitating package delivery to more remote parts of the State.
- **Military:** Airports serve as hubs for military defense and emergency readiness, which have a large impact on the local population by supporting local employment, business, and other economic activity. Offutt Air Force Base (AFB) in Bellevue, south of Omaha, is the headquarters of the U.S. Strategic Command, the 558th Weather Wing, and the 55th Wing of the Air Combat Command. While not a public use airport, Offutt AFB is important to the overall aviation landscape in Nebraska. The Nebraska Air National Guard operates from a base located at Lincoln Airport (the 155th Air Refueling Wing), and at Offutt AFB where the 170th Group maintains a training and qualification squadron. In addition, there are numerous military installations around the State that function as air, army, joint, and Nebraska Emergency Management Agency (NEMA) facilities, most of which are located near a well-developed SASP airport.

2.5.2. Airports and Regions of Socioeconomic Activity

Nebraska's statewide economy gets a boost of \$8.6 billion in impact from the aviation industry¹¹ every year. This \$8.6 billion includes nearly \$6.5 billion in SASP airport economic impacts along with nearly \$2.1 billion in military impact, which was not analyzed as part of this SASP. Airports not only create jobs, but they also improve business operating efficiencies that help Nebraska recruit and retain companies. These facilities directly connect Nebraska to the region, nation, and the world. A snapshot of economic impact results from *Nebraska Aviation Counts!* is provided in the next three tables. Despite no longer being a licensed public-use airport, North Omaha Airport is included in the *Nebraska Aviation Counts!* study as it was licensed at the time the study was conducted. For this reason, North Omaha Airport is in the summary of the economic impact study but is not included in the remainder of the report. Additionally, Alma -Harlan County Lake, is not included in the *Nebraska Aviation Counts!* study but is included in the rest of the SASP.

¹⁰ FAA All-Cargo Landed Weights Data for U.S. Airports, 2020. Cargo landed weight data for calendar year 2021 will be finalized and available in late 2022.

¹¹ *Nebraska Aviation Counts!* Economic Impact Study, Division of Aeronautics, 2019.

Summary of Economic Impacts

Table 2-6 presents a summary of results from the Economic Impact Study of Nebraska airports by SASP service level.

Table 2-6: Economic Impact by SASP Service Level

SASP Service Level	Airports	Total Employment	Total Payroll (000s)	Total Impact (000s)	% Total Impact
General Aviation	70	3,810	\$ 132.0M	\$ 368.3M	5.7%
Commercial Service	9	60,153	\$ 2,295.9M	\$ 6,121.9M	94.3%
Total	79	63,963	\$ 2,427.9M	\$ 6,490.2M	100%

Sources: Nebraska Aviation Counts! Economic Impact Study, Division of Aeronautics, 2019 and McFarland Johnson Analysis, 2021.

As shown, the impacts of commercial service airports are larger than those of GA airports and account for approximately 94 percent of the total economic impact compared to six percent for GA airports. This large difference in impact is due to scheduled commercial activity, increased passenger spending, and a higher level of overall socioeconomic activity in the communities where commercial service airports are.

Table 2-7 breaks down the economic impact of SASP commercial service airports. Note that these impacts are a combination of direct, indirect, and induced.

Table 2-7: Economic Impacts of SASP Commercial Service Airports

Commercial Service Airport	Total Employment	Total Payroll (000s)	Total Impact (000s)	% Total Impact
Alliance Municipal	221	\$10.0M	\$20.7M	0.3%
Chadron Municipal	243	\$9.3M	\$21.6M	0.4%
Central Nebraska Regional	2,188	\$66.7M	\$172.0M	2.8%
Kearney Regional	533	\$18.3M	\$44.6M	0.7%
Lincoln	2,657	\$508.0M	\$1,300.0M	21.2%
McCook Ben Nelson Regional	264	\$7.8M	\$21.6M	0.4%
North Platte Regional / Lee Bird Field	1,397	\$44.4M	\$155.0M	2.5%
Eppley Airfield	51,610	\$1,600.0M	\$4,300.0M	70.3%
Western Nebraska Regional	1,040	\$31.4M	\$86.4M	1.4%
Commercial Service Total	60,153	\$ 2,295.9M	\$ 6,121.9M	100%

Sources: Nebraska Aviation Counts! Economic Impact Study, Division of Aeronautics, 2019 and McFarland Johnson Analysis, 2021.

As shown, the contributions of commercial service airports to the State economy are significant and stretch west from Metro Omaha along Interstate 80 to the Panhandle.

Table 2-8 presents economic impacts for GA airports in the SASP by ASSET role, along with impacts from Unclassified airports and those not included in the ASSET. To isolate the impacts of GA airport

activity, **Table 2-8** does not include the impacts of four airports that have a GA role in the ASSET but offer commercial service and are considered commercial service in the SASP.

Table 2-8: Economic Impact of SASP GA Airports by ASSET Role

ASSET Role	Airports	Total Employment	Total Payroll (000s)	Total Impact (000s)	% Total Impact
Regional ¹	3	995	\$ 35,400	\$ 96,800	26.3%
Local ¹	27	1,966	\$ 64,441	\$ 181,200	49.2%
Basic	31	684	\$ 28,490	\$ 76,381	20.7%
Unclassified	2	16	\$ 559	\$ 2,992	0.8%
Non-NPIAS	7	149	\$ 3,080	\$ 10,917	3.0 %
ASSET Total	70	3,810	\$131,970	\$368,290	100%

Sources: *Nebraska Aviation Counts! Economic Impact Study, Division of Aeronautics, 2019* and *McFarland Johnson Analysis, 2021*.

¹ The impacts of Kearney Regional are not included in the total for Regional airports. The impacts of Alliance Municipal, Chadron Municipal, & McCook Ben Nelson Regional are not included in the total for Local airports.

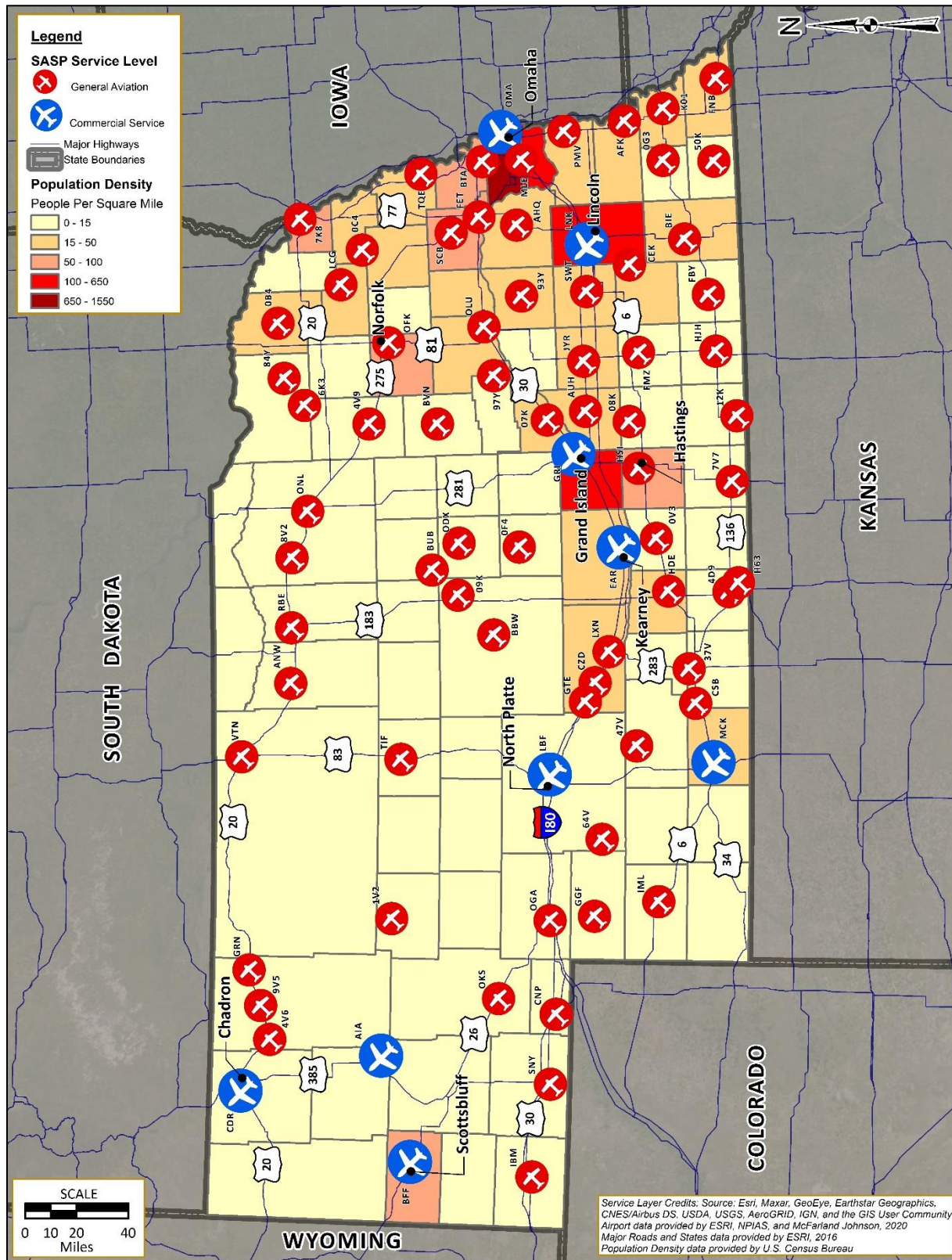
As indicated, airports in the Local ASSET role have the largest impacts among GA airports in the system, followed by Regional, Basic, then Non-NPIAS and Unclassified system airports.

The economic impacts of airports can be expressed on a statewide scale as well as on the local level. While there is a statewide impact contributed by each individual airport, the scale of impact is greater locally, with airports affecting people and businesses in their surrounding communities.

Population Density, Employers, and Regional Impacts

Generally, people and economic activity concentrate along major highways and thoroughfares. In Nebraska, much of the population and economic activity is located along Interstate 80, which transverses the State from east to west, passing through or near the State’s major cities: Omaha, Lincoln, and Grand Island. **Figure 2-5** illustrates population density in relation to SASP airports throughout the State.

Figure 2-5: SASP Airports and Population Density



Source: McFarland Johnson, Inc., 2021.

As shown on **Figure 2-5** SASP airports are dispersed throughout the State but tend to be most populated in areas where they can serve communities of people and businesses. The majority of the State’s population is well serviced by commercial and GA airports.

While many SASP airports are part of population and employment centers and benefit from a diverse user base, airports in remote or rural regions of the State serve as critical access points for their communities. It is in these regions where SASP airports serve as an alternative to long drives for preparedness agencies and medical responders, support local business activity, and serve as critical bases for agricultural aerial spraying.

The types and volume of activity from airport to airport in each of these regions can vary widely, but the value of that activity to the people, businesses, and communities they serve are, at times of need, of the utmost importance regardless of volume or frequency. The combination of socioeconomic and aviation activity in Nebraska is illustrated by the impacts of SASP airports in their respective region.

Table 2-9 summarizes economic impact of all SASP airports by region.

Table 2-9: SASP – Economic Impact by Region

SASP Region	Airports	Total Employment	Total Payroll (000s)	Total Impact (000s)	% Total Impact
Metro	3	52,597	\$ 1,629,700	\$ 4,383,100	67.5%
Northeast	16	620	\$ 25,629	\$ 78,547	1.2%
Sandhills	12	289	\$ 12,061	\$ 28,635	0.4%
Panhandle	10	1,611	\$ 55,118	\$ 138,956	2.1%
Southwest	7	1,886	\$ 59,778	\$ 197,202	3.0%
South Central	12	3,244	\$ 100,560	\$ 259,875	4.0%
Southeast	19	3,716	\$ 545,024	\$ 1,403,875	21.6%
Total	79	63,963	\$ 2,427.9M	\$ 6,490.2M	100%

Sources: *Nebraska Aviation Counts! Economic Impact Study, Division of Aeronautics, 2019, and McFarland Johnson Analysis, 2021.*

Since each airport in the SASP is different and valuable, each has needs that vary based on its unique circumstances and user base. The challenge for the State and this SASP is to identify broad issues where the State can be most effective in building and maintaining a system that can meet current and future needs.

2.6. SUMMARY OF THE SYSTEM

Chapter 3, Facility & Service Objectives provides more details and explanations of these airport SASP roles, minimum facilities and services standards associated with them, and how these standards are measured.

Importantly, airports often perform functions and provide services for users that span more than one role. This is based upon nuances specific to each user’s mission or purpose, such as location, weather conditions, and services available or required at any given time. Therefore, the functions

and roles in the SASP should not be construed to constitute an exclusive or final determination of any one airport or group of airports' contributions to the market or system.



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CHAPTER 3 FACILITY & SERVICE OBJECTIVES

3. Facility & Service Objectives

As part of the Nebraska aviation system, each airport fulfills a different role based on different factors. The primary factors impacting an airport’s role are the facility infrastructure, services offered at the airport, and its location within the State. Together, airports throughout the State contribute to a thriving system within a regional, national, and international context. The Nebraska State Aviation System Plan (SASP) evaluates the system as a whole through this lens.

To evaluate the Nebraska aviation system’s performance, the system planning process dictates that performance standards be objective and impartial to the functioning of the current system. This means that the selection and development of performance standards is based upon the State’s vision and goals for its airport system. In this way, the performance standards in the SASP chart the course for the future of the statewide airport system. The final SASP presents the research, analysis, and framework of minimum facility infrastructure and service offerings standard for individual airports to adequately meet demand as part of the statewide system. This review does not review individual airport demand influences or consider specific facility constraints. Airport specific recommendations should be considered alongside or may supersede recommendations throughout this Plan.

This Chapter provides an overview of SASP roles for Nebraska airports and defines the objectives that will be used to measure the current system’s performance. Each system airport role is reflective of the condition of each airport as of 2021 and should be considered the baseline for the system planning process.

3.1. AIRPORT CATEGORIES

As discussed in *Chapter 2, Aviation System Overview*, the role of airports in Nebraska varies by activity level. These activity levels, referred to as SASP roles, consist of commercial service, complex activity, community activity, and Non-NPIAS airports. Further information on the SASP roles of each airport can be found in *Chapter 5, Summary of Aviation Activity & Forecast*. SASP roles are defined as the following:

- **Commercial Service Airports:** The nine airports in this category offer scheduled commercial service at their facilities (i.e.: OMA, LNK, GRI, AIA, CDR, EAR, MCK, LBF, AND BFF).
- **Complex Activity Airports:** Airports in this category include general aviation airports with over 100 annual average B-II or greater operations during the analysis period (2010-2019).
- **Community Activity Airports:** Airports in this category include the remaining general aviation airports that are included in the NPIAS. These facilities either had no B-II operations or recorded less than 100 average annual operations by B-II aircraft, meaning the vast majority of operations are conducted by small aircraft with wingspans of 49 feet or less.
- **Non-NPIAS Airports:** Airports in this category include airports that are not in the NPIAS but are part of the Nebraska Statewide system.

3.2. SASP AIRPORT OBJECTIVES

Facility and service objectives were established as part of this SASP through collaboration with NDOT and stakeholder groups. These objectives represent broad system-wide goals for the State's integrated network of airports. This plan is not intended to address airport-specific demands or constraints. Airport-specific topics are addressed as part of an airport master plan and airport layout plan (ALP) update process. Based on local market demand, some airports will have needs above and beyond those proposed in the SASP while some airports will need less than those proposed based on their proximity to other airports within the system that provide the same service. In addition, constraints such as topography and environmental challenges, which may result in certain objectives being financially or physically infeasible to implement, are not identified in the SASP on an airport-by-airport basis. All projects, both from the SASP and individual airport master plans, are subject to FAA funding priorities. The implementation timeline outlined in this report will ultimately be impacted by these funding priorities, which may change the anticipated date or order projects are implemented. Therefore, the recommended facility and service objects identified in this SASP should not be construed as priorities for federal investment.

Facility and service objectives for Nebraska airports can be found in **Table 3-1**. Each category of airports includes both minimum facilities and services as well as recommended facilities and services. All minimum, as well as recommended, facilities and services objectives hold true for subsequent categories of airports and further build upon those with additional minimums and recommendations. Non-NPIAS airports have the fewest number of required and recommended objectives. Community Activity airports require both the objectives established for the community role and those established for the Non-NPIAS airports. Complex Activity airports require those defined for the complex role, as well as the required and recommended objectives defined for both Non-NPIAS and Community Activity airports. Commercial Service airports require those defined for the commercial service role, as well as the required and recommended objectives defined for the Non-NPIAS, Community Activity airports, and Complex Activity airports.

The purpose of **Table 3-1** is to provide high level goals and framework. Ultimately it is up to the individual airports to present justification to the FAA to determine project eligibility for federal funding.

Table 3-1: Facility and Service Objectives for State Airports

SASP Role		Facility and Services Objectives			
Commercial Service Airport	Complex Activity Airports	Non-NPIAS Airports	Minimum Facilities/Services		
			Runway - Turf, Water, or Paved Open Seasonally Aircraft Parking Area Public Telephone (If Cellular Service Unavailable) Airport Manager Contact Info Available	Windsock Require Minimum Standards/Rules and Regulations Basic Shelter Compliance w/ NE Administrative Code 198	
			Recommended Facilities/Services		
		Open All Year		All Minimum & Recommended Facilities/Services of Non-NPIAS Airports	
		Paved Runway Updated ALP (<20 Years Old) ¹ 100LL Avgas Fuel on Site Weather Service Station (AWOS or ASOS) PAPIs on Primary Runway Local Fire Department Trained in ARFF Procedures Updated Land Use/Zoning Hangars for Existing Based Aircraft		Basic Terminal/Shelter Meet A/B I Standards GPS Approach Runway PCI of 75 or greater Taxiway PCI of 60 or greater PT On-Site Airport Manager PT On-Site Operations/Maintenance Staff	
		Recommended Facilities/Services			
		Evaluate ALP (<10 Years Old) ¹ Weather Service Station (AWOS III P/T)		Self-Serve 100LL Avgas Fuel available 24/7 Paved Access Road and Vehicle Parking	
		All Minimum & Recommended Facilities/Services of Community Activity Airports			
		Update/Evaluate Master Plan (<10 Years Old) and Evaluate ALP (<5 Years Old) ¹ Jet-A Fuel Hangar for Transient Aircraft Taxiway PCI of 70 or greater Primary Runway Minimums of < 1 Mile w/ ALS ² Single Service SASO/FBO		Availability of a Rental Car and/or a Courtesy Car Meet B II Standards SRE Terminal w/ passenger and pilot amenities Transient Parking Apron FT On-Site Airport Manager FT On-Site Operations/Maintenance Staff	
		Recommended Facilities/Services			
		MALSR on Primary Runway ² Basic Airport Security Measures and wildlife fencing ARFF On-Site		Parallel Taxiway to Primary Runway Passenger Transportation on Site Aircraft Maintenance on site	
		All Minimum & Recommended Facilities/Services of Complex Activity Airports			
		Terminal Building w/ Concessions (Restaurant, Vending, Restrooms post security, etc) PAPIs on all Paved Runway ends Airport Security Measures (SIDA, Badging, Security Fencing, TSA, etc)		Meet C II Standards Runway PCI of 85 or greater Taxiway PCI of 75 or greater Aircraft Deicing Part 139 Certified	
		Recommended Facilities/Services			
		Onsite or Remote ATCT On Site Rental Cars and/or Courtesy Cars		Air Cargo Handling Facilities	

Source: McFarland Johnson Analysis, 2022.

¹ All ALPs should include an Exhibit A Property Map that meets the most up-to-date standard operating procedures (SOP).

² Eligibility will be determined on an airport-by-airport basis based on their own individual needs and ability to justify a project.

³ While airfield lighting is not a SASP objective, adding lighting would be an airport level determination.

As shown in **Table 3-1**, as airport activity levels become more complex, the number of facility and service objectives increases. To understand how airports in each category measure up to the objectives, a scoring system was put into place. This scoring system and the current performance of the system is described in *Chapter 6, Existing System Performance Findings*.

3.3. SUMMARY OF FACILITY AND SERVICE OBJECTIVES

As part of the Nebraska aviation system, each airport embodies a different role within the Nebraska Airport System based on differing factors. The primary factors impacting an airport's activity level are the facility infrastructure and services offered at the airport.

Chapter 4, Inventory of Existing System, presents data collected for the SASP and serves as the foundation of all analyses performed in this Plan. The airports' resulting scores based on the minimum objectives presented above are presented in *Chapter 6, Existing System Performance Findings*. Both the inventory and existing system performance findings are focused on the physical infrastructure at SASP airports. Non-physical facility and service objectives will be noted in various elements of these chapters. However, *Chapter 8, Policy & Project Recommendations*, will go into further detail on these aspects. Based on the analysis of the ability of system airports to meet minimum facility objectives both under existing and future demand conditions, recommendations will be presented that can enhance and sustain a long-term viable Nebraska Aviation System.

Importantly, statewide recommendations do not diminish the need for individual airport planning efforts. Local airport planning efforts such as airport master plans, environmental assessments, and/or development plans are crucial for determining airport-specific facility needs for each system airport. Local planning efforts are also critical in justifying an individual airport's need for Airport Improvement Program (AIP) eligible improvements. While the SASP does not necessarily advocate for individual airport improvements, it does advocate for the needs of system airports by role. This both highlights facility and service needs at the system level as well as validates certain elements of individual airport objectives.



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**CHAPTER 4
INVENTORY OF
EXISTING SYSTEM**

4. Inventory of Existing System

This chapter looks at the information obtained during the data collection process. While *Chapter 2, Aviation System Overview*, reviewed the Nebraska System of Airports as a whole, this chapter identifies the existing infrastructure and services available at individual Nebraska State Aviation System Plan (SASP) airports. While some non-physical elements are mentioned, the focus of this chapter is primarily on the physical infrastructure available at SASP airports. Non-physical elements will be addressed in various ways forms in *Chapter 8, Policy & Project Recommendations*. This information was collected through the Federal Aviation Administration (FAA) 5010 forms, airport manager surveys, and discussions with the Nebraska Department of Transportation (NDOT) Division of Aeronautics.

4.1. AIRPORT INVENTORY AND DATA

This section presents data pertaining to existing facilities and services available at SASP general aviation (GA) and commercial service airports, which is organized as follows:

- Airside Facilities
- Landside Facilities and Services

4.1.1. Airside Facilities

This section presents and summarizes airside facility information collected for system airports. Airside facilities include runways, taxiways, aprons, navigational aids, visual aids, and weather reporting infrastructure used to support aircraft operations.

Runways

Runways are the most critical facilities on an airport; runway length, surface type, and width determine the types of aircraft that can safely operate on that runway. Other infrastructure, facilities and services are generally configured to support the most demanding types of aircraft at an airport. The full complement of runways and associated facilities at an airport affect the type of aeronautical activity that can occur, which affects decisions by aircraft owners and operators regarding which airports they will use.

As shown in **Table 4-1**, 75 SASP airports have paved primary runways, while three SASP airports have turf primary runways, and one has a water landing/seaplane base. Runway lighting is an important safety feature for aircraft owners and operators. The types of lights typically found on a runway include high intensity runway lights (HIRL), medium intensity runway lights (MIRL), low intensity runway lights (LIRL), or non-standard (NSTD). In Nebraska, 73 airports have primary runways with MIRL or HIRL; four have LIRL or NSTD; and two have no lights.

Table 4-1: SASP Primary Runway Data

City	Airport	Length	Width	Surface Type ¹	Runway Edge Light Intensity
Ainsworth	Ainsworth Regional	6,824	110	Paved	High
Albion	Albion Municipal	3,700	60	Paved	Medium
Alliance	Alliance Municipal	9,203	150	Paved	Medium
Alma	Alma Municipal	3,200	60	Paved	Medium
Alma	Harlan County Lake	6,000	200	Water	None
Arapahoe	Arapahoe Municipal	3,000	50	Paved	Medium
Atkinson	Stuart-Atkinson Municipal	3,900	60	Paved	Medium
Auburn	Farington Field	3,750	60	Paved	Medium
Aurora	Aurora Municipal – Al Potter Field	4,301	75	Paved	Medium
Bassett	Rock County	4,698	75	Paved	Medium
Beatrice	Beatrice Municipal	5,602	100	Paved	Medium
Blair	Blair Executive	4,201	100	Paved	Medium
Bloomfield	Bloomfield Municipal	2,700	50	Paved	Low
Broken Bow	Broken Bow Municipal / Keith Glaze Field	4,203	75	Paved	Medium
Burwell	Cram Field	3,900	60	Paved	Medium
Cambridge	Cambridge Municipal	4,098	60	Paved	Medium
Central City	Central City Municipal – Larry Reineke Field	3,700	60	Paved	Medium
Chadron	Chadron Municipal	5,998	100	Paved	High
Chappell	Billy G Ray Field	4,000	55	Paved	Medium
Columbus	Columbus Municipal	6,801	100	Paved	Medium
Cozad	Cozad Municipal	5,000	75	Paved	Medium
Creighton	Creighton Municipal	3,700	60	Paved	Medium
Crete	Crete Municipal	4,201	75	Paved	High
Curtis	Curtis Municipal	3,402	60	Paved	Medium
David City	David City Municipal	3,676	60	Paved	Medium
Fairbury	Fairbury Municipal	3,700	75	Paved	Medium
Fairmont	Fairmont State	4,317	75	Paved	Medium
Falls City	Brenner Field	3,999	75	Paved	Medium
Fremont	Fremont Municipal	6,353	100	Paved	Medium
Genoa	Genoa Municipal	2,500	100	Turf	None
Gordon	Gordon Municipal	5,196	75	Paved	Medium
Gothenburg	Gothenburg Municipal	2,599	50	Paved	Medium
Grand Island	Central Nebraska Regional	7,002	150	Paved	High
Grant	Grant Municipal	4,797	60	Paved	Medium

City	Airport	Length	Width	Surface Type ¹	Runway Edge Light Intensity
Hartington	Hartington Municipal / Bud Becker Field	3,950	60	Paved	Medium
Harvard	Harvard State	3,722	60	Paved	Medium
Hastings	Hastings Municipal	6,451	100	Paved	Medium
Hay Springs	Hay Springs Municipal	2,775	300	Turf	Medium
Hebron	Hebron Municipal	3,600	60	Paved	Medium
Holdrege	Brewster Field	4,701	75	Paved	Medium
Hyannis	Grant County	3,975	50	Paved	Medium
Imperial	Imperial Municipal	5,022	100	Paved	Medium
Kearney	Kearney Regional	7,094	100	Paved	High
Kimball	Kimball Municipal / Robert E. Arraj Field	6,199	75	Paved	Medium
Lexington	Jim Kelly Field	5,489	100	Paved	Medium
Lincoln	Lincoln	12,901	200	Paved	High
Loup City	Loup City Municipal	3,900	60	Paved	Medium
McCook	McCook Ben Nelson Regional	6,450	100	Paved	Medium
Minden	Pioneer Village Field	3,900	60	Paved	Medium
Nebraska City	Nebraska City Municipal	4,501	76	Paved	Medium
Neligh	Antelope County	3,700	60	Paved	Medium
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	5,801	100	Paved	High
North Platte	North Platte Regional / Lee Bird Field	8,001	150	Paved	High
Ogallala	Searle Field	5,102	75	Paved	Medium
Omaha	Eppley Airfield	9,502	150	Paved	High
Omaha	Millard	3,801	75	Paved	Medium
O'Neill	The O'Neill Municipal – John L. Baker Field	4,408	75	Paved	Medium
Ord	Evelyn Sharp Field	4,721	75	Paved	Medium
Oshkosh	Garden County / King Rhiley Field	4,699	60	Paved	Medium
Pawnee City	Pawnee City Municipal	3,375	125	Turf	Low
Pender	Pender Municipal	3,600	60	Paved	Medium
Plattsmouth	Plattsmouth Municipal	5,500	100	Paved	Medium
Red Cloud	Red Cloud Municipal	3,702	60	Paved	Medium
Rushville	Modisett Field	3,909	60	Paved	Medium
Sargent	Sargent Municipal	3,000	60	Paved	Medium

City	Airport	Length	Width	Surface Type ¹	Runway Edge Light Intensity
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	8,279	150	Paved	High
Scribner	Scribner State	4,200	75	Paved	Medium
Seward	Seward Municipal	4,200	75	Paved	Medium
Sidney	Sidney Municipal / Lloyd W. Carr Field	6,600	100	Paved	High
South Sioux City	Martin Field	3,320	50	Paved	NSTD
Superior	Superior Municipal	4,301	75	Paved	Medium
Tecumseh	Tecumseh Municipal	3,501	75	Paved	Medium
Tekamah	Tekamah Municipal	4,000	75	Paved	Medium
Thedford	Thomas County	4,400	60	Paved	Medium
Valentine	Miller Field	4,704	75	Paved	Medium
Wahoo	Wahoo Municipal	4,100	75	Paved	Medium
Wallace	Wallace Municipal	2,800	50	Paved	NSTD
Wayne	Wayne Municipal / Stan Morris Field	4,201	75	Paved	Medium
York	York Municipal	5,898	100	Paved	Medium

Source: McFarland Johnson Analysis, 2021.

¹ Condition of each runway can be found in [Appendix E, Airport Pavement Condition Indexes](#).

Other Airfield Pavements

While the primary focus for the SASP is runway pavement, other airfield pavements are important for the day-to-day operations of airports in Nebraska. Taxiways, aprons, and taxilanes contribute to the runway’s capacity for accommodating higher volumes of aircraft operations and are necessary to provide access to and from the runway.

Instrument Approaches, Visual Aids, and Weather Reporting

In addition to runway pavement and lighting, system planning considers visual aids, navigational aids, and approach procedures as well as weather reporting that aid safe aircraft operations. **Table 4-2** lists each airport’s best instrument approach procedure and if there is also approach lighting or weather reporting equipment available.

Ten airports have precision instrument approaches, including all nine airports with scheduled airline service plus Norfolk Regional. Precision approaches have vertical guidance equipment, while non-precision approaches offer lateral guidance only. 59 airports have non-precision instrument approaches, and ten airports offer only visual approaches.

Approach Lighting Systems (ALS) are found at 13 airports, 55 airports have visual glide slope indicators, and 40 have runway end identifier lights.

- **Approach Lighting Systems (ALS)** are a configuration of sequenced signal lights that guide pilots on an approach to the runway threshold. ALS can be high intensity (ALSF-2), medium intensity (MALSR), or omnidirectional (ODALS). ALSF-2 and MALSR are typically installed to serve runways with a precision instrument approach procedure. ODALS may improve the minimums for a non-precision approach.
- **Visual Glide Slope Indicators (VGSI)** provide visual approach slope information. This system projects a split beam of light with the upper segment being white and the lower segment being red, providing the pilot with information on whether they are on the approach glide slope. VGSI include Precision Approach Path Indicators (PAPI) and Visual Approach Slope Indicators (VASI), which are an older version of PAPIs and are being phased out.
- **Runway End Identifier Lights (REIL)** provide rapid and positive identification of the end of a runway with two synchronized flashing lights.

39 airports have weather reporting systems that are either Automated Weather Observing Systems (AWOS) or Automated Surface Observation Systems (ASOS). However, for system planning purposes, the most important consideration for weather reporting systems is the presence or absence of weather reporting equipment.

- **ASOS and AWOS-III** installations report wind, visibility, cloud height, temperature, dew point, pressure, and precipitation.
- **AWOS-III P** equipment adds reporting for the type of precipitation, such as rain or snow.
- **AWOS-III T** equipment adds thunderstorm/lighting activity.
- **AWOS-III P/T** equipment adds both precipitation and thunderstorm activity reports.

Table 4-2: Instrument Approaches, Visual Aids, and Weather Reporting

City	Airport	Best Approach	Approach Lights & VGSI	Weather Reporting
Ainsworth	Ainsworth Regional	Non-Precision	MALSR, PAPI	AWOS-III P\T
Albion	Albion Municipal	Non-Precision	PAPI	AWOS-III P\T
Alliance	Alliance Municipal	Precision	MALSR, PAPI, VASI, REIL	ASOS
Alma	Alma Municipal	Non-Precision	PAPI	--
Alma	Harlan County Lake	Visual	--	--
Arapahoe	Arapahoe Municipal	Visual	--	--
Atkinson	Stuart-Atkinson Municipal	Non-Precision	--	--
Auburn	Farington Field	Non-Precision	PAPI	--

City	Airport	Best Approach	Approach Lights & VGSI	Weather Reporting
Aurora	Aurora Municipal – Al Potter Field	Non-Precision	PAPI	AWOS-III P\T
Bassett	Rock County	Non-Precision	PAPI	--
Beatrice	Beatrice Municipal	Non-Precision	MALSR, PAPI	AWOS-III P\T
Blair	Blair Executive	Non-Precision	PAPI, REIL	AWOS-III P\T
Bloomfield	Bloomfield Municipal	Visual	--	--
Broken Bow	Broken Bow Municipal / Keith Glaze Field	Non-Precision	PAPI, REIL	ASOS
Burwell	Cram Field	Non-Precision	PAPI	--
Cambridge	Cambridge Municipal	Non-Precision	PAPI	--
Central City	Central City Municipal – Larry Reineke Field	Non-Precision	PAPI	--
Chadron	Chadron Municipal	Precision	MALSR, VASI, REIL	ASOS
Chappell	Billy G Ray Field	Non-Precision	--	--
Columbus	Columbus Municipal	Non-Precision	MALSR, PAPI, REIL	AWOS-III T
Cozad	Cozad Municipal	Non-Precision	PAPI	--
Creighton	Creighton Municipal	Non-Precision	PAPI	--
Crete	Crete Municipal	Non-Precision	PAPI, REIL	--
Curtis	Curtis Municipal	Non-Precision	--	--
David City	David City Municipal	Non-Precision	PAPI, REIL	--
Fairbury	Fairbury Municipal	Non-Precision	PAPI, REIL	--
Fairmont	Fairmont State	Non-Precision	--	--
Falls City	Brenner Field	Non-Precision	PAPI, REIL	ASOS
Fremont	Fremont Municipal	Non-Precision	PAPI, REIL	AWOS-III P\T
Genoa	Genoa Municipal	Visual	--	--
Gordon	Gordon Municipal	Non-Precision	PAPI	AWOS-III P/T
Gothenburg	Gothenburg Municipal	Non-Precision	--	--
Grand Island	Central Nebraska Regional	Precision	MALS, PAPI	ASOS/ATIS
Grant	Grant Municipal	Non-Precision	--	--
Hartington	Hartington Municipal / Bud Becker Field	Non-Precision	PAPI	--
Harvard	Harvard State	Non-Precision	--	--
Hastings	Hastings Municipal	Non-Precision	PAPI, REIL	ASOS
Hay Springs	Hay Springs Municipal	Visual	--	--

City	Airport	Best Approach	Approach Lights & VGSI	Weather Reporting
Hebron	Hebron Municipal	Non-Precision	PAPI, REIL	AWOS-III P\T
Holdrege	Brewster Field	Non-Precision	PAPI, REIL	AWOS-III P/T
Hyannis	Grant County	Visual	--	--
Imperial	Imperial Municipal	Non-Precision	PAPI, REIL	ASOS
Kearney	Kearney Regional	Precision	MALSR, PAPI, REIL	AWOS-III T
Kimball	Kimball Municipal / Robert E. Arraj Field	Non-Precision	PAPI, REIL	AWOS-III P\T
Lexington	Jim Kelly Field	Non-Precision	PAPI, REIL	AWOS-III P\T
Lincoln	Lincoln	Precision	MALSR, PAPI	ASOS/ATIS
Loup City	Loup City Municipal	Non-Precision	PAPI	--
McCook	McCook Ben Nelson Regional	Precision	MALSR, PAPI, VASI, REIL	ASOS
Minden	Pioneer Village Field	Non-Precision	PAPI	--
Nebraska City	Nebraska City Municipal	Non-Precision	PAPI	AWOS-III P/T
Neligh	Antelope County	Non-Precision	PAPI	--
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	Precision	MALSR, PAPI	ASOS
North Platte	North Platte Regional / Lee Bird Field	Precision	MALSR, PAPI	ASOS
Ogallala	Searle Field	Non-Precision	PAPI	AWOS-III P\T
Omaha	Eppley Airfield	Precision	ALSF2, PAPI	ASOS/ATIS
Omaha	Millard	Non-Precision	PAPI, REIL	AWOS-III P\T
O'Neill	The O'Neill Municipal - John L. Baker Field	Non-Precision	PAPI, REIL	AWOS-III P\T
Ord	Evelyn Sharp Field	Non-Precision	PAPI, REIL	ASOS
Oshkosh	Garden County / King Rhiley Field	Non-Precision	PAPI, REIL	--
Pawnee City	Pawnee City Municipal	Visual	--	--
Pender	Pender Municipal	Non-Precision	PAPI	--
Plattsmouth	Plattsmouth Municipal	Non-Precision	PAPI, REIL	AWOS-III P\T
Red Cloud	Red Cloud Municipal	Non-Precision	PAPI, REIL	--
Rushville	Modisett Field	Non-Precision	PAPI, REIL	--
Sargent	Sargent Municipal	Visual	--	--

City	Airport	Best Approach	Approach Lights & VGSI	Weather Reporting
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	Precision	MALSR, PAPI	ASOS
Scribner	Scribner State	Non-Precision	--	--
Seward	Seward Municipal	Non-Precision	PAPI	--
Sidney	Sidney Municipal / Lloyd W. Carr Field	Non-Precision	PAPI, REIL	ASOS
South Sioux City	Martin Field	Visual	--	--
Superior	Superior Municipal	Non-Precision	PAPI, REIL	--
Tecumseh	Tecumseh Municipal	Non-Precision	PAPI, REIL	--
Tekamah	Tekamah Municipal	Non-Precision	REIL	ASOS
Thedford	Thomas County	Non-Precision	--	AWOS-III P\T
Valentine	Miller Field	Non-Precision	PAPI, REIL	ASOS
Wahoo	Wahoo Municipal	Non-Precision	PAPI, REIL	AWOS-III P
Wallace	Wallace Municipal	Visual	--	--
Wayne	Wayne Municipal / Stan Morris Field	Non-Precision	PAPI	AWOS-III P\T
York	York Municipal	Non-Precision	PAPI, REIL	AWOS-III P\T

Source: McFarland Johnson Analysis, 2021.

Other visual aids at airports may include:

- **Rotating beacons**, which have a green and white light, help pilots locate airports at night and during periods of low visibility. 77 of the 79 SASP airports have a rotating beacon at their facility.
- **Wind cones** provide wind direction information to pilots and are often lighted. 78 of the 79 SASP airports have a wind cone on their airfield.
- **Segmented circles** are placed around an airport’s main wind cone and visually show pilots information on the traffic pattern. This is in lieu of pilots using air traffic control communication for that information. While segmented circles are found at airports in various degrees of functionality, they are not relevant at a system wide level.

4.1.2. Landside Facilities and Services

This section presents and summarizes landside facility information for system airports. Landside facilities include terminal buildings, other airport buildings, fuel farms, hangars, T-hangars, automobile parking facilities and services such as flight training, aircraft rental, and courtesy cars.

Fuel Services

The availability of aviation fuel at Nebraska aviation system airports is an indicator of the type of aircraft operating there and the airport’s primary user base. All but six airports have fuel available. Jet-A is available at 36 airports, which is 45 percent of all airports, and 37 airports offer 100LL only. While the infrastructure may be present on the airport, not all airports with fuel advertise or offer it to the public. **Table 4-3** presents fuel available at system airports.

Table 4-3: Fuel Availability at Nebraska Airports

City	Airport	100LL	Jet-A
Ainsworth	Ainsworth Regional	Yes	Yes
Albion	Albion Municipal	Yes	--
Alliance	Alliance Municipal	Yes	Yes
Alma	Alma Municipal	Yes	--
Alma	Harlan County Lake	--	--
Arapahoe	Arapahoe Municipal	Yes	--
Atkinson	Stuart-Atkinson Municipal	Yes	--
Auburn	Farington Field	Yes	--
Aurora	Aurora Municipal – Al Potter Field	Yes	--
Bassett	Rock County	Yes	--
Beatrice	Beatrice Municipal	Yes	Yes
Blair	Blair Executive	Yes	Yes
Bloomfield	Bloomfield Municipal	--	--
Broken Bow	Broken Bow Municipal / Keith Glaze Field	Yes	Yes
Burwell	Cram Field	Yes	--
Cambridge	Cambridge Municipal	Yes	Yes
Central City	Central City Municipal – Larry Reineke Field	Yes	--
Chadron	Chadron Municipal	Yes	Yes
Chappell	Billy G Ray Field	Yes	--
Columbus	Columbus Municipal	Yes	Yes
Cozad	Cozad Municipal	Yes	Yes
Creighton	Creighton Municipal	Yes	--
Crete	Crete Municipal	Yes	Yes
Curtis	Curtis Municipal	Yes	--
David City	David City Municipal	Yes	Yes
Fairbury	Fairbury Municipal	Yes	--
Fairmont	Fairmont State	Yes	--
Falls City	Brenner Field	Yes	Yes
Fremont	Fremont Municipal	Yes	Yes
Genoa	Genoa Municipal	Yes	--
Gordon	Gordon Municipal	Yes	--
Gothenburg	Gothenburg Municipal	Yes	--
Grand Island	Central Nebraska Regional	Yes	Yes

City	Airport	100LL	Jet-A
Grant	Grant Municipal	Yes	--
Hartington	Hartington Municipal / Bud Becker Field	Yes	--
Harvard	Harvard State	Yes	--
Hastings	Hastings Municipal	Yes	Yes
Hay Springs	Hay Springs Municipal	--	--
Hebron	Hebron Municipal	Yes	Yes
Holdrege	Brewster Field	Yes	Yes
Hyannis	Grant County	Yes	--
Imperial	Imperial Municipal	Yes	--
Kearney	Kearney Regional	Yes	Yes
Kimball	Kimball Municipal / Robert E. Arraj Field	Yes	Yes
Lexington	Jim Kelly Field	Yes	Yes
Lincoln	Lincoln	Yes	Yes
Loup City	Loup City Municipal	Yes	--
McCook	McCook Ben Nelson Regional	Yes	Yes
Minden	Pioneer Village Field	Yes	--
Nebraska City	Nebraska City Municipal	Yes	Yes
Neligh	Antelope County	Yes	--
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	Yes	Yes
North Platte	North Platte Regional / Lee Bird Field	Yes	Yes
Ogallala	Searle Field	Yes	Yes
Omaha	Eppley Airfield	Yes	Yes
Omaha	Millard	Yes	Yes
O'Neill	The O'Neill Municipal -John L. Baker Field	Yes	Yes
Ord	Evelyn Sharp Field	Yes	--
Oshkosh	Garden County / King Rhiley Field	Yes	--
Pawnee City	Pawnee City Municipal	Yes	--
Pender	Pender Municipal	Yes	--
Plattsmouth	Plattsmouth Municipal	Yes	Yes
Red Cloud	Red Cloud Municipal	Yes	--
Rushville	Modisett Field	Yes	--
Sargent	Sargent Municipal	--	--
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	Yes	Yes
Scribner	Scribner State	Yes	--
Seward	Seward Municipal	Yes	Yes
Sidney	Sidney Municipal / Lloyd W. Carr Field	Yes	Yes
South Sioux City	Martin Field	Yes	--
Superior	Superior Municipal	Yes	--
Tecumseh	Tecumseh Municipal	Yes	--
Tekamah	Tekamah Municipal	Yes	--
Theftord	Thomas County	Yes	Yes

City	Airport	100LL	Jet-A
Valentine	Miller Field	Yes	Yes
Wahoo	Wahoo Municipal	Yes	Yes
Wallace	Wallace Municipal	--	--
Wayne	Wayne Municipal / Stan Morris Field	Yes	--
York	York Municipal	Yes	Yes

Source: McFarland Johnson Analysis, 2021.

Aircraft Storage

Aircraft storage at airports consists of hangars and apron parking. Hangar types vary from airport to airport, but typically include T-hangars and conventional or “box” hangars. T-hangars are individual units constructed as multi-bay covered structures most suitable for storing small aircraft. Conventional hangars are free-standing buildings for larger twin-engine and jet aircraft. Some conventional hangars are built as a “community” hangar to store multiple aircraft.

A third option for storing aircraft is on an apron with tiedown spaces. Aircraft tiedown spaces are individual, outdoor locations where aircraft are tied down and stored. Tiedown spaces can be covered, also known as shade hangars, or uncovered. Most SASP airports have paved tiedown spaces that are used for temporary parking for a day or so as well as long-term tiedown parking.

Operator and Passenger Services

Airports offer a range of services to operators and passengers. Services offered at SASP airports throughout the State occur in various forms and capacities based on airport specific needs. The businesses and services include:

- **Terminal Building:** Terminal facilities can be provided by either the airport sponsor or an FBO. For the purposes of the SASP, an airport building is considered a terminal if it is accessible to the public and has basic amenities such as restrooms.
- **Fixed Base Operator:** FBOs provide essential services, such as aircraft fueling and flight planning, for operators and their passengers and oftentimes serve as the “face” of an airport to these users.
- **Flight Instruction:** Flight instruction refers to either a flight school that is located at an airport, or individual flight instructors that offer instruction services.
- **Airframe and Powerplant (A&P) Repairs:** Airframe repair services at airports can include both minor and major repairs by technicians certified to repair various types of aircraft structural components. Powerplant repair services at airports refer to technicians certified to perform minor and major repairs on a variety of aircraft engines.
- **Avionics Sales/Repair:** Avionics sales or repair services indicate whether radio, navigation instrument, and other electronic gear repairs are available for purchase and installation, or if repair services are offered at the airport.

- **Lavatory Service:** Lavatory service is the sanitary disposal of aircraft lavatory holding tanks.
- **Snow Removal:** Snow removal equipment may be owned and operated by the airport, or a local government agency may aid with snow removal. In some cases, the airport may hire a contractor to remove snow.
- **Ground Transportation:** Ground transportation at airports includes the availability of taxi service, public bus service, and/or intermodal connectivity with local transit lines, as well as rental cars, courtesy cars, and private car services. Courtesy cars and rental cars are common at Nebraska airports. A few airports have bus service, but none have passenger rail service.

4.2. SASP AIRPORT SERVICE AREA COVERAGE

As presented in this Chapter, the Nebraska system of public-use airports offers a wealth of robust facilities and services to people, business, and communities throughout the state. Part of the system planning process typically includes a look at the geographic reach of these airports and aviation facilities and services. To do this, a geographic analysis was conducted to identify the immediate service area of all SASP airports.

Figure 4-1 illustrates the 30-minute drive time geographic market area of all SASP airports, illustrating the reach of GA facilities and services.

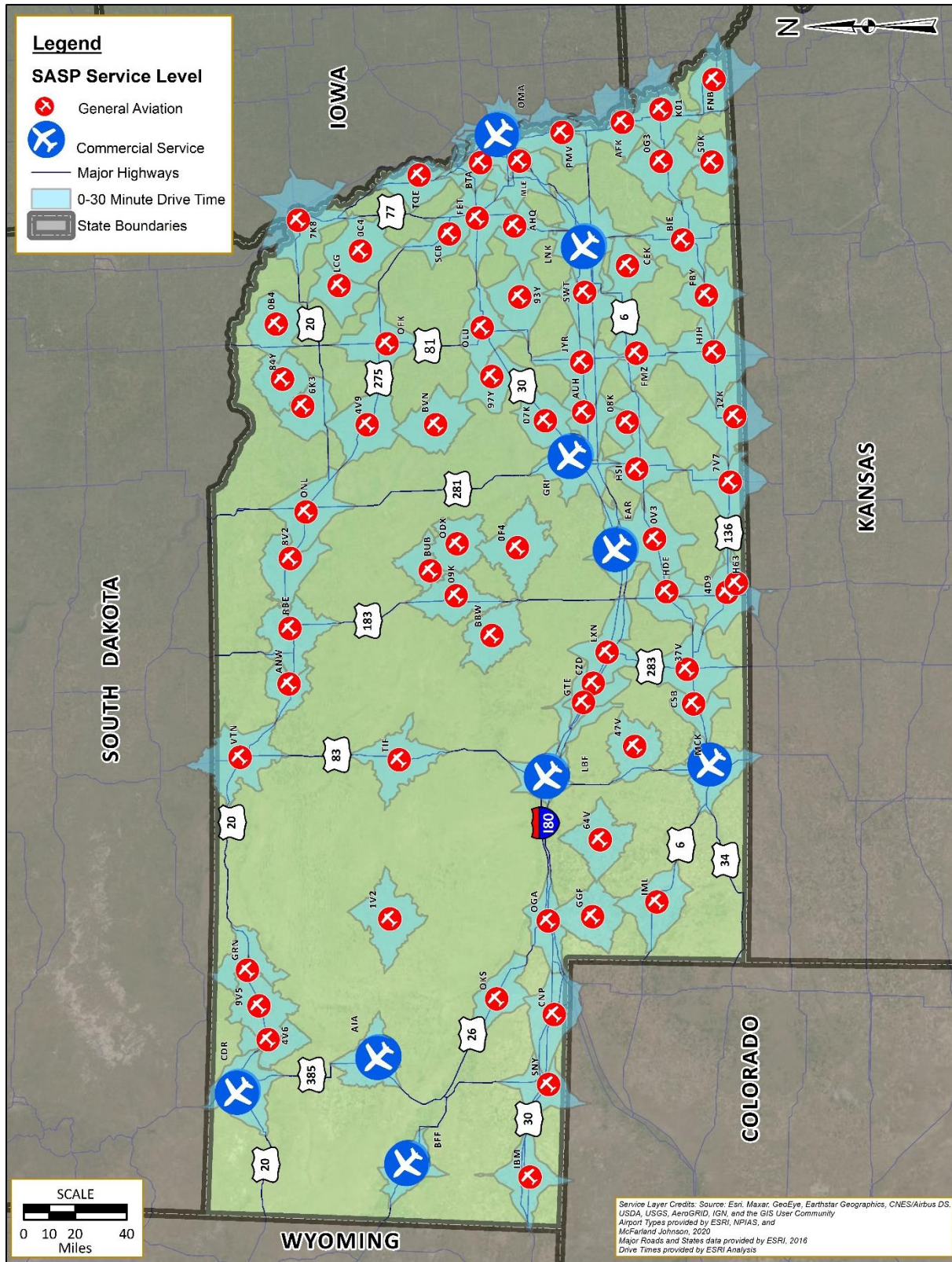
Figure 4-2 illustrates the 60-minute drive time geographic market area of commercial airports in the SASP. This illustrates the approximate market reach for scheduled commercial passenger service at the nine (9) commercial service airports.

As mentioned, one of the minimum criteria to be included in the NPIAS is that an airport must be located greater than a 30-mile radius of at least one airport already included in the NPIAS, it has become common practice in aviation planning to consider that GA airports typically service a market area of pilots, businesses, and the public located within a 30-mile radius, or roughly 30-minute drive time of the facility.

The same is true for estimating the geographic market, or service area of commercial service airports. In any given market, the “catchment” area can be at least 60-minutes and up to a 90-minute drive depending upon the type of service being offered, such as direct flights, destinations, connections, and carrier composition.

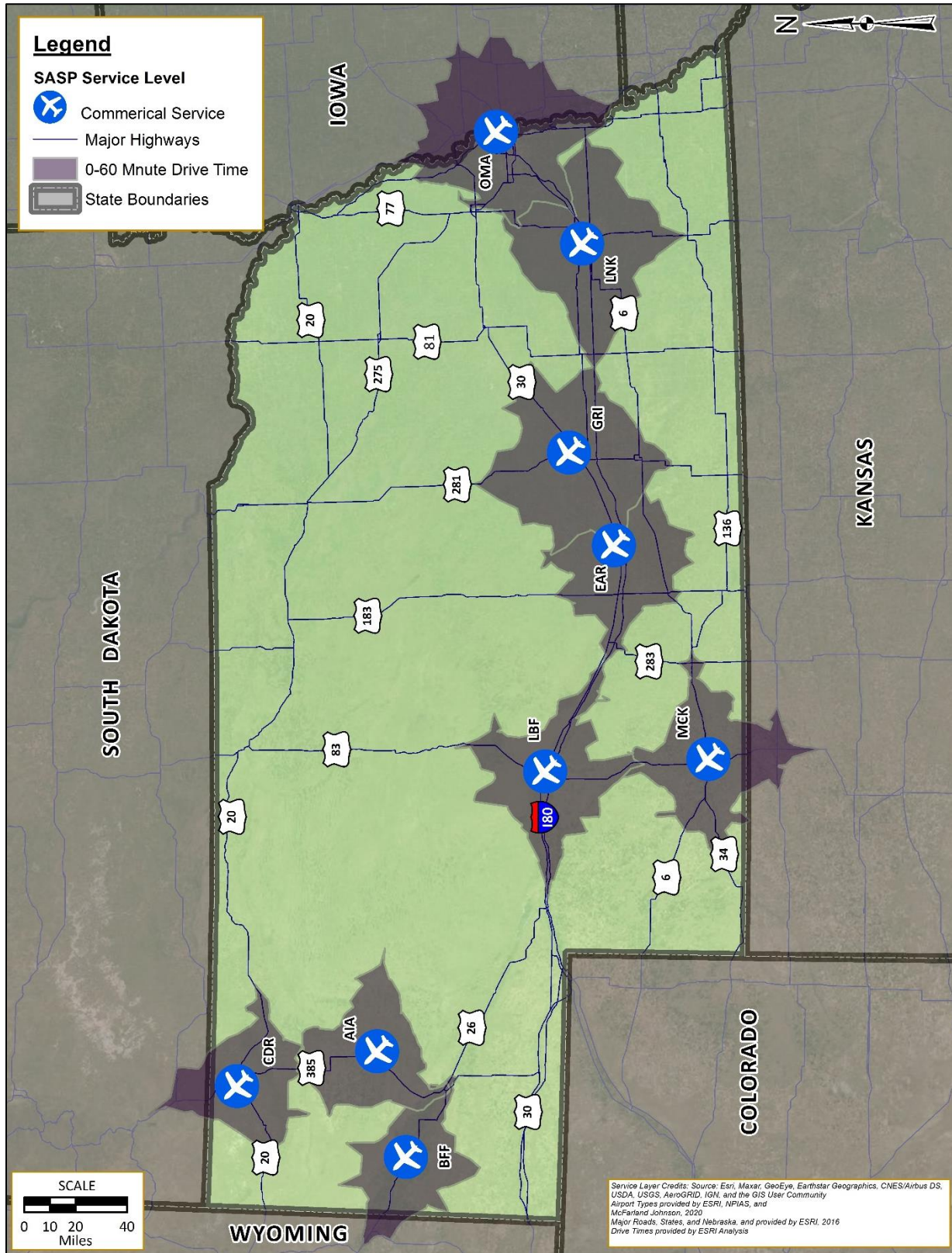
The geographic service area for GA services and scheduled commercial passenger service available from SASP airports is extensive, with most airports located in areas of the population and major employers and economic activity.

Figure 4-1: 30-Minute Drive Time Market Area



Source: McFarland Johnson, 2021.

Figure 4-2: 60-Minute Drive Time Market Area



Source: McFarland Johnson, 2021.

4.2.1. General Aviation Facilities Summary

While this report uses SASP role to identify objectives, existing inventory, and facility and service needs, it is important to recognize the roles identified on the federal level. The SASP role is what is most relevant to the State in regards to State funding priority and needs within the system, but the ASSET roles are also important to identify and understand the relationship between the SASP and ASSET roles. The ASSET roles consist of national, regional, local, basic, and unclassified. As of 2021, there were no Nebraska airports with a national ASSET role. These roles do not necessarily coincide with SASP role. The following summarizes facilities and services provided by SASP GA airports by ASSET role:

- Regional Airports:** The four Regional airports are Omaha – Millard (MLE) and Blair (BTA), which are concentrated around Metro Omaha, Kearney (EAR)¹, and Norfolk (OFK). Blair Executive is approximately 18 miles from the Central Business District of Omaha, and less than 15 miles from the West Dodge Road corridor where many of the largest corporations in the State have their base of operations within the Metro area. MLE, designated as a reliever in the NPIAS, also serves Metro Omaha and is owned by the Omaha Airport Authority. The airport is located in a suburban area of southwest Omaha near many of the business and commerce centers found in West Omaha. OFK is the most robust airport facility in northeast Nebraska and serves the Norfolk Micropolitan Statistical Area, which has a population of nearly 50,000. Norfolk Regional had commercial service subsidized by the Essential Air Service (EAS) program until May 2004, at which time federal law was enforced that precluded airports within 210 miles of a large or medium hub airport from receiving an EAS subsidy of greater than \$200². Norfolk is approximately 115 miles from OMA, a medium- hub airport, and its subsidy per passenger was greater than \$200, which eliminated it from EAS eligibility. EAR plays a critical role in South Central Nebraska, offering larger facilities than nearby airports and commercial service as part of the EAS program. EAR serves the Micropolitan Statistical Area of approximately 52,500 people and is conveniently located off I-80, Nebraska’s primary east-west corridor. EAR offers regularly scheduled commercial service and recently had the aircraft serving the airport upgauged from 9-seater turboprop aircraft to a regional jet on United Express, operated by Skywest Airlines³. This increase in service will dramatically increase the reported number of enplaned passengers, which will likely impact the GA ASSET role of the facility during this planning period.

The airports serving in a Regional role offer primary runways from 3,801 feet at MLE to 7,094 feet at Kearney. Approaches vary by airport, with BTA and MLE offering non-precision approaches and OFK and EAR offering precision approaches. All airports offer

¹ EAR was designated as a regional airport in 2021, which was the data used as the basis for this report.

² Office of Aviation Analysis, U.S. Department of Transportation, July 2010.

³ Since the completion of this chapter, United Express has since exited and Denver Air Connect, which has an interline agreement with United, has taken over air carrier service at EAR.

PAPI visual aid equipment and on-site weather reporting capabilities. The runways with precision instrument approaches also offer MALS systems that aid pilots on approach. All Regional role airports offer full fueling facilities with both 100LL AvGas and Jet-A fuel available for purchase.

- **Local Airports:** SASP Airports serving in a Local role are generally located along the I-80 and U.S. Route 30 corridor, where there is a concentration of airports serving small to mid-sized Nebraska communities. This concentration of facilities means more competition for users, and more options for those users to find facilities, services, and amenities that best match their operating needs. A large concentration of Local airports is in the Southeast region, where more of Nebraska’s population is located.

Local airports in the SASP have paved runways that range from 3,600 feet at Pender Municipal to 6,824 feet at Ainsworth Regional. Some airports only have one runway, while other airports, such as Ainsworth Regional, also have a crosswind runway and a paved helipad. All Local airports offer MIREL runway edge lighting except for Ainsworth Regional, Chadron Municipal, Crete Municipal, and Sidney Municipal / Lloyd W. Carr Field, which offer HIRL.

- **Basic Airports:** SASP airports serving in a Basic role primarily serve local users that do not require long runways or precision instrument approaches to operate. Almost all of Nebraska’s Basic role airports have paved runways, except for Pawnee City Municipal which has a 3,375-foot turf runway. Basic airports with paved runways range from Wallace Municipal with a 2,800-foot runway to Kimball Municipal/Robert E. Arraj Field with a runway length of 6,199 feet. The average runway length of Nebraska’s Basic role airports’ runways is 4,182 feet. Most Basic airports have MIRELs, except for Pawnee City, which has LIRLs, and Wallace, which has a NSTD lighting configuration.

Most Basic role airports provide non-precision instrument approach capabilities except Grant County, Pawnee City, and Wallace which only offer a visual approach. 19 of the 31 Basic role airports offer a PAPI visual aid, and ten of those 19 also offer Runway Edge Identifier Lights (REIL). Nearly all Basic airports offer fuel options, with only Wallace not providing 100LL or Jet-A fuel options. Six of the 31 Basic role airports offer both 100LL AvGas and Jet-A fuel options, with the remaining airports offering only 100LL AvGas.

- **Unclassified Airports:** Airports that are unclassified provide basic services and access to the national airspace system. The limited services provided are based on the specific needs of based aircraft and immediate users of the airport. These services can include access to the national airspace system, fuel, and storage for local pilots.

4.2.2. Commercial Service Facilities Summary

Summaries of facilities and services provided by SASP commercial service airports can be found below. All commercial service airports, except Chadron (CDR), are Part 139 certified. It should be noted that AIA, CDR, EAR, and MCK, while considered commercial service airports in the SASP, also

retain ASSET roles. Additional information can be found in *Chapter 5, Summary of Aviation Activity & Forecast*.

- ***Eppley Airfield (OMA)***: Omaha’s Eppley Airfield is Nebraska’s busiest commercial airport by a large margin, with nearly 2.5 million enplaned passengers and nearly 70,000 passenger operations in 2019. OMA is a medium-hub airport, the only one in the State. Omaha is the economic center for Nebraska and Western Iowa and has a city population of 478,203 (25 percent of the State population) and a broader metropolitan population of nearly 1,000,000. OMA is the largest provider of commercial service operations in the State. The Airport supports 22 gates as of 2021, serving numerous airlines that provide air service across the country. OMA also serves a high number of charter operations. Numerous area medical centers rely on OMA charter operations for transporting critical medical personnel and supplies to and from the Omaha area for life-saving procedures.
- ***Lincoln Airport (LNK)***: A Joint-use civil/military airport situated 60 miles southwest of Omaha, Lincoln Airport offers scheduled passenger service that allows incoming passengers access to the State capital area and communities in the southeast portion of the State. LNK has four airline gates and as of 2021, was working to add two more during a terminal modernization project. LNK also boasts the longest public use runway in the State at 12,901 feet long. Advantages offered by LNK include less congested airfield conditions and the proximity to State government, supporting businesses, agencies, and educational institutions. This economy drives demand for charter operations due to need for travel flexibility to and from the capitol.
- ***Central Nebraska Regional Airport (GRI)***: The largest city in the State outside of Omaha and Lincoln, Grand Island is home to Central Nebraska Regional Airport. The airport has both EAS and non-subsidized commercial service. Grand Island has been an EAS eligible community since passage of the Airline Deregulation Act of 1979. Commercial service from non-EAS routes at GRI is the only non-federally subsidized air service in Nebraska outside of Lincoln and Omaha, benefiting from its vast market area of Central Nebraska and Northern Kansas.
- ***Kearney Regional Airport (EAR)***: Kearney Regional Airport is located centrally in the State along the Interstate-80 corridor. The airport was originally constructed as a military airfield in the 1940’s, but was later turned over to the City of Kearney for civilian use. The airport has been served by commercial air carriers intermittently since the 1950’s, which are currently subsidized by the EAS program.
- ***Western Nebraska Regional Airport / William B. Heilig Field (BFF)***: As Nebraska’s fifth busiest commercial service airport, Western Nebraska Regional serves the rural communities of the Nebraska panhandle region and connects the community with scheduled air service through EAS.
- ***North Platte Regional Airport / Lee Bird Field Airport (LBF)***: North Platte Regional Airport serves an important role for communities in Southwest Nebraska and acts as the southern

gateway to the Sandhills region for those travelling on regularly scheduled commercial service subsidized by the EAS program.

- **Chadron Municipal Airport (CDR):** Serving Chadron and Panhandle communities, Chadron Municipal Airport is a nonprimary airport serving fewer than 10,000 enplaned passengers per year. The EAS program grants subsidies that allow air carrier service at the airport, for one of the primary goals of the program is to connect rural communities that would otherwise be unable to attract or retain service due to financial sustainability barriers to the National Airspace System (NAS).
- **Alliance Municipal Airport (AIA):** Alliance Municipal Airport was another airport constructed during World War II by the United States Army Air Forces. The Airport was turned over for civilian use in the 1950's. Alliance augments service at Chadron and offers additional communities in the Sandhills access to the National Air Service via EAS.
- **McCook Ben Nelson Regional Airport (MCK):** McCook Ben Nelson Regional Airport offers residents of southwest Nebraska access to the National Airspace System through EAS. MCK is classified as a GA airport in the NPIAS due to the fact that the Airport's number of enplaned passengers is below 2,500. Many airports still retain GA ASSET roles in the NPIAS while offering commercial service, and service classifications can vary between GA and commercial service.

4.3. AIRPORT MANAGER SURVEYS

As described in [Chapter 2, Aviation System Overview](#), a survey was administered to managers at the 79 SASP airports to collect information and perspectives pertaining in the following areas:

- Critical Use Function
- Top Issues and Needs
- Key Based and Itinerant User Types
- Budgets, Fuel Sales, Project Funding, and Investment
- Needs for Service from the Division of Aeronautics

Sixty-five (65) airport managers responded to the survey, for a response rate of about 82 percent.

Survey data is included in [Appendix B, Industry Engagement Summary](#), and responses are on file with the Division of Aeronautics.

This section provides a snapshot of findings collected from surveys of airport managers.

4.3.1. Critical Use Function

Nebraska's system of public use airports is a critical component of the state's transportation system, providing integrated and intermodal connectivity that generates substantial contributions to the state and local economies. People, business, and governments rely on SASP airports and air travel for a wide range of activities, from personal recreation and business trips to a myriad of diverse functions serving the local public needs such as emergency or medical response, law enforcement, disaster relief, search and rescue, and access to remote locations.

Chapter 2, Aviation System Overview describes a framework for the SASP that builds on the roles defined in the ASSET to recognize the unique functions that SASP airports perform to serve the needs of Nebraskans. A key component of the SASP framework is identifying primary roles or functions of SASP airports, and the survey produced a first-hand account from airport managers as to which primary roles their airports serve.

Table 4-4 summarizes the key roles or functions of SASP airports that were identified through survey responses completed by airport managers systemwide. The count of airports sums to 69 airports because several airports that did not respond have clear primary functions, including:

- **Scheduled Passenger Service:** Omaha – Eppley Airfield, Lincoln, and Kearney Regional
- **Based & Itinerant Business Oriented:** Omaha – Millard

Table 4-4: Airport Manger Survey Results – Airport Functional Roles

Primary Role	Respondent Airports	
	Count	Percentage
Community All-Purpose ¹	24	35%
Agricultural Spraying & Agricultural Business Support	24	35%
Based & Itinerant Business Oriented ²	8	11%
Scheduled Passenger Service ³	9	11%
Critical Community Access for Remote Locations	5	7%

Sources: *Airport Manager Survey Analysis and McFarland Johnson, Inc., 2021.*

¹ Community All-Purpose is a combination of 20 responses that identified recreational activity as their primary role, along with 4 responses that identified multiple primary roles.

² Based & Itinerant Business Oriented is the combination of respondents with a predominance of itinerant and based business aviation activity.

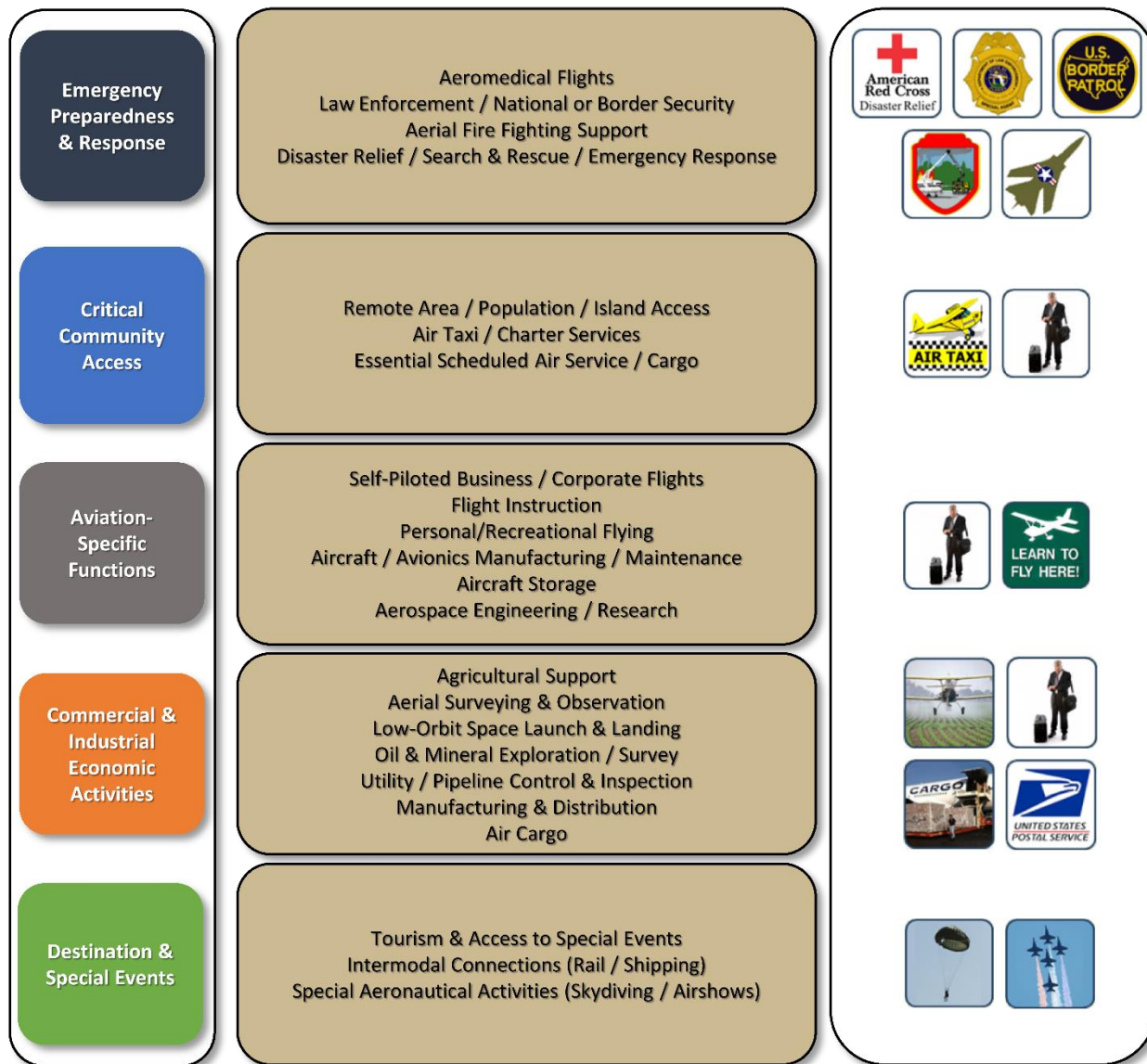
³ While only some of the commercial service airports responded to the survey, it is known that 9 airports currently provide commercial service and therefore, 9 are included in the count. McCook Ben Nelson Regional is counted as both community all-purpose as well as scheduled passenger service.

As shown in **Table 4-4**:

- 35 percent of SASP airports were identified by their managers as having a role or function that serves primarily multiple community needs.
- 35 percent of SASP airports were identified as primarily serving agricultural purposes.
- 11 percent of SASP airports were identified as serving in business oriented roles.
- 11 percent of SASP airports were identified as providing scheduled passenger service. McCook Ben Nelson Regional selected all roles and is counted in the community all-purpose and scheduled passenger service categories in **Table 4-4**.
- Seven percent of SASP airports identified critical community access for remote locations as their primary function.

The FAA recognizes the diverse and integral contributions that GA airports make to local communities and economies as illustrated in **Figure 4-3**, from the ASSET study.

Figure 4-3: Airport Functions Serving the Public Interest



Source: *General Aviation Airports: A National Asset*, FAA, 2012.

4.3.2. Top Issues and Needs

Airport managers were asked to list their top three facility or service needs and top three issues that are most challenging in maintaining their airport. In terms of facilities and service needs, the question sought to identify facilities or services not available that represent a critical gap in meeting their primary role, or to serve based businesses. Regarding the most challenging issues each airport manager faces, the question identified that issues could be internal (i.e. sponsor funding, staffing, expenses, maintenance, etc.) or external (i.e., things difficult to foresee or affect)

Table 4-5 summarizes the top facility and service needs at SASP airports.

Table 4-5: Top SASP Airports’ Needs and Issues

Top Facility and Service Needs		Top Management and Operational Issues	
Needs	# Airports	Issues	# Airports
New Hangars (T-hangars, box, maintenance), Renovations, Expansions	41	Funding for Maintenance & Expansion (Primarily Sponsor)	51
On-Airport Aeronautical Services (FBO, Maintenance, Flight Instruction, Charter Service)	19	Airport Maintenance (Pavement, Hangars, etc.)	28
Primary & Secondary Pavements, Extensions & Maintenance	17	Staffing, Volunteer, Board Positions	22
Fuel System Replacements/ Expansions/Upgrades, Card Readers, Jet-A	15		
Terminal Improvements & Landside Pavements/Access	14		

Sources: Airport Manager Survey Analysis and McFarland Johnson Analysis, 2021.

The answers provided to identify SASP airports’ issues and needs overlapped in a number of areas. Many areas are need were linked to airport issues i.e. the need for funding sources affects maintenance of existing pavement and hangar facilities, opportunities to expand existing facilities or construct new, and hire staff.

4.3.3. Key Based and Itinerant User Types

Similar to identifying top issues and needs, airport managers were asked to list business types of their key based tenants and transient operators in terms of frequency of use. The range of based and transient users at SASP airports is wide, and includes business types common at GA airports, with a significant volume attributable to the agricultural industry. Table 4-6 summarizes the key based and transient users at SASP airports.

Table 4-6: Key SASP Airports’ Based and Transient User Types

Key Based Tenant User Types		Key Transient User Types	
Types	# Airports	Types	# Airports
Agricultural	46	Agricultural Industry	37
Miscellaneous Private Business	44	Medical Operators	31
Cargo, Flight Instruction, Corporate/Private/GA	36	Cargo, Charter, GA	23
Medical Operators	4	Miscellaneous Private Business	21
		Power and Energy Industry	11

Sources: Airport Manager Survey Analysis and McFarland Johnson Analysis, 2021.

Agricultural spraying and aerial applications are a dominant user within the State of Nebraska. Airports in nearly every region identified agriculture as a significant role of their airport.

Many airports identified large industries and businesses that use their airports. Typically, these operational users are operating larger aircraft and have higher facility demands. Businesses and industries that are most prevalent throughout the State include agriculture, medical, and industrial. Agricultural businesses, which exclude spraying and aerial applications, are connected to livestock operations, packing plants, and other agriculture management practices. Medical businesses include medevac as well as medical charters for doctors accessing remote communities. Industrial businesses refer to construction, natural resources, and freight operations, among others.

4.3.4. Budgets, Fuel Sales, Project Funding, and Investment

In the airport manager surveys, four data points were used to gain insights into fiscal position of SASP airports. These included questions regarding the annual budgets, fuel sales, project funding, and private funding. The primary findings include:

- **Budgets:** Budget questions addressed the trends of expenses and revenues, supplementation of airport budgets, and sources of budget supplements.
 - 46 percent of the airports responding to the survey reported that expenses remain stable while 51 percent of airports report that expenses are trending upward and only one airport (1.5 percent) reported that expenses are trending downward. One airport who responded to a portion of the survey (1.5 percent) did not respond to this question.
 - 75 percent of the airports responding to the survey reported that revenues remain stable while only 16 percent of airports reported that revenues are trending upward and only four airports (six percent) reported that revenues are trending downward. Two airports who responded to a portion of the survey (3 percent) did not respond to this question.
 - 75 percent of the airports responding to the survey received budget supplements of which 54 percent received supplements through property taxes and 26 percent received supplements through the local general fund. 22 percent of airports responding did not receive budget supplements. Two airports who responded to a portion of the survey (3 percent) did not respond to this question.
- **Fuel Sales:** Airports were asked to report the gallons of fuel, both 100LL Avgas and Jet-A, sold as well as the revenues collected from these sales. Due to the fluctuation of fuel prices, gallons were used to most accurately depict the impact of fuel sales on each airport.
 - 11 percent of the airports responding to the survey sell at least 25,000 gallons of 100LL Avgas fuel, 20 percent sell at least 10,000 gallons but less than 25,000 gallons, and 46 percent sell fewer than 10,000 gallons of 100LL Avgas fuel. 23 percent of responding airports either did not respond to the question, do not sell 100LL Avgas, or provide 100LL Avgas through another vendor and are unable to track consumption.

- Nine percent of the airports responding to the survey sell at least 50,000 gallons of Jet-A fuel, 11 percent sell at least 25,000 gallons of Jet-A fuel, but less than 50,000 gallons, and 12 percent sell fewer than 25,000 gallons of Jet-A fuel. 68 percent of responding airports either did not respond to the question or do not sell Jet-A fuel.
- **Project Funding:** Project funding looked at the ability of airports to receive FAA funding for projects and the airports' local match contributions. The source of the local match was reported.
 - 74 percent of airports responding to the survey received the FAA match for projects while 22 percent did not. The 22 percent of airports that did not receive the FAA match includes five Non-NPIAS airports (6.5 percent) that are not eligible for federal funding. Four percent of responding airports did not answer the question.
 - 12.5 percent of responding airports put aside annual funds for the local match as well as utilized bonds. 46 percent of airports responding to the survey only selected that they set aside annual funds for the local match of eligible projects while 12.5 percent only selected that they used bonds to meet the fund the local match. 29 percent of responding airports did not respond to this question on the survey.
- **Investment:** Private investment into airports is used to fund projects that do not necessarily meet FAA funding criteria. These funding opportunities include hangars, terminal projects, FBOs, maintenance operations, and flight schools. The survey looked at both what projects airports have previously used private funding for as well as what projects they plan to use private funding for.
 - The most common use of private funding was for hangars. 34 percent of airports responding to the survey have used private funding in the last five years to fund hangars while 35 percent plan to use private funds in the upcoming years on hangars. The remaining airports did not identify past use or future plans to use private funding for hangars.
 - The next most common previous use of private funds was for maintenance operations. This switches over to terminal projects for the planned use of private funds in the upcoming years.

4.3.5. Needs for Service from the Division of Aeronautics

The airport manager survey concluded with a question that asked respondents to rank the importance of a number of areas of need. **Table 4-7** summarizes airport managers' rankings.

Table 4-7: Airport Manager Survey Results – Airports’ Areas of Need from NDOT

Area of Need	Mode Score	Airport Manager Rankings			Response Rate
		#1	Top 3	Bottom 3	
Training & Education for Airport Managers	4	9	21	6	36%
Staffing Maintenance Positions	1	10	24	14	34%
Marketing/Promotions & Community Education	2	9	35	6	31%
Coordination with System Airports	8	5	7	25	39%
Revenue Generation & Partner Development for Local Match	1	27	40	3	31%
Assistance with State Zoning Enforcement	6	5	21	11	36%
Assistance with DBE Participation	8	5	10	25	36%
Assistance with Minimum Standards, Rules/Regulations, Rates & Charges, Sample Leases	3	10	25	7	33%

Sources: Airport Manager Survey Analysis and McFarland Johnson Analysis, 2021.

As indicated in the response rate column of **Table 4-7**, not all respondents answered this question; 30-39 percent of respondents provided rankings for the nine areas of need.

Local match funding, staffing maintenance positions, and assistance with minimum standards, rules/regulations, rates and charges, and sample leases stand out as the most important areas of need for airport managers. Close behind are marketing/promotions and community education, training and education for airport managers, and assistance with State zoning enforcement.

Additional findings include:

- Revenue Generation & Partner Development for Local Match
 - 27 airport managers ranked #1
 - 40 airport managers ranked within top 3
- Staffing Maintenance Positions and Assistance with Minimum Standards, Rules/Regulations, Rates & Charges, Sample Leases
 - 10 airport managers each ranked #1

4.4. SUMMARY

The data and information presented in this chapter and in the appendices represent the foundational data and information used as a basis for the SASP. The next chapter, *Chapter 5, Summary of Aviation Activity & Forecasts* will present a forecast of future activity levels that might be anticipated for Nebraska SASP airports over the next 20 years.



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DEPARTMENT OF TRANSPORTATION

CHAPTER 5 SUMMARY OF AVIATION ACTIVITY & FORECAST

5. Summary of Aviation Activity & Forecast

This chapter examines and projects several components of Nebraska’s aviation activity for the near-term (2026), mid-term (2031), and long-term (2041) time frames. Forecasts developed for this Nebraska State Aviation System Plan (SASP) provide insights to guide analysis of future system needs.

The areas forecast for this system plan update include aircraft operations, based aircraft, and enplanements where applicable. While the focus for commercial service airports may often be on passenger enplanements, most of Nebraska’s airports are general aviation (GA) facilities and as such, the focus of this chapter is on aircraft operations and based aircraft and the demand rationale for each. One key area of analysis for the forecast involved quantifying certain segments of operations that may have more of an impact on airport facility needs. Projections of aviation demand developed for the system airports are documented in the following sections:

- Forecasting in a Post-COVID-19 Environment
- Forecast Approach & Methodology
- Forecast of Aviation Activity
- Commercial Aviation Activity & Enplanements

The forecasts presented in the following sections are for the purpose of informing the SASP and to serve the Division of Aeronautics’ system-wide planning efforts. Forecasts for each airport are not intended to represent the upper limit of activity or the long-term prospects for growth or opportunity at any one SASP airport. This SASP encourages airport sponsors to revisit and update forecasts for their facilities via an update to their airport master plans or airport layout plans (ALP).

5.1. FORECASTING IN A POST-COVID-19 ENVIRONMENT

At the time this forecast was developed (fall 2021), there was still a great deal of uncertainty and volatility in demand due to the impacts of the global COVID-19/Coronavirus pandemic. The initial sharp reduction in activity and travel bans impacted both commercial and GA segments of the market with commercial aviation experiencing the most severe operational and financial consequences. Short-term impacts have had a more noticeable effect on commercial passenger travel than on GA travel, and major air cargo carrier have had to shift from airline aircraft (belly freight) to contracted charter aircraft for support. Therefore, it is prudent to consider a conservative outlook while forecasting aviation activity. However, there are still areas and markets within the State that are strengths and are identified in this report as drivers of aviation growth.

The Federal Aviation Administration (FAA) Aerospace Forecast 2021-2041 predicts that the increased activity in the aviation sector due to lifted travel restrictions will drive growth in the near-term. This increase is slated to continue through 2026, and once the industry reaches pre-pandemic levels, continued economic growth, elevated air travel demand, and increases in the business aviation fleet will drive growth during the remainder of the forecast period. Therefore,

the forecast developed for this SASP anticipates that a return to pre-COVID-19 levels of aviation activity is reasonable.

5.2. FORECAST APPROACH & METHODOLOGY

In the system planning process, activity is most often measured in terms of aircraft operations and based aircraft. One aircraft operation is defined as either a takeoff or a landing. A based aircraft is one that is airworthy, operational, and “based” or stored at a specific airport for a majority of the year (i.e., an owner has an agreement with the airport to store their aircraft and that aircraft is stored at the airport more than six months annually). This section describes the approach and methodology developed to forecast operations and based aircraft activity at SASP airports.

5.2.1. Forecast of Operations Methodology

The first step in forecasting operations is finding the current number of operations, or the number of operations in the base year. In Nebraska, there are three airports with Airport Traffic Control Towers (ATCT). These airports, OMA, LNK, and Central Nebraska Regional (GRI), report into the Air Traffic Activity Database System (ATADS), which provides accurate operations counts. At the remaining SASP airports, operations are estimated by other sources, like airport managers or staff. Some of those airports, however, are staffed by part-time managers or volunteers, or are primarily unattended. Accordingly, the reliability of the operations estimates at those airports is uncertain.

For these non-towered GA airports, aircraft operations are reported by airport managers or other airport staff during updates to their FAA Form 5010 Airport Master Records. Data from the 5010 forms, counts from the FAA Traffic Flow Management System Counts (TFMSC) (flight plans), and broader socioeconomic data are captured when the FAA develops its Terminal Area Forecast (TAF). The TAF forecasts future aircraft operations, enplanements, and based aircraft. These sources are useful for broad, multi-state or national planning efforts. For non-towered airports, historical operational counts were not heavily considered as they have the potential to be highly inflated with inaccurate results that are not realistic or useful.

More information about the sources used to help create forecasts for the SASP are described below:

- **Federal Aviation Administration Aerospace Forecast 2021-2041:** The FAA Aerospace Forecast is published annually and includes a review of the industry’s previous year performance (2020) as well as forecasts and outlooks for the 20-year planning period between 2021 and 2041. After analyzing historical data and industry trends, the FAA develops operations growth rates for commercial service airports as well as operations and based aircraft metrics for GA facilities. Though this is a national forecast, statewide itinerant GA and commercial trends are generally consistent with the national trends for these elements.
- **Traffic Flow Management System Counts (TFMSC):** The FAA TFMSC source data is created when pilots file flight plans and/or when flights are captured by the FAA’s enroute computers and includes data for flights that operate under instrument flight rules (IFR). The data includes information on traffic counts by airport or by city pair for various

groupings such as by aircraft type or by hour of the day. Most visual flight rules (VFR) and some non-enroute IFR traffic is excluded, which means that the data is not a source for total operations volume for any airport. However, the data that is not included is typically flights by small, airplane design group (ADG) I aircraft that do not place large demands on SASP airports in terms of approach capability or critical airfield pavement or facilities. This data source is particularly helpful in quantifying the number and type of more complex operations (typically B-II and larger) that have a meaningful impact on the facility needs at an airport.

- **Terminal Area Forecast (TAF):** The FAA TAF is the official forecast of aviation activity published for all NPIAS airports in the United States. This includes both towered and non-towered airports and captures operations, based aircraft, and enplanements. This data source is used as a comparison to verify the reasonableness of an aviation plan forecast to that produced by the FAA.

When looking at broader trends regarding operations and based aircraft, the FAA Aerospace Forecast is a helpful resource in forecasting. This SASP used growth rates set forth in the FAA Aerospace Forecast to project future operations and based aircraft for SASP airports. For this SASP, 2019 was used as the baseline year to forecast all future operations and based aircraft due to 2020 being an anomaly during the COVID-19 pandemic shutdowns and enforced travel bans.

TFMSC data is available for every SASP airport. Operation data between 2010 and 2019 was compiled and analyzed to generate growth rates for each airport. Typically, the number of annual operations accounted for by B-II or higher aircraft at an individual airport can provide an insight of an airport’s activity, role, and position in the larger system aviation system. The TFMSC data was used to place SASP airports into one of three categories based on the airports’ average annual operation counts by B-II or higher aircraft (B-II, B-III, C-I, C-II, C-III, C-IV, D-I, D-II, D-III, and D-IV) during the 2010-2019 period. These categories are outlined as follows:

- **Commercial Service Airports:** The nine airports in this category offer scheduled commercial service at their facilities.
- **Complex Activity Airports:** Airports in this category include GA airports with over 100 annual average B-II or greater operations during our analysis period (2010-2019).
- **Community Activity Airports:** Airports in this category include the remaining GA airports, including Non-NPIAS airports. These facilities recorded fewer than 100 average annual operations by B-II aircraft, meaning the vast majority of operations were conducted by small aircraft with wingspans of 49 ft or less or of weights of 12,500 pounds or less or the operations conducted by B-II or larger aircraft were not captured by the TFMSC.

Using this methodology, this forecast established a baseline operations level for every SASP airport based on available TFMSC data, and it forecasted operations under the assumption that SASP airports within each category exhibit similar characteristics of scale and user base that drive activity levels. This approach also yields helpful insights into activity types that directly correlate to airport facility needs necessary to accommodate increased complex aircraft operations. The analysis validates the reasonableness of the methodology because SASP complex activity airports

generally account for a greater number of operations by operators of larger and more sophisticated aircraft and pilots that are more likely to file flight plans.

Based aircraft¹ is another important metric for evaluating an airport’s facility requirements. The number and type of aircraft based at an airport is an important indicator of the types of activity that occurs there. This is because aircraft have very specific operating requirements that impact airfield configurations.

Table 5-1 presents 2019 baseline operations and based aircraft for SASP airports grouped by the categories outlined above.

Table 5-1: 2019 Baseline Operations and Based Aircraft

City	Airport	Operations	B-II+ Operations	Based Aircraft
Commercial Service Airports				
Alliance	Alliance Municipal	9,717	1,445	49
Chadron	Chadron Municipal	7,665	114	13
Grand Island	Central Nebraska Regional	12,755	5,289	38
Kearney	Kearney Regional	21,770	3,660	26
Lincoln	Lincoln	60,661	17,488	177
Mc Cook	Mc Cook Ben Nelson Regional	16,700	420	31
North Platte	North Platte Regional / Lee Bird Field	28,300	3,964	42
Omaha	Eppley Airfield	100,139	78,744	89
Scottsbluff	Western Nebraska Regional / William B Helig Field	30,216	3,561	39
Average	-	31,991	12,743	56
Complex Activity Airports				
Ainsworth	Ainsworth Regional	4,000	105	15
Beatrice	Beatrice Municipal	12,175	598	32
Blair	Blair Executive	15,500	92	60
Broken Bow	Broken Bow Municipal/ Keith Glaze Field	10,850	114	21
Columbus	Columbus Municipal	8,000	553	43
Fremont	Fremont Municipal	22,250	575	44
Hastings	Hastings Municipal	17,000	373	23
Holdrege	Brewster Field	16,000	176	28
Lexington	Jim Kelly Field	10,640	273	23

¹ Based aircraft data is collected through the FAA’s National Based Aircraft Inventory Program. The inventory is submitted directly by the Airport to the Based Aircraft Inventory Program, which then is used to populate the 5010. Airports cannot submit this directly to the 5010. For Part 139 airports, the FAA submits the 5010 form. For all remaining airports, NDOT submits the 5010 form.

City	Airport	Operations	B-II+ Operations	Based Aircraft
Norfolk	Norfolk Regional/Karl Stefan Memorial Field	11,434	722	40
O'Neill	The O'Neill Municipal John Baker Field	7,440	156	21
Omaha	Millard	24,000	177	138
Sidney	Sidney Municipal	4,100	885	22
Valentine	Miller Field	4,900	370	31
York	York Municipal	10,475	132	20
Average	-	11,918	353	37
Community Activity & Non-NPIAS Airports				
Albion	Albion Municipal	5,100	74	14
Alma	Alma Municipal	1,950	1	13
Alma	Harlan County Lake	300	0	0
Arapahoe	Arapahoe Municipal	4,250	2	1
Aurora	Aurora Municipal/ Al Potter Field	15,950	24	19
Atkinson	Stuart-Atkinson Municipal	2,900	12	14
Bassett	Rock County	2,000	4	9
Bloomfield	Bloomfield Municipal	4,050	0	5
Burwell	Cram Field	1,800	20	10
Cambridge	Cambridge Municipal	7,000	65	14
Central City	Central City Municipal/Larry Reineke Field	5,610	6	19
Chappell	Billy G Gray Field	3,645	0	6
Cozad	Cozad Municipal	13,000	9	16
Creighton	Creighton Municipal	2,320	25	11
Crete	Crete Municipal	23,420	9	33
Curtis	Curtis Municipal	5,280	3	5
David City	David City Municipal	3,400	2	11
Fairbury	Fairbury Municipal	6,700	0	19
Fairmont	Fairmont State Airfield	1,625	4	18
Falls City	Brenner Field	4,970	66	22
Farington	Farington Field	1,976	41	11
Genoa	Genoa Municipal	350	0	3
Gordon	Gordon Municipal	1,500	47	12
Gothenburg	Gothenburg Municipal	600	0	16
Grant	Grant Municipal	14,600	97	14
Hartington	Hartington Municipal/Bud Decker Field	6,350	4	10
Harvard	Harvard State	5,000	0	11
Hay Springs	Hay Springs Municipal	400	0	3

City	Airport	Operations	B-II+ Operations	Based Aircraft
Hebron	Hebron Municipal	5,500	11	10
Hyannis	Grant County	1,825	1	5
Imperial	Imperial Municipal	9,700	48	15
Kimball	Kimball Municipal/Robert E Arraj Field	6,000	30	14
Loup City	Loup City Municipal	1,500	1	11
Minden	Pioneer Village Municipal	7,000	5	14
Nebraska City	Nebraska City Municipal	5,300	60	10
Neligh	Antelope County	12,258	0	20
Ogallala	Searle Field	4,930	43	11
Ord	Evelyn Sharp Field	7,300	30	9
Oshkosh	Garden County/King Rhiley Field	6,270	29	9
Pawnee City	Pawnee City Municipal	844	0	11
Pender	Pender Municipal	2,700	2	16
Plattsmouth	Plattsmouth Municipal	20,500	24	36
Red Cloud	Red Cloud Municipal	5,160	9	10
Rushville	Modisett	3,250	4	10
Sargent	Sargent Municipal	5,000	0	3
Scribner	Scribner State	2,550	3	8
Seward	Seward Municipal	13,000	4	43
South Sioux City	Martin Field	5,300	0	36
Superior	Superior Municipal	12,500	84	10
Tecumseh	Tecumseh Municipal	5,480	16	10
Tekamah	Tekamah Municipal	23,785	11	26
Thedford	Thomas County	1,727	77	11
Wahoo	Wahoo Municipal	16,350	5	34
Wallace	Wallace Municipal	2,675	0	12
Wayne	Wayne Municipal/Stan Morris Field	7,980	18	16
Average	-	6,226	19	14

Source: FAA Terminal Area Forecast, 2021.

To forecast growth of operations at SASP airports, the methodology applies the average growth rate for GA operations published in FAA Aerospace Forecast, Fiscal Years 2021-2041 to the baseline operations metrics for the forecast period. The published average annual growth rate for the 2021-2041 period for GA airports is 0.75 percent and 1.9 percent for commercial service airports. National trends are generally consistent with itinerant activity, which makes these growth rates prudent to consider for system-wide planning purposes.

The forecast provides levels of operations for airports in 2026, 2031, and 2041 based on published industry trends. For all categories, the forecast presents a range of +/- 20 percent for planning purposes to reflect a range of reasonableness. The low end of the range (-20 percent of 2026 forecasted operations) accounts for economic turmoil resulting from a recession, another

pandemic, changes in businesses at an airport, or other events that would cause a decrease in operations. The high end of the range (+20 percent of 2041 forecasted operations) accounts for increased operations due to special events, sharp economic growth, or other operations-increasing events at an airport. Overall, this range of reasonableness represents the expected level of activity for the forecast period. Activity at airports that is observed to fall outside of this range should be further documented and reviewed as part of an airport’s master plan or ALP update effort. Some aircraft types, particularly agriculture aerial applicators, may not be captured on the TFMSC, but may have more demands than documented critical aircraft. Unique factors for individual airports are not traditionally captured in a system level analysis, but individual efforts may be able to justify needs for more demanding aircraft.

5.3. FORECAST OF AVIATION ACTIVITY

This section presents a forecast of aviation activity that follows the methodology described.

5.3.1. Total Operations

Forecasts were developed for each SASP airport for the near-term (2026), mid-term (2031), and long-term (2041) periods. The forecasts are grouped by SASP role.

Commercial Service Airports

Table 5-2 summarizes the operations forecast for each Commercial Service airport in the SASP which includes all airports offering commercial service. Commercial Service airports in the SASP are those with facilities and services that allow year-round, all-weather use by large corporate, regional, and widebody jet aircraft for scheduled passenger service access to the National Airspace System (NAS). The column labeled “Range of Reasonableness” in the table represents the +/- 20-year range of activity anticipated for the forecast period, which may vary year to year based on demand.

Table 5-2: Commercial Service Airports Operations Forecast

City	Airport	2019	2026	2031	2041	Range of Reasonableness
Alliance	Alliance Municipal	9,717	11,085	12,179	14,702	7,774-17,642
Chadron	Chadron Municipal	7,665	8,744	9,607	11,597	6,132-13,916
Grand Island	Central Nebraska Regional	12,755	14,551	15,987	19,298	10,204-23,158
Kearney	Kearney Regional	21,770	24,836	27,287	32,937	17,416-39,525
Lincoln	Lincoln	60,661	69,204	76,033	91,779	48,529-110,134
Mc Cook	Mc Cook Ben Nelson Regional	16,700	19,052	20,932	25,267	13,360-30,320

City	Airport	2019	2026	2031	2041	Range of Reasonableness
North Platte	North Platte Regional/ Lee Bird Field	28,300	32,285	35,471	42,817	22,640-51,381
Omaha	Eppley Airfield	100,139	114,241	125,514	151,508	80,111-181,809
Scottsbluff	Western Nebraska Regional/ William B Helig Field	30,216	34,471	37,873	45,716	24,173-54,859

Sources: FAA Terminal Area Forecast, 2021 and McFarland Johnson Analysis, 2021.

The forecast of total operations at Commercial Service airports indicates that OMA is likely to continue to accommodate the most traffic in terms of annual operations. Based on the 2021-2041 FAA Aerospace Forecast, the average annual growth rate (AAGR) for operations at towered airports is 1.9 percent.

Complex Activity Airports

Table 5-3 summarizes the operations forecast for each Complex Activity airport in the SASP. Complex Activity airports are the backbone of GA in the NAS. In Nebraska, these airports have elevated operational activity compared to Community Activity airports and exhibit a more diverse mix of twin-engine and turbine-powered aircraft for business needs within the state or immediate region. The column labeled “Range of Reasonableness” in the table represents the +/- 20-year range of activity anticipated for the forecast period, which may vary year to year based on demand.

Table 5-3: Complex Activity Airports Operations Forecast

City	Airport	2019	2026	2031	2041	Range of Reasonableness
Ainsworth	Ainsworth Regional	4,000	4,215	4,375	4,715	3,372-5,658
Beatrice	Beatrice Municipal	11,000	12,829	13,317	14,350	10,263-17,220
Blair	Blair Executive	15,500	16,332	16,954	18,269	13,066-21,923
Broken Bow	Broken Bow Municipal/Keith Glaze Field	10,850	11,433	11,868	12,789	9,146-15,346
Columbus	Columbus Municipal	8,000	8,430	8,750	9,429	6,744-11,315

City	Airport	2019	2026	2031	2041	Range of Reasonableness
Fremont	Fremont Municipal	22,250	23,445	24,337	26,225	18,756-31,470
Hastings	Hastings Municipal	17,000	17,913	18,595	20,037	14,330-24,045
Holdrege	Brewster Field	16,000	16,859	17,501	18,859	13,487-22,630
Lexington	Jim Kelly Field	10,640	11,211	11,638	12,541	8,969-15,049
Norfolk	Norfolk Regional/Karl Stefan Memorial Field	11,434	12,048	12,507	13,477	9,638-16,172
O'Neill	The O'Neill Municipal John Baker Field	7,440	7,839	8,138	8,769	6,272-10,523
Omaha	Millard	24,000	25,289	26,251	28,288	20,231-33,946
Sidney	Sidney Municipal	4,100	4,320	4,485	4,833	3,456-5,799
Valentine	Miller Field	4,900	5,163	5,360	5,775	4,130-6,931
York	York Municipal	10,475	11,037	11,458	12,347	8,830-14,816

Sources: FAA Terminal Area Forecast, 2021 and McFarland Johnson Analysis, 2021.

Community Activity & Non-NPIAS Airports

Table 5-4 summarizes total operations forecasts for each Community Activity and Non-NPIAS airport in the SASP. Community Activity and Non-NPIAS airports are typically limited in terms of airside and landside facilities and services, and often fulfill a singular role in providing a critical link for host communities to the regional and NAS. These airports accommodate less than 100 recorded annual B-II or larger operations, meaning the fleet mix is nearly exclusively single-engine and light twin engine aircraft (12,500 pounds or less). This lower level of activity is often a function of the remote nature of these facilities. These airports represent a vital lifeline to the community and surrounding areas they serve. Higher operational levels may be indicative of flight training and/or agricultural operations. The column labeled “Baseline” shows the 2019 operations total. The column labeled “Range of Reasonableness” in the table represents the +/- 20 percent range of activity anticipated for the forecast period, which may vary year to year based on demand. While a 20-year range was forecast, a specific year by year forecast was not done for Community Activity and Non-NPIAS airports.

Table 5-4: Community Activity & Non-NPIAS Airports Operations Forecast

City	Airport	Baseline (2019)	Range of Reasonableness
Albion	Albion Municipal	5,100	4,080-6,120
Alma	Alma Municipal	1,950	1,560-2,340
Alma	Harlan County Lake	300	240-360
Arapahoe	Arapahoe Municipal	4,250	3,400-5,100

City	Airport	Baseline (2019)	Range of Reasonableness
Atkinson	Stuart-Atkinson Municipal	2,900	2,320-3,480
Auburn	Farington Field	1,976	1,581-2,371
Aurora	Aurora Municipal/ Al Potter Field	15,950	13,445-22,560
Bassett	Rock County	2,000	1,600-2,400
Bloomfield	Bloomfield Municipal	4,050	3,240-4,860
Burwell	Cram Field	1,800	1,440-2,160
Cambridge	Cambridge Municipal	7,000	5,600-8,400
Central City	Central City Municipal/Larry Reineke Field	5,610	4,488-6,732
Chappell	Billy G Gray Field	3,645	2,916-4,374
Cozad	Cozad Municipal	13,000	10,400-15,600
Creighton	Creighton Municipal	2,320	1,856-2,784
Crete	Crete Municipal	23,420	18,736-28,104
Curtis	Curtis Municipal	5,280	4,224-6,336
David City	David City Municipal	3,400	2,720-4,080
Fairbury	Fairbury Municipal	6,700	5,360-8,040
Fairmont	Fairmont State Airfield	1,625	1,300-1,950
Falls City	Brenner Field	4,970	3,976-5,964
Genoa	Genoa Municipal	350	280-420
Gordon	Gordon Municipal	1,500	1,200-1,800
Gothenburg	Gothenburg Municipal	600	480-720
Grant	Grant Municipal	14,600	11,680-17,520
Hartington	Hartington Municipal/Bud Decker Field	6,350	5,080-7,620
Harvard	Harvard State	5,000	4,000-6,000
Hay Springs	Hay Springs Municipal	400	320-480
Hebron	Hebron Municipal	5,500	4,400-6,600
Hyannis	Grant County	1,825	1,460-2,190
Imperial	Imperial Municipal	9,700	7,760-11,640
Kimball	Kimball Municipal/Robert E Arraj Field	6,000	4,800-7,200
Loup City	Loup City Municipal	1,500	1,200-1,800
Minden	Pioneer Village Municipal	7,000	5,600-8,400
Nebraska City	Nebraska City Municipal	5,300	4,468-7,496
Neligh	Antelope County	12,258	9,806-14,710
Ogallala	Searle Field	4,930	3,944-5,916
Ord	Evelyn Sharp Field	7,300	5,840-8,760

City	Airport	Baseline (2019)	Range of Reasonableness
Oshkosh	Garden County/King Rhiley Field	6,270	5,016-7,524
Pawnee City	Pawnee City Municipal	844	675-1,013
Pender	Pender Municipal	2,700	2,160-3,240
Plattsmouth	Plattsmouth Municipal	20,500	16,400-24,600
Red Cloud	Red Cloud Municipal	5,160	4,128-6,192
Rushville	Modisett	3,250	2,600-3,900
Sargent	Sargent Municipal	5,000	4,000-6,000
Scribner	Scribner State	2,550	2,040-3,060
Seward	Seward Municipal	13,000	10,400-15,600
South Sioux City	Martin Field	5,300	4,240-6,360
Superior	Superior Municipal	12,500	10,000-15,000
Tecumseh	Tecumseh Municipal	5,480	4,384-6,576
Tekamah	Tekamah Municipal	23,785	19,028-28,542
Thedford	Thomas County	1,727	1,382-2,072
Wahoo	Wahoo Municipal	16,350	13,080-19,620
Wallace	Wallace Municipal	2,675	2,140-3,210
Wayne	Wayne Municipal/Stan Morris Field	7,980	6,384-9,576

Sources: FAA Terminal Area Forecast, 2021 and McFarland Johnson Analysis, 2021.

The forecast of total operations at Community Activity and Non-NPIAS airports in the SASP varies greatly due to the size and demand at these facilities. Activity at these airports that is observed to be outside of this range should be further documented and reviewed as part of an airport’s master plan or ALP update effort.

5.3.2. Complex Operations

Beyond forecasts of annual operations, this SASP further analyzes data available from the FAA’s TFMSC database. As mentioned previously, TFMSC data provides insights into use by larger aircraft operators and pilots that file flight plans. Data was collected for the 2010-2019 period and indicates where changes are occurring at SASP airports in terms of the types of aircraft operating. The analysis focuses on operations by ADG II aircraft or larger, which generally includes a variety of twin-engine aircraft powered by either turboprops or jet engines. These will be referred to as complex aircraft operations. These types of operations at SASP airports represent activities that are typically more demanding on airport facilities and require additional services. Only airports with an annual average of 100 or greater B-II operations were considered for this analysis, which equates to at least two operations per week.

This review of operational changes and trends at SASP airports is presented by category in the following sections.

Commercial Service Airports: Table 5-5 summarizes average annual operations by aircraft in ADG-II or larger at SASP airports and the compound annual growth rates (CAGR) of these operations for the 2010-2019 period.

Table 5-5: Change in Complex Operations – Commercial Service Airports – 2010 - 2019

Airport City	B-II			C/D I/II/III+			Total Complex		
	2010	2019	CAGR	2010	2019	CAGR	2010	2019	CAGR
Alliance	2,313	1,413	-5.33%	53	32	-5.45%	2,366	1,445	-5.3%
Chadron	2,482	102	-29.86%	22	12	-6.51%	2,504	114	-29.1%
Grand Island	4,060	2,572	-4.95%	808	2,717	14.42%	4,868	5,289	0.9%
Kearney	3,266	2,151	-4.53%	124	1,509	32.00%	3,390	3,660	0.9%
Lincoln	4,962	6,179	2.47%	10,959	11,309	0.35%	15,921	17,488	1.1%
McCook	2,072	380	-17.18%	66	40	-5.41%	2,137	420	-16.5%
North Platte	5,071	2,373	-8.09%	532	1,609	13.08%	5,603	3,964	-3.8%
Omaha – Eppley	11,074	13,047	1.84%	71,697	65,697	-0.97%	82,771	78,744	-0.6%
Scottsbluff	5,118	2,010	-9.86%	414	1,551	15.81%	5,532	3,561	-4.8%
Total	40,418	30,227	-3.2%	84,675	84,476	0.0%	125,092	114,685	-1.0%

Source: FAA TFMSC, October 2021.

Complex operations at Commercial Service airports vary as shown in Table 5-5. Overall, there was a one percent CAGR decline in operations, most of which were in the B-II category. B-II operations experienced a 3.2 percent CAGR decline across all commercial service airports with only OMA and LNK showing positive growth. While some airports experienced much larger operations declines than others (Chadron (CDR) showed a nearly 30 percent decline), the overall system decline remains modest. Operations in the C and D category experienced a relatively steady CAGR during the 2010-2019 period. While the Omaha – Eppley, the largest airport in the State, showed a small decline, airports such as GRI, Kearney (EAR), North Platte (LBF), and Scottsbluff (BFF) yielded high growth rates, causing the operations of C and D aircraft to remain relatively stable.

While there was a small decline in operations, much of the decline can be attributed to aircraft up-gauging particularly for commercial operations, where larger aircraft come at the expense of frequency (i.e., growth in enplanements with a decline in operations). TFMSC data shows a general decline of operations at most airports except LNK, EAR, and GRI. Though OMA shows an overall decline of 0.6 percent, the forecast developed, based on the FAA Aerospace Forecast, yields a steady growth rate of 1.9 percent throughout the 2021-2041 forecast period to reflect standard industry growth.

Complex Activity Airports: Table 5-6 summarizes average annual operations by aircraft in ADG II or larger at SASP Complex Activity airports and the CAGRs for operations during the 2010-2019 period.

Table 5-6: Change in Complex Operations – Complex Activity Airports – 2010 - 2019

Airport City	B-II			C/D I/II/III/IV			Total Complex		
	2010	2019	CAGR	2010	2019	CAGR	2010	2019	CAGR
Ainsworth	98	88	-1.19%	34	17	-7.41%	132	105	-2.5%
Beatrice	29	586	39.65%	25	12	-7.83%	54	598	30.6%
Blair	28	88	13.57%	2	4	8.01%	30	92	13.3%
Broken Bow	129	114	-1.4%	1	0	-100.0	1330	114	-1.4%
Columbus	503	510	0.15%	51	43	-1.88%	554	553	-0.02%
Fremont	116	505	17.76%	24	70	12.63%	140	575	17.0%
Holdrege	22	372	36.92%	0	1	N/A	22	373	37.0%
Hastings	115	166	4.16%	10	10	0.00%	125	176	3.9%
Lexington	38	263	23.98%	0	10	22.28%	38	273	24.5%
Norfolk	623	687	1.09%	45	35	-2.75%	668	722	0.9%
O'Neill	110	150	3.51%	4	6	4.61%	114	156	3.6%
Omaha – Millard	388	177	-8.35%	6	0	-100.00%	394	177	-8.5%
Sidney	789	843	0.74%	171	42	-14.44%	960	885	-0.8%
Valentine	267	348	2.99%	21	22	0.52%	288	370	2.8%
York	78	122	5.1%	25	10	-9.7%	103	132	2.8%
Total	3,333	5,019	4.7%	419	282	-4.3%	3,752	5,301	3.9%

Source: FAA TFMSC, October 2021.

Complex operations at Complex Activity airports also vary as shown in **0**. Overall, there was a 3.9 percent CAGR growth in operations, all of which occurred in the B-II category. B-II aircraft operations grew by a CAGR of 4.7 percent system wide while C and D category operations showed a 4.3 percent CAGR decline. While B-II operations grew, some airports showed large growth while others showed a decline. Beatrice and Holdrege showed the highest levels of growth with 39.7 and 36.9 percent CAGR, respectively. However, airports such as Ainsworth and Omaha – Millard showed declines of 2.5 and 8.5 percent CAGR, respectively. Overall, a CAGR for all complex operations of 3.9 percent exhibits moderate growth in this category compared to that of Commercial Service airports and indicates that airports with a mix of complex aircraft will continue to grow at a steady pace.

For future planning purposes regarding facility and operational requirements, this forecast applies an appropriate growth rate of two percent, four percent, or six percent to each airport’s 2019 complex operation total for Complex Activity based on its performance during the 2010-2019 period. An airport’s performance here is characterized by the CAGR. Therefore, a two percent AAGR was applied to airports with a two percent or less CAGR. A four percent AAGR was applied to airports with moderate growth of two to four percent (Hastings and Valentine) during the period and a six percent AAGR to airports with a CAGR over four percent. **Table 5-7** shows the airports’ forecasted levels of operational activity performed by complex aircraft.

Table 5-7: Complex Activity Forecast of Complex Operations

Complex Operations	2019	Near-Term (2026)	Mid-Term (2031)	Long-Term (2041)
0 - 200	Ainsworth, Blair, Broken Bow, Hastings, Omaha – Millard, O’Neill, York	Ainsworth, Blair, Broken Bow, Hastings, Omaha – Millard, O’Neill; York	Ainsworth, Blair, Broken Bow, Hastings, O’Neill, York	Ainsworth, Blair, Broken Bow, O’Neill, York
201 - 299	Lexington	-	Omaha – Millard	Hastings, Omaha – Millard
300 - 399	Holdrege, Valentine	Lexington	Lexington	Lexington
400 - 499	-	Holdrege, Valentine	Holdrege, Valentine	Holdrege, Valentine
500+	Beatrice, Columbus, Fremont, Norfolk, Sidney	Beatrice, Columbus, Fremont, Norfolk, Sidney	Beatrice, Columbus, Fremont, Norfolk, Sidney	Beatrice, Columbus, Fremont, Norfolk, Sidney

Source: McFarland Johnson Analysis, October 2021.

As shown above, during the forecast period, complex activity is expected to increase, though no new airports are expected to cross the 500+ annual operations threshold. Later chapters in this report will discuss incremental improvements and recommendations for airports as this type of activity increases. For example, Omaha – Millard, was placed in the 201-299 range for its number of complex operations in 2019 but is forecasted to reach the 300-399 range in the near-, mid-, and long-terms. **Table 5-7** may be referenced to envision what airports with complex operations will require during the forecast period.

5.3.3. Based Aircraft

As described, determining the specific aircraft volumes at SASP airports is not as critical for system planning purposes as is a broader understanding of the trends in types of aircraft in use at SASP airports. Therefore, this SASP stipulates that national trends in active aircraft will affect the use of SASP airports by both based and itinerant aircraft and relies upon insights from real usage data at SASP airports to guide further identification of needs that will affect system-wide planning and development.

Table 5-8 presents historical and forecast data published in the FAA Aerospace Forecast that indicates the following changes in active aircraft by type.

Table 5-8: FAA Aerospace Active Aircraft Fleet Trends (CAGR) – 2010-2020

Aircraft Type	2010-2020 Trend	2021-2041 Trend
Fixed Wing Piston Engine	- 1.0 %	- 0.9 %
Fixed Wing Turbine	2.0 %	1.7 %
Rotorcraft	0.1 %	1.4 %
Experimental Aircraft	- 0.1 %	1.4 %
Light Sport Aircraft	- 10.5 %	4.0 %
Total Piston Engine Aircraft	- 1.0 %	- 0.8 %
Total Turbine Aircraft	1.7 %	1.6 %

Source: FAA Aerospace Forecast, Fiscal Years 2020-2040 and 2021-2041.

As indicated, historical national trends note modest increases in turbine-powered aircraft, with the greatest area of growth being by fixed wing turbine aircraft. Looking ahead, the FAA Aerospace Forecast indicates continued growth in turbine-powered aircraft, a decrease in fixed wing piston engine aircraft, an increased rate of growth in active rotorcraft and experimental aircraft, and moderate growth in light sport aircraft.

The FAA Aerospace Forecast growth rates indicate both growth and contractions in sectors of active aircraft in the GA fleet. While this is a national projection, these trends incorporate a variety of inputs as documented in the FAA Aerospace Forecast, such as estimates of active aircraft fleet size, hours flown, and active pilots by certificate type. Data regarding new aircraft deliveries and from GA and Part 135 Activity Surveys are also included.

Insights that provide depth to these forecasted trends include:

- Single/Multi-Engine Piston:** Active piston aircraft are anticipated to decline while turbine aircraft are forecast to grow through the planning period. As more pilots and owners are finding advantages via aircraft leasing, renting, fractional ownership, and flying clubs, the number of individually owned piston engine aircraft is decreasing in many regions. While aircraft counts are declining, this will be offset by enhanced utilization from a broader user base who participate in fractional aircraft ownership or flight clubs. This results in minimizing the burden of high entry costs that come with individual aircraft ownership.
- Turbine/Jet:** Advancements in fuel efficiency and aircraft technology have resulted in a variety of newer aircraft entering the turbine and jet aircraft market and at lower costs. This has increased the number of aircraft in use by business operators, which includes owner lease or purchase, fractional ownership, and charter operators.
- Light Sport Aircraft:** Light sport aircraft encompass a variety of aircraft including two-seat ultralight-type designs and powered parachutes, as well as composite material aircraft. These aircraft can be heavier and more sophisticated than ultralight aircraft and have weight/performance restrictions that separate them from the single engine piston fleet.
- Seaplanes:** Nebraska has a seaplane community operating at Alma -Harlan County Lake. These aircraft are wheel-equipped amphibious aircraft that can land on water or hard surfaces. Seaplanes are often modified versions of fixed-wing piston-powered aircraft.

- Experimental Aircraft and Gliders:** Experimental aircraft are amateur-built aircraft that are licensed by the FAA. These aircraft are used for non-commercial recreational purposes as are gliders, which are fixed wing aircraft without engines. This is an isolated market that is neither growing nor declining but will have clusters of robust activity throughout the system on a localized basis.

The impacts of these trends at SASP airports will vary in timing and degree; however, the scale of these impacts will likely align very closely with the current user base of each airport such that:

- Commercial Service Airports** – The based aircraft mix at Commercial Service airports includes a diverse cross section of the GA fleet, including based jet aircraft. In some cases, the increased security requirements at commercial service airports drive more recreational aviation users to other nearby airports to base their aircraft, so the based aircraft totals may be lower than that of Complex Activity airports however, the diverse mix including jets will be similar.
- Complex Activity Airports** – The based aircraft mix at Complex Activity airports includes a diverse cross section of the GA fleet, including based jet aircraft. Since these airports are often busier and have more complex aircraft, the growth in light sport and experimental aircraft is not as likely at these airports and instead, regional airports are likely to see more growth in light and medium sized GA jet aircraft.
- Community Activity & Non-NPIAS Airports** – The based aircraft mix at Community Activity and Non-NPIAS airports is predominantly single engine with some multi-engine piston aircraft. Both single and multi-engine piston powered aircraft are in decline as older aircraft age out of the fleet. There is growth in light sport and experimental aircraft which could counter this decline. Many of these airports also feature aircraft that support agricultural operations, which is expected to remain stable.

A systemwide level forecast is not designed to capture significant fluctuations that may occur at an individual airport. Therefore, similar to the methodology used to forecast operations at SASP airports, a range of +/- 20 percent was applied to each airport’s based aircraft count from 2019 in order to account for growth and decline due to market or facility conditions. It should be noted that airports that fall below the ten based aircraft threshold are at risk of becoming unclassified and no longer part of the NPIAS. This typically does not apply to airports with higher levels of activity, but that lack space for based aircraft. This forecast is displayed as the range of reasonableness. **Table 5-9** presents the based aircraft forecast for the 2021-2041 forecast period.

Table 5-9: Based Aircraft Forecast

City	Airport	2019 Based Aircraft	Range of Reasonableness
Commercial Service Airports			
Alliance	Alliance Municipal	49	39-59
Chadron	Chadron Municipal	13	10-16
Grand Island	Central Nebraska Regional	38	30-46
Kearney	Kearney Regional	26	21-31
Lincoln	Lincoln	177	142-212
Mc Cook	Mc Cook Ben Nelson Regional	31	25-37
North Platte	North Platte Regional/ Lee Bird Field	42	34-50
Omaha	Eppley Airfield	89	71-107
Scottsbluff	Western Nebraska Regional/ William B Helig Field	39	31-47
Average	-	56	45-67
Complex Activity Airports			
Ainsworth	Ainsworth Regional	15	12-18
Beatrice	Beatrice Municipal	32	26-38
Blair	Blair Executive	60	48-72
Broken Bow	Broken Bow Municipal / Keith Glaze Field	20	16-24
Columbus	Columbus Municipal	43	34-52
Fremont	Fremont Municipal	44	35-53
Hastings	Hastings Municipal	23	18-28
Holdrege	Brewster Field	28	22-34
Lexington	Jim Kelly Field	23	18-28
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	40	32-48
O'Neill	The O'Neill Municipal John Baker Field	21	17-25
Omaha	Millard	138	110-166
Sidney	Sidney Municipal	22	18-26
Valentine	Miller Field	31	25-37
York	York Municipal	20	16-24
Average	-	38	30-45
Community Activity & Non-NPIAS Airports			
Albion	Albion Municipal	14	11-17
Alma	Alma Municipal	13	10-16
Alma	Harlan County Lake	0	0-0
Arapahoe	Arapahoe Municipal	1	1-1
Atkinson	Stuart-Atkinson Municipal	14	11-17
Auburn	Farington Field	11	9-13
Aurora	Aurora Municipal / Al Potter Field	19	15-23

City	Airport	2019 Based Aircraft	Range of Reasonableness
Bassett	Rock County	9	7-11
Bloomfield	Bloomfield Municipal	5	4-6
Burwell	Cram Field	10	8-12
Cambridge	Cambridge Municipal	14	11-17
Central City	Central City Municipal/Larry Reineke Field	19	15-23
Chappell	Billy G Gray Field	6	5-7
Cozad	Cozad Municipal	16	13-19
Creighton	Creighton Municipal	11	9-13
Crete	Crete Municipal	33	26-40
Curtis	Curtis Municipal	5	4-6
David City	David City Municipal	11	9-13
Fairbury	Fairbury Municipal	19	15-23
Fairmont	Fairmont State Airfield	18	14-22
Falls City	Brenner Field	22	18-26
Genoa	Genoa Municipal	3	2-4
Gordon	Gordon Municipal	12	10-14
Gothenburg	Gothenburg Municipal	16	13-19
Grant	Grant Municipal	14	11-17
Hartington	Hartington Municipal/Bud Decker Field	10	8-12
Harvard	Harvard State	11	9-13
Hay Springs	Hay Springs Municipal	3	2-4
Hebron	Hebron Municipal	10	8-12
Hyannis	Grant County	5	4-6
Imperial	Imperial Municipal	15	12-18
Kimball	Kimball Municipal/Robert E Arraj Field	14	11-17
Loup City	Loup City Municipal	11	9-13
Minden	Pioneer Village Municipal	14	11-17
Nebraska City	Nebraska City Municipal	10	8-12
Neligh	Antelope County	20	16-24
Ogallala	Searle Field	11	9-13
Ord	Evelyn Sharp Field	9	7-11
Oshkosh	Garden County/King Rhiley Field	9	7-11
Pawnee City	Pawnee City Municipal	11	9-13
Pender	Pender Municipal	16	13-19
Plattsmouth	Plattsmouth Municipal	36	29-43
Red Cloud	Red Cloud Municipal	10	8-12
Rushville	Modisett	10	8-12
Sargent	Sargent Municipal	3	2-4

City	Airport	2019 Based Aircraft	Range of Reasonableness
Scribner	Scribner State	8	6-10
Seward	Seward Municipal	43	34-52
South Sioux City	Martin Field	36	29-43
Superior	Superior Municipal	10	8-12
Tecumseh	Tecumseh Municipal	10	8-12
Tekamah	Tekamah Municipal	26	21-31
Thedford	Thomas County	11	9-13
Wahoo	Wahoo Municipal	34	27-41
Wallace	Wallace Municipal	12	10-14
Wayne	Wayne Municipal/Stan Morris Field	16	13-19
Average	-	14	11-17

Source: McFarland Johnson Analysis, 2021.

5.4. COMMERCIAL AVIATION ENPLANEMENTS

Scheduled air service is offered at nine airports in Nebraska, connecting the state’s major metropolitan areas and rural communities to the NAS. This commercial service is operated on a variety of airlines and aircraft ranging from a 9-seat Pilatus PC-12 to a 186-seat Airbus 320. The majority of Nebraska’s commercial passengers begin and end their air travel via the larger commercial service airports that offer the greatest number and variety of carriers and flights schedules, such as OMA and LNK. The seven other commercial service airports provide access to larger airports and legacy carrier networks through regional routes subsidized by the Essential Air Service (EAS) Program². EAS is a congressionally funded program that provides eligible rural communities with access to the NAS with certain stipulations on the frequency and size of aircraft serving each community. The EAS Program was established to guarantee that small communities that were served by air carriers prior to the Airline Deregulation Act (1978) maintained a minimum level of scheduled service. Since its inception, the EAS Program has evolved to incorporate more stringent performance standards that can affect eligibility and subsidy caps that make providing EAS a challenge in many markets due to low levels of enplanements. Beyond the nine airports offering scheduled commercial service, a number of charter operators offer on-demand/unscheduled service for certain users and markets from other airports in the Nebraska system.

5.4.1. Trends in Air Service

The following highlights several trends in the airline industry that will impact scheduled passenger service at Nebraska’s commercial service airports.

² GRI is the only commercial service airport in Nebraska that has both unsubsidized passenger service and EAS.

Covid-19 Related Trends

The immediate demand impacts of the COVID-19 pandemic were sharper and more sustained than the events of September 11, 2001, and are likely the greatest in the history of commercial aviation. Three years since the pandemic began, demand has recovered significantly. In many cases, airports are exceeding 80 percent of pre-pandemic levels have reached full recovery or are anticipating full recovery by 2024.

While overall demand has recovered substantially, some aspects such as business travel are a long way away from pre-pandemic levels, with some aspects potentially never returning. With the sharp reduction in business travel, legacy/network airlines that traditionally focused on business travel shifted some capacity away from traditionally strong business markets and added capacity to stronger leisure markets. There has also been an increased trend of combining business and leisure travel. Low-cost carriers (LCCs) and ultra-low-cost carriers (ULCCs) enhanced their capacity to leisure markets during this time to meet increased demand. Leisure demand is likely to remain at elevated levels until the time of the next economic recession.

Ongoing Trends

Some of the pre-COVID-19 trends in air service that can be expected to continue include:

- ***Airline and Hub Consolidation:*** In the early to mid-2000's, there were close to a dozen major network airlines such as Air Tran, America West, Continental, Northwest, TWA, and US Airways – all of whom have since merged or have been acquired by other airlines. This activity reduced the number of hubs, including but not limited to closures at Saint Louis (American), Pittsburgh (US Airways), Cincinnati (Delta), Cleveland (Continental), and Memphis (Northwest). While consolidation among the remaining legacy/major network carriers (American, Delta, Southwest, and United) is not anticipated, some consolidations cannot be ruled out for other larger airlines, such as Alaska, Frontier, JetBlue, or Spirit. Mergers and acquisitions create a risk of resulting in reduced options and higher fares for the consumer in the long run. For airports, this can result in a surplus of terminal and passenger facilities such as parking, expansive concourses, ticket counter areas, baggage claims or offices, and sometimes even gates.
- ***New Airlines and Routes*** – Industry consolidation has reduced the number of airlines in the domestic market, and as a result most small- and medium-sized airports are served by each of the major network carriers and often an LLC and/or an ULCC. In the long-term, it is anticipated that congested airports in the Midwest and Mountain West (Chicago O'Hare, Detroit Metropolitan, Denver International) will see the number of flights becoming more limited in favor of increasing available passenger capacity on larger aircraft. Congestion at these large hubs creates opportunities for new flights from Nebraska airports to less congested hubs and therefore, creating new destinations and connecting opportunities for passengers. In some cases, point-to-point (bypassing a hub airport) routes can be viable for medium sized markets, such as Omaha. Recently, there has been the emergence of new airlines such as Avelo and Breeze.

- **Low-Cost Airline Growth** – LCC and ULCC airlines have expanded their national networks with additional less-than-daily service tailored to meet demand in smaller and seasonal markets. Growth comes from the introduction of additional weekly flights and/or additional destinations (likely seasonal to start). Omaha, Lincoln, and Grand Island are served by LCC/ULCC airlines which have the potential to add more flights to new destinations.
- **Pilot Supply** – The industry is experiencing the impact of a reduced number of pilots entering the aviation industry. Additionally, reductions in pay that accompanied the increase in regional jet use in the 2000’s, and regulatory changes requiring 1,500 hours for first officers, have added to an already increasingly expensive training process. Some industry groups also predict a similar shortage in qualified aircraft mechanics as well. Limited pilot supply is a contributing factor to the recent aircraft up-gauging trend.
- **Aircraft Up-Gauging** – As pilot supply has become increasingly constrained, airlines have increased the “productivity” of pilots by increasing the number of seats in the aircraft. The seat count increase is achieved by replacing smaller 50-seat regional aircraft with larger two-class regional jets with 66-76 seats on average. For most major airlines, the number of these larger regional jets in the fleet is limited by the scope clause in their labor contract with pilot unions. Scope clause is an agreement between a major airline and a trade union that defines how many and what size larger regional jets can be flown by regional airlines. Some airlines have configured these larger regional jets as two-class 50-seat jets to meet the seat capacities identified in the scope clauses. For rural and regional air service, up-gauging aircraft provides more seats per departure, but often comes at the expense of frequency; the number of enplanements may not change while the number of flights decreases.

These trends in the airline and air service market demonstrate a complex competitive environment that will continue to have an impact on Nebraska’s commercial service and GA airports as airlines position to gain market share and increase profitability.

5.4.2. Historical Passenger Enplanements

At airports where scheduled commercial passenger service is available, a key metric for measuring demand is passenger enplanement volumes. An “enplanement,” or “enplaned passenger,” is generally understood to be an individual, revenue-inducing passenger boarding a plane at an airport.

The volume and type of passenger enplanements served by commercial service airports drives the sizing of terminal facilities, from passenger parking and ticketing to security screening, and from baggage and holdrooms to secure-side retail and concession needs. For these reasons, and similar to based aircraft and critical aircraft determinations, understanding precise levels of passenger demand is a task more appropriately reserved for airport master planning efforts instead of statewide system planning. This is because terminal area needs are primarily dictated by the demands of the passenger market, which is the business of commercial airlines and the airports they serve.

Therefore, the purpose of this section of the SASP is not to provide input into the needs of terminal facilities at commercial service airports, but to review passenger activity and the demand outlook for passenger activity at the nine commercial service airports. **Table 5-10** summarizes enplanement levels at the nine airports with commercial service.

Table 5-10: Historical Passenger Enplanements at Commercial Service Airports

City	Airport	2009	2015	2019	CAGR
Alliance	Alliance Municipal	1,482	1,068	3,363	8.5%
Chadron	Chadron Municipal	1,897	979	4,456	8.3%
Grand Island	Central Nebraska Regional	16,292	63,368	70,214	15.7%
Kearney	Kearney Regional	10,045	4,609	18,296	6.2%
Lincoln	Lincoln	147,494	157,563	164,163	1.1%
Mc Cook	Mc Cook Ben Nelson Regional	1,701	371	2,148	2.4%
North Platte	North Platte Regional/ Lee Bird Field	8,146	4,565	15,772	6.8%
Omaha	Eppley Airfield	2,086,769	2,028,264	2,463,501	1.7%
Scottsbluff	Western Nebraska Regional/ William B Helig Field	8,975	4,544	16,934	6.6%
Total OMA & LNK	-	2,234,263	2,185,827	2,627,664	1.6%
Total EAS	-	45,358	79,504	131,183	10.5%
Total SASP	-	2,282,801	2,265,331	2,758,847	1.9%

Source: FAA Terminal Area Forecast, October 2021.

The majority of commercial service and passenger activity occurs at the three largest commercial service airports in the State: OMA, LNK, and GRI. OMA is Nebraska’s busiest commercial airport by a large margin, with nearly 2.5 million enplaned passengers in 2019. Omaha is the economic center for Nebraska and Western Iowa. Omaha has a population of 478,203 (25 percent of the State population) and a broader metropolitan population of nearly one million.

Airports in the EAS Program tend to have stable levels of passenger activity because carrier schedules are dictated by program requirements during the bidding process. The frequencies and aircraft types are set for the service period and seat capacity remains flat. Though enplanements at EAS airports only accounted for about five percent of total enplanements in 2019, these airports play a critical role in connecting travelers in smaller communities that would otherwise have limited air transportation options.

There are no changes proposed nor anticipated to the EAS Program, although a temporary reduction in service due to the COVID-19 pandemic has been allowed. The program frequently comes under scrutiny from groups looking to curb government spending. Reductions in the EAS Program due to lack of funding would not likely benefit existing communities served in Nebraska. This program should be monitored and promoted to preserve the resident and economic benefits that are derived from the subsidized air service.

5.4.3. Commercial Service Enplanements Outlooks

Passenger enplanements at Commercial Service airports were analyzed to review historical data as well as forecast future growth. OMA, LNK, and GRI, which are the only three airports in the State to offer unsubsidized air carrier service, were analyzed separately with individual growth outlooks being forecast. EAS growth outlooks encompass all seven airports that offer EAS service, including GRI’s service to Dallas.

Omaha - Eppley Airfield

Offering connectivity coast to coast, Eppley Airfield is currently served by eight different carriers (Alaska, Allegiant, American, Delta, Frontier, Southwest, Sun Country, and United Airlines). Combined, these airlines offer non-stop service to over 31 destinations, as of 2024, many of which are hub airports that offer single connections to destinations all over the world. The majority of seasonal routes are offered during the winter months to warm weather destinations in Florida. Much of the growth of seasonal routes has been to warm weather markets in the West and Southeast consistent with the growth factors previously noted. Legacy network carriers (American, Delta, and United) have also added or increased service to their hub network throughout the United States. A multi-year expansion and modernization plan of the terminal is underway as of 2024. This plan focuses on enhancing the traveler experience while supporting long-term growth at the Airport. The plan incorporates additional restaurants, retail, new international gates, and larger gate waiting areas to improve options for travelers and improve the overall function of the building.

Historical Enplanement Compound Annual Growth Rates

5-Year	4.06%
10-Year	1.67%
15-Year	1.91%
20-Year	1.51%

Total Enplanement Growth Outlook

Historical data reveals a stable growth rate for Omaha over the past 20 years. The FAA Aerospace Forecast identifies a domestic enplanement CAGR of 5.4 percent over the next 20 years, which should be noted includes the recovery from the pandemic in the short term. Generally, an average growth rate between two percent and five percent over the next 20 years can be expected for Omaha’s Eppley Airfield.

Lincoln Airport

Sixty miles southwest of Omaha and serving the State capital and communities of Southeast Nebraska, Lincoln Airport offers scheduled service on United to both Denver International and Chicago O’Hare International Airports, as well as George Bush Intercontinental, as of 2024. Delta Air Lines served the airport prior to the pandemic with service to Minneapolis-St. Paul. Advantages offered by Lincoln Airport include less congested airfield conditions, proximity to State government and supporting businesses, agencies, and educational institutions. This economy drives demand for charter operations due to the need for travel flexibility to and from the capitol.

An airport master plan, as of 2024, is underway with focuses on enhancements to the GA hangars, taxilanes, and apron space.

Historical Enplanement Compound Annual Growth Rates

5-Year	3.49%
10-Year	1.05%
15-Year	-2.08%
20-Year	-2.51%

Total Enplanement Growth Outlook

Historical data reveals a generally stable level of activity for Lincoln, despite the longer run being slightly negative over the past 20 years. The FAA Aerospace Forecast identifies a domestic enplanement CAGR of 5.4 percent over the next 20 years, which should be noted includes the recovery from the pandemic in the short term. With the loss of Delta Air Lines, the general growth trajectory can be expected to be down. However, with a return or possible replacement of Delta, activity could remain at or near historic levels over the next 20 years.

Grand Island – Central Nebraska Regional Airport

The third largest city in the State of Nebraska, Grand Island is home to Central Nebraska Regional Airport (GRI) and offers regularly scheduled service to three destinations on Allegiant and American Eagle Airlines. American Eagle regional jet service connects passengers to Dallas-Fort Worth International Airport. The route is subsidized by the federal EAS program; Grand Island has been an eligible community since passage of the Airline Deregulation Act of 1979. The carrier, destination, and type of aircraft serving the EAS route have varied; however, the airport has been consistently served since 2011 by American Eagle on regional jet aircraft to Dallas.

Allegiant Airlines, an ULCC, offers leisure-oriented less-than-daily-service from GRI and has been doing so since 2008. Allegiant has dramatically boosted the airport’s passenger volume as well as introduced two non-stop popular southwest destinations in Las Vegas and Phoenix (Phoenix/Mesa). Allegiant’s service from GRI is the only non-federally subsidized air service in Nebraska outside of OMA and LNK, benefiting from the vast market area of Central Nebraska and Northern Kansas. The airport also boasts charter flights on Swift Air to gaming destinations in Laughlin (NV) and Wendover (UT/NV).

Historical Enplanement Compound Annual Growth Rates

5-Year	3.26%
10-Year	15.73%
15-Year	17.51%
20-Year	8.73%

Total Enplanement Growth Outlook

Historical data displays strong and above average growth for GRI over the past 20 years. The FAA Aerospace Forecast identifies a domestic enplanement growth rate of 5.4 percent over the next 20 years, which should be noted includes the recovery from the pandemic in the short term. Much

of this growth can be attributed to the introduction of Allegiant in 2008. The EAS operations are unlikely to grow. Nonetheless, Allegiant can provide some incremental growth over the next 20 years, meaning that enplanement growth consistent with the FAA Aerospace Forecast of 5.4 percent is prudent.

EAS Growth Outlooks

Air service subsidized by the EAS program provides service to small communities and guarantees a minimal level of air service to rural parts of the country. EAS was put into place after the Airline Deregulation Act of 1979 when airlines began consolidating destinations and flights away from markets with lower traffic levels to more lucrative routes, creating the hub and spoke system that persists to this day. Communities eligible for EAS were required to have air service prior to airline deregulation in 1979. EAS mandates that a minimum of two daily round trip flights are provided between eligible communities to a medium or large hub airport, though waivers and modifications to services provided are becoming increasingly common. Later amendments to the program require that a community must maintain ten enplanements or more per service day as of 2012 unless an airport is more than 210 driving miles from the nearest large or medium hub airport.

Given the large land area and distribution of the rural population in Nebraska, many regions fall well outside of a 210-mile driving radius from the well-connected airports in Denver (large hub) and Omaha (medium hub). Nebraska has seven eligible EAS communities, and all seven currently have subsidized service at least twice daily to a large-hub airport. Currently, each airport with EAS provides service to Denver International Airport except for GRI which offers service to Dallas Ft. Worth through their EAS program and EAR, which offers service to Chicago’s O’Hare in addition to service to Denver. While GRI does offer ULCC service via Allegiant, it is within an EAS eligible community. Therefore, the EAS routes and growth outlooks are included in this subsection.

The U.S. Department of Transportation (USDOT) works with eligible communities to discuss which air carrier and air service options are the communities’ preferences and considers factors such as reliability, arrangements with larger carriers to ensure service and connectivity via one ticket reservation to a final destination beyond the hub airport, local preference, and marketing plans to encourage enplanements during the term of the contract.

Most EAS contracts are for two-to-four years and allow for change when appropriate. Certain communities in Nebraska have been impacted by reselection of their EAS carrier. In 2019, USDOT selected Key Lime Air, d.b.a. Denver Air Connection to operate 12 weekly flights to Denver International Airport from Alliance Municipal Airport on turboprop aircraft. Previously, Alliance was served by Boutique Air under the same contract that provides service from Chadron Municipal Airport to Denver with flights from Chadron making an intermediate stop in Alliance to enplane more passengers and then continuing on to Denver³. As realized in Alliance, EAS contracts are subject to change every few years and can provide more efficient, comfortable service to the traveling public.

² Nebraska Aviation Counts!, Economic Impact Study, Division of Aeronautics, 2019.

Growth Outlook

While some EAS communities have shown strong growth, ultimately the schedules and offerings provided are subject to a bidding process every two to four years. In addition, the program has come under increased scrutiny as some national elected officials look to limit government spending and subsidies. With these considerations, maintaining existing EAS points within Nebraska and the existing services provided represent the optimal levels of service for the next 20 years.

5.5. SUMMARY OF ACTIVITY

Though there are many factors that impact aviation activity, overall growth of Nebraska airports is incrementally trending upwards.

5.5.1. Operations

Total Operations

As shown in **Section 5.3.1.**, operations growth rates were forecast for all SASP airports. A 1.9 percent growth rate was applied to Commercial Service airports and a 0.75 percent growth rate was applied to Complex Activity airports. Community Activity and Non-NPIAS airports utilized a range of +/- 20 percent from the 2019 baseline to create a more generalized operations forecast.

Overall, Commercial Service airports are anticipated to have the most growth. In particular, OMA, LNK, and GRI are expected to remain the top three busiest airports in the State, respectively. Complex Activity airports are forecast to grow at a slower rate than Commercial Service, but are still anticipated to increase their total operations. Community Activity and Non-NPIAS airports vary greatly and while a specific year-by-year forecast was not analyzed, a range of possible growth/decline scenarios which are specific to each individual airport were determined.

Complex Operations

The nine Commercial Service and 13 Complex Activity airports were reviewed specifically for the number of B-II or larger operations taking place at an airport. Across these airports, the size and complexity of aircraft are increasing at the expense of frequency. Overall, Commercial Service Airports saw a slight decrease in complex operations. However, while the decreases were mostly seen in B-II operations, a number of airports experienced strong growth in C/D-I/II/III aircraft operations. Meanwhile, at the Complex Activity airports, the number of complex operations are forecast to increase more than four percent, despite none of these airports being projected to cross the regular use (500 operations) threshold for critical aircraft consideration.

5.5.2. Based Aircraft

The range of reasonableness presented in **Section 5.3.3.** shows based aircraft remaining relatively steady at all SASP airports. While the total number of based aircraft is expected to remain relatively steady, similar to the national trends, the fleet mix is expected to change with an increase in turbine aircraft and a decrease in piston engine aircraft.

5.5.3. Enplanements

Primary Commercial Enplanements

Enplanements at the three largest airports in Nebraska: OMA, LNK, and GRI show strong growth over the 20-year planning period.

Nonprimary EAS Enplanements

Overall, the growth outlook of EAS enplanements is steady. Some communities show strong growth while others are dependent on their EAS contracts. EAS offered in these communities is variable due to schedules and services being subject to change every two to four years.



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DEPARTMENT OF TRANSPORTATION

CHAPTER 6 EXISTING SYSTEM PERFORMANCE FINDINGS

6. Existing System Performance Findings

6.1. INTRODUCTION

This chapter presents the analyses and results of evaluating the existing performance of the Nebraska Aviation System. As described in *Chapter 3, Facility & Service Objectives*, the evaluation is based upon the following metrics:

- Facility and Service Objectives Performance
- Airport System Geographic Performance
- Critical Use Functions

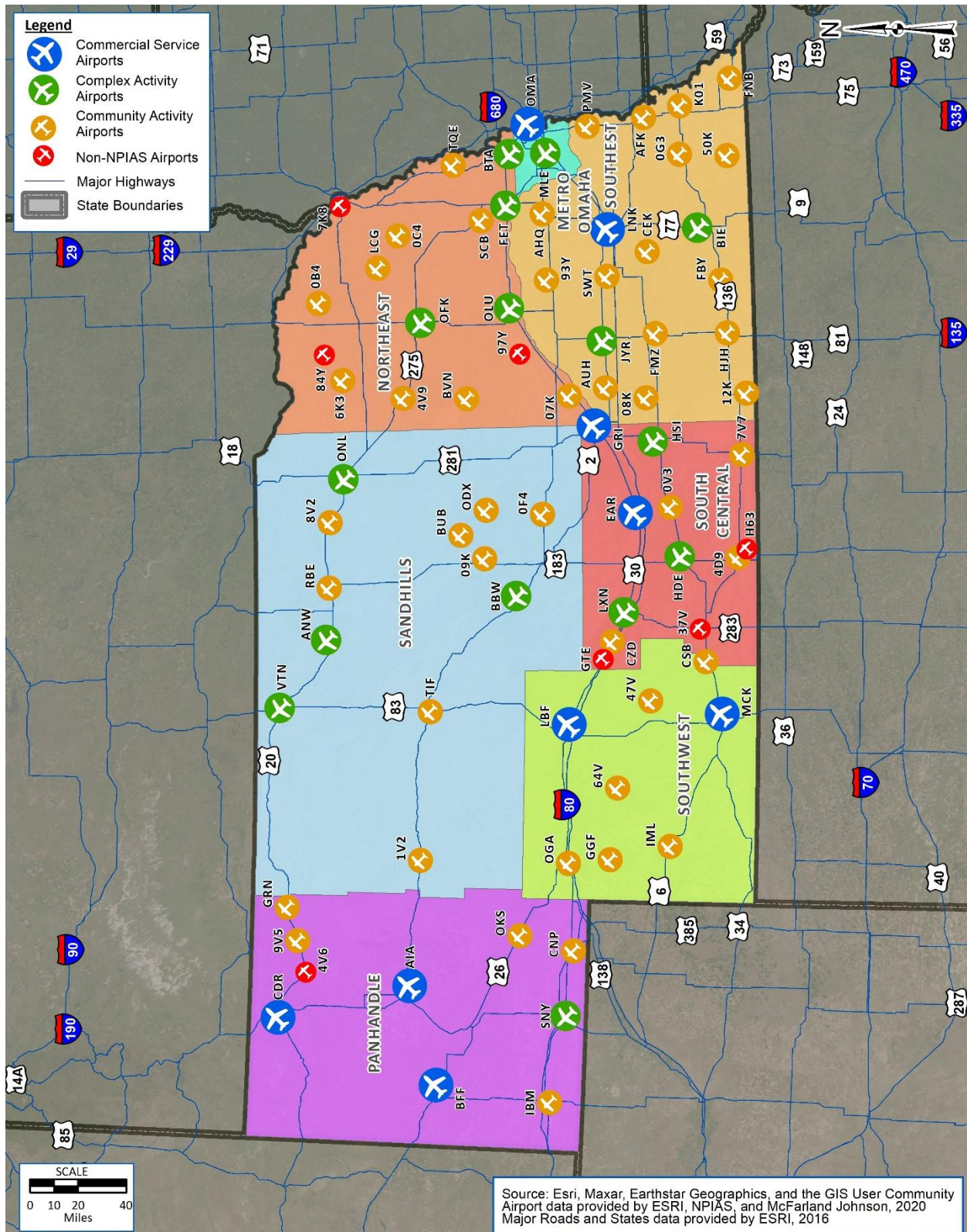
The process for evaluating the performance of the existing system involves two steps. First, each airport is measured against minimum facility and service objectives to confirm which facilities and services are provided and those specific facilities and services which are not fully met. The evaluations of each system airport are aggregated by State Aviation System Plan (SASP) Role, such that a report card can be developed that clearly illustrates how each SASP Role of airports performs, and how each airport contributes to SASP Role and statewide system performance. Nebraska Aviation System Airports are illustrated by SASP Role and geographic region in **Figure 6-1**.

The second step to evaluating the performance of the existing system is to consider geographic performance based upon geographic service areas. Geographic service areas for *ground access* are polygons that represent areas of the State that can reach a system airport within a 30-minute drive time for general aviation (GA) services, 45-minute for complex activity airports, and 60-minute drive time for scheduled passenger service. A 30- to 60- minute drive time to an airport is determined to be a reasonable proximity for a business supporting an important industry within the State. Geographic service areas for *air access* are polygons that represent a 25-nautical mile radius around each airport.

As presented in this Chapter, this approach produces a quantified assessment of the current Nebraska Aviation System’s performance, and documents specific facilities and services that are provided – or not provided – at each system airport, and the geographic reach of those facilities in terms of area, population, and employment centers.

The assessment of each airport is based on SASP recommendations rather than specific airport master plan recommendations. While there are minimum SASP recommendations intended to make sure the State system as a whole has its needs met, individual airports may have needs that go above and beyond their SASP role. This Plan is not intended to replace individual airport planning projects, which will determine if there are needs above and beyond the minimum SASP recommendations.

Figure 6-1: SASP Airports by Role and Geographic Region



Source: McFarland Johnson, Inc.

6.2. FACILITY AND SERVICE OBJECTIVES PERFORMANCE

The facility and service objectives assigned to each airport SASP Role serve as the baseline benchmark for infrastructure, equipment, and services to accommodate the types of users each airport is best positioned to serve. This section presents the analysis of statewide aviation system performance against facility and service objectives outlined in *Chapter 3, Facility & Service Objectives*. The analysis yields a report card for how well each airport performs against those objectives as well as how each SASP Role of airports is performing relative to the minimum facility and service objectives defined for that SASP Role.

6.2.1. System Performance Model

The analysis of statewide aviation system airports utilized a weighted sum model to measure the performance of each system airport for the SASP. The weighted sum model is designed such that each facility and service objective within each SASP Role is assigned a relative weight that corresponds to the importance of the objective within each SASP Role. **Table 6-1** illustrates the design of the weighted model, and how the relative weight of each objective is used with an assigned value to produce a score for each SASP airport. Points are the product of the assigned value given to the airport multiplied by the objective’s weight. To measure the performance of airports through the State of Nebraska, a model was designed to appropriately score and weight each criterion relative to its importance.

Table 6-1: Example System Performance Model Design¹

Category/Minimum Facility & Service Objectives	Scoring Value Range			
	Weight	Yes	Partial	No
Non-NPIAS				
Runway -Gravel, Turf, Water, or Paved	1	100	50	0
Open Seasonally	1	100	50	0
Aircraft Parking Area	2	100	50	0
Airport Manager Contact Info Available	2	100	50	0
Windsock	2	100	50	0
Basic Shelter	1	100	50	0
Community Activity				
Paved Runway	3	100	50	0
Open Year Round	1	100	50	0
Updated ALP (<20 Years Old)	2	100	50	0
100LL Avgas Fuel On Site	1	100	50	0
Weather Service Station (AWOS or ASOS)	2	100	50	0
PAPIs on Primary Runway	2	100	50	0
Basic Terminal/Shelter	1	100	50	0
Meet A/BI Standards	3	100	50	0
GPS Approach	3	100	50	0
Runway PCI of ≥75	1	100	50	0
Taxiway PCI of ≥60	1	100	50	0

Source: McFarland Johnson Inc., 2022.

When aggregated, the facility and service objectives’ weights for the entire statewide system was divided by the total points achievable to receive a score out of 100 within their SASP Role. Each airport is only scored on the objectives identified by their SASP role. Therefore, airports with fewer facilities may receive a higher score than those with more facilities due to fewer objectives needing to be met by their SASP role. The performance model then produces point values for each system airport, such that an airport that meets all objectives will score 100 points, with all system airports scoring along the point scale from zero to 100. For a copy of the full scoring model, please contact NDOT for report details.

6.2.2. System Performance Results by Airport and SASP Role

The results of the performance analysis for each of the Nebraska SASP airports are presented in tables below by SASP category. As described in previous chapters, airports were separated into four SASP Roles: Commercial Service, Complex Activity, Community Activity, and Non-NPIAS. Airport scores range from 53 up to 100.

Table 6-2 shows the average facility score for each airport in each SASP Role.

Table 6-2: Facility and Service Objective Results by Activity Level SASP Role

SASP Role	Average Performance Score
Commercial Service	89
Complex Activity	83
Community Activity	88
Non-NPIAS	97

Source: McFarland Johnson Analysis, 2023.

The following sections summarize the performance of each SASP Role with a report card comprised of a table that illustrates whether each SASP airport meets the minimum facility and/or service objective, and a chart that reflects the qualitative adjustments made as a measure of the contribution that each airport’s performance makes within their respective SASP Role. The purpose of the weighted performance model is to identify areas of need at the SASP Role level, which can guide decision-making for the short-, mid-, and long-term periods.

Commercial Service Airports

Table 6-3 shows the performance scores for each of the commercial service airports.

Table 6-3: Commercial Service Airports Performance Results

City	Airport	Performance Score
Alliance	Alliance Municipal	79
Chadron	Chadron Municipal	77
Grand Island	Central Nebraska Regional	95
Kearney	Kearney Regional	93
Lincoln	Lincoln	87
McCook	McCook Ben Nelson Regional	85
North Platte	North Platte Regional / Lee Bird Field	95

City	Airport	Performance Score
Omaha	Eppley Airfield	96
Scottsbluff	Western Nebraska Regional / William B. Heilig Field	91

Source: McFarland Johnson Analysis, 2023.

Nebraska Aviation System commercial service airports were measured against the minimum facility and service objectives defined for that role. **Table 6-4** presents the current performance of each commercial service airport in the Nebraska Aviation System. The table and accompanying chart presents how commercial service airports perform against the minimum facility or service standard as a group. **Table 6-4** and the accompanying chart shows only those performance measures previously mentioned that are not met by all commercial service activity airports. Objectives that exceeded the minimum objective from a previous category were excluded from the table as well. Facility and service objectives, not included in the table, include the following:

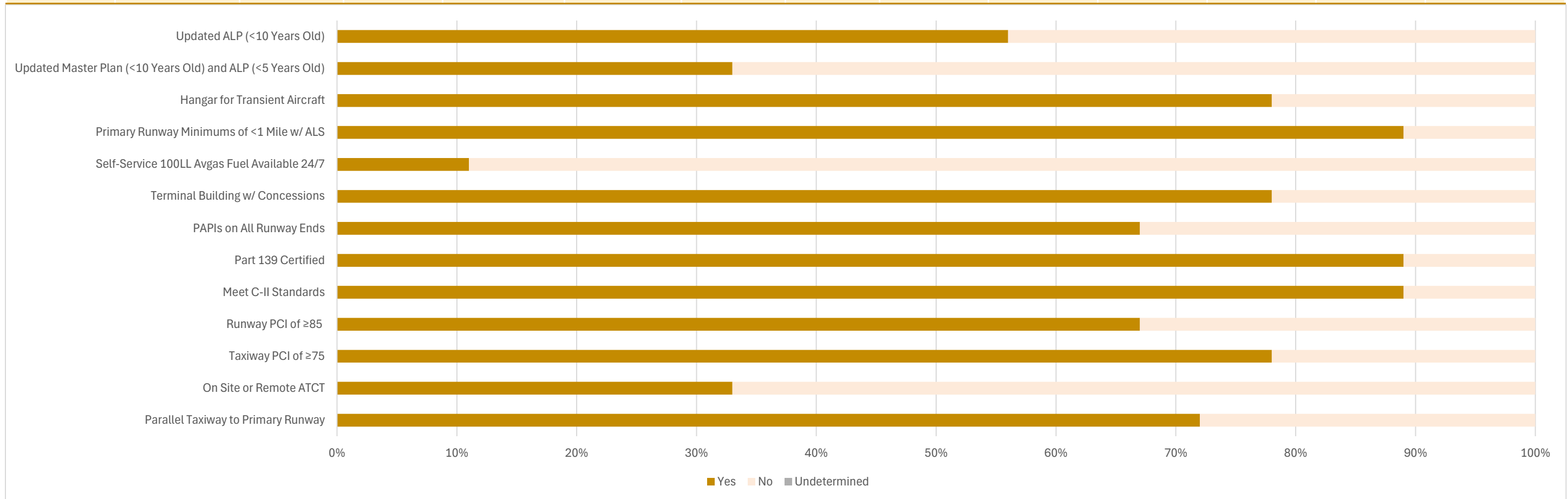
- All Non-NPIAS Objectives
- All Community Activity Objectives
- Jet-A Fuel
- Availability of a Rental Car and/or a Courtesy Car
- SRE
- Transient Parking Apron
- Weather Service Station (AWOS-III P\T or ASOS)
- Paved Access Road and Vehicle Parking
- Air Cargo Handling Facility
- Medium intensity approach lighting system with runway alignment indicator lights (MALSR) on the primary runway
- Airport Security Measures
- Passenger Transportation On Site
- Aircraft Maintenance On Site

As shown in the table, facilities ranking below 50 percent include:

- Self-service 100LL/Avgas available 24/7 (11% with the caveat that 100LL/Avgas is available and in a lot of cases 24/7 just not “self-service”)
- Updated Master Plan and ALP (33%)
- Onsite or remote airport traffic control tower (ATCT) (33%)

Table 6-4: Commercial Service Airport Performance

Airport	Updated ALP (<10 Years Old)	Updated Master Plan and ALP	Hangar for Transient Aircraft	Primary Runway Minimums of <1 Mile w/ ALS	Self-Service 100LL Avgas Fuel Available 24/7	Terminal Building w/ Concessions	PAPIs on All Runway Ends	Part 139 Certified	Meet C-II Standards	Runway PCI ≥ 85	Taxiway PCI ≥75	On Site or Remote ATCT	Parallel Taxiway to Primary Runway
Alliance	x	x	✓	✓	x	~	~	✓	✓	x	x	x	x
Chadron	✓	x	✓	x	✓	~	~	x	x	✓	✓	x	x
Grand Island	x	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Kearney	✓	~	✓	✓	x	~	✓	✓	✓	✓	✓	x	✓
Lincoln	x	x	x	✓	x	✓	~	✓	✓	x	x	✓	✓
McCook	x	x	✓	✓	x	~	~	✓	✓	✓	✓	x	~
North Platte	✓	✓	✓	✓	x	✓	~	✓	✓	✓	✓	x	✓
Omaha	✓	✓	x	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Scottsbluff	✓	~	✓	✓	x	✓	~	✓	✓	x	✓	x	✓
Total	56%	33%	33%	89%	11%	78%	67%	89%	89%	67%	78%	33%	72%



✓ - yes, x - no, ~ - partial, Und. - Undetermined: Not available from a published source and not available from the survey responses.

Source: McFarland Johnson analysis, 2023.

Complex Activity Airports

Table 6-5 shows the performance scores for each of the complex activity airports.

Table 6-5: Complex Activity Airports Performance Results

City	Airport	Performance Score
Ainsworth	Ainsworth Regional	95
Beatrice	Beatrice Municipal	93
Blair	Blair Municipal	98
Broken Bow	Broken Bow Municipal / Keith Glaze Field	73
Columbus	Columbus Municipal	83
Fremont	Fremont Municipal	73
Hastings	Hastings Municipal	92
Holdrege	Brewster Field	81
Lexington	Jim Kelly Field	88
Norfolk	Norfolk Regional / Karl Stefan Memorial Field	92
Omaha	Millard	68
O'Neill	The O'Neill Municipal - John L. Baker Field	70
Sidney	Sidney Municipal / Lloyd W. Carr Field	87
Valentine	Miller Field	78
York	York Municipal	83

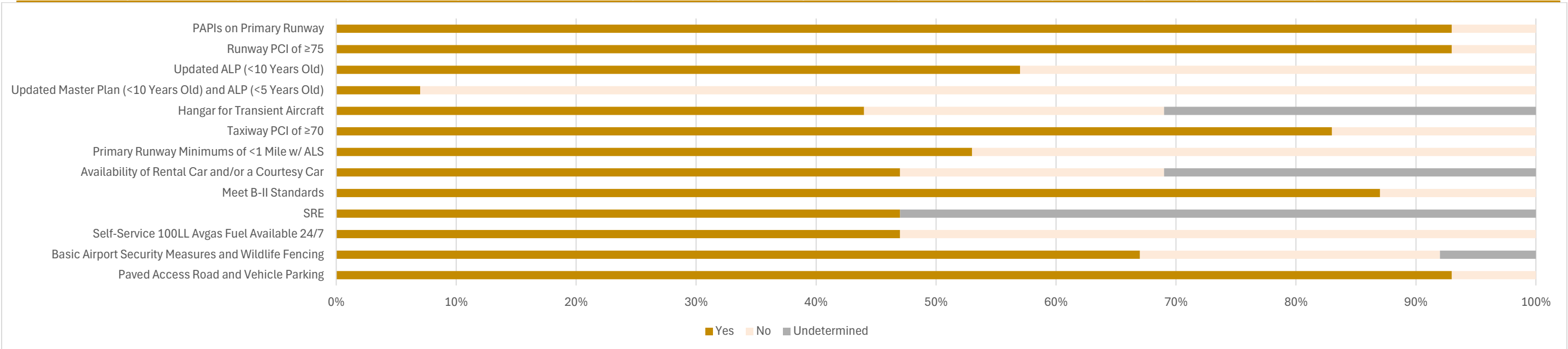
Source: McFarland Johnson Analysis, 2023.

Nebraska Aviation System complex activity airports were measured against the minimum facility and service objectives defined for that role. **Table 6-6** presents the current performance of each complex activity airport in the Nebraska Aviation System. The accompanying chart presents how complex activity airports perform against the minimum facility or service standard as a group. The following previous performance measures are met by all complex activity airports and therefore are not included in **Table 6-6**: runway, open seasonally, aircraft parking area, airport manager contact information available, windsock, basic shelter, paved runway, open year round, 100LL/Avgas fuel on site, weather service station (AWOS/ASOS), basic terminal/shelter, meet A/B-I standards, global positioning system (GPS) approach, and taxiway pavement condition index (PCI) of 60 or greater.

All complex activity airports provide Jet-A fuel, provide a terminal with passenger and pilot amenities, and have transient parking. Other strong areas are PAPIs on primary runways, runway PCI of 75 or greater, taxiway PCI of 70 or greater, meet B-II standards, and have a paved access road and vehicle parking. The following service objectives had an undetermined rate of 30 percent or higher: snow removal equipment (SRE) (53%), hangar for transient aircraft (31%), and basic airport security measures and wildlife fence (31%).

Table 6-6: Complex Activity Airport Performance

Airport	PAPIs on Primary Runway	Runway PCI of ≥75	Updated ALP (<10 Years Old)	Updated Master Plan (<10 Years Old) and ALP (<5 Years Old)	Hangar for Transient Aircraft	Taxiway PCI of ≥70	Primary Runway Minimums of <1 Mile w/ ALS	Availability of Rental and/or a Courtesy Car	Meet B-II Standards	SRE	Self-Service 100LL Avgas Fuel Available 24/7	Basic Airport Security Measures and Wildlife Fencing	Paved Access Road & Vehicle Parking
Ainsworth	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Beatrice	~	✓	~	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blair	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	~	✓
Broken Bow	✓✓	✓	~	✗	Und.	✓	✗	Und.	✗	Und.	~	~	✓
Columbus	~	✓	~	✗	Und.	✓	✓	✗	✓	✓	✗	✓	✓
Fremont	✓	✗	~	✗	✗	✗	✗	✗	✓	✗	✗	~	✓
Hastings	✓	✓	~	✗	✓	✓	✓	✓	✓	✓	✓	Und.	✓
Holdrege	✓	✓	~	✗	✗	✓	✗	✓	✓	✓	✓	~	✓
Lexington	✓	✓	~	✗	✓	✓	✗	✓	✓	✓	✗	~	✓
Norfolk	✓	✓	~	✗	✓	✓	✓	✓	✓	Und.	✓	✓	✓
Omaha - Millard	✓	✓	~	✗	Und.	✗	✗	✓	✗	Und.	✗	✓	✓
O'Neill	✓	✓	~	✗	Und.	✓	✗	Und.	✓	Und.	✗	Und.	✗
Sidney	✓	✓	~	✗	✓	✓	✓	Und.	✓	Und.	✗	✓	✓
Valentine	✓	✓	~	✗	✗	✓	✗	Und.	✓	Und.	✓	~	✓
York	✓	✓	~	✗	✓	~	✓	✗	✓	Und.	✗	✗	✓
Total	93%	93%	57%	7%	53%	83%	53%	50%	87%	47%	47%	67%	93%



✓ - yes, ✗ - no, ~ - partial, Und. - Undetermined: Not available from a published source and not available from the survey responses.

Source: McFarland Johnson analysis, 2023.

Community Activity Airports

Table 6-7 shows the performance scores for each of the community activity airports.

Table 6-7: Community Activity Airports Performance Results

City	Airport	Performance Score
Albion	Albion Municipal	100
Alma	Alma Municipal	86
Atkinson	Stuart-Atkinson Municipal	86
Auburn	Farington Field	93
Aurora	Aurora Municipal – Al Potter Field	97
Bassett	Rock County	93
Burwell	Cram Field	93
Cambridge	Cambridge Municipal	93
Central City	Central City Municipal – Larry Reineke Field	93
Chappell	Billy G Ray Field	60
Cozad	Cozad Municipal	93
Creighton	Creighton Municipal	93
Crete	Crete Municipal	93
Curtis	Curtis Municipal	81
David City	David City Municipal	93
Fairbury	Fairbury Municipal	93
Fairmont	Fairmont State	83
Falls City	Brenner Field	100
Gordon	Gordon Municipal	93
Grant	Grant Municipal	93
Hartington	Hartington Municipal / Bud Becker Field	86
Harvard	Harvard State	76
Hebron	Hebron Municipal	100
Hyannis	Grant County	53
Imperial	Imperial Municipal	100
Kimball	Kimball Municipal / Robert E. Arraj Field	90
Loup City	Loup City Municipal	93
Minden	Pioneer Village Field	86
Nebraska City	Nebraska City Municipal	100
Neligh	Antelope County	86
Ogallala	Searle Field	100
Ord	Evelyn Sharp Field	100
Oshkosh	Garden County / King Rhiley Field	83
Pawnee City	Pawnee City Municipal	57
Pender	Pender Municipal	93
Plattsmouth	Plattsmouth Municipal	93
Red Cloud	Red Cloud Municipal	93

City	Airport	Performance Score
Rushville	Modisett Field	77
Sargent	Sargent Municipal	60
Scribner	Scribner State	83
Seward	Seward Municipal	86
Superior	Superior Municipal	93
Tecumseh	Tecumseh Municipal	86
Tekamah	Tekamah Municipal	93
Thedford	Thomas County	86
Wahoo	Wahoo Municipal	100
Wallace	Wallace Municipal	60
Wayne	Wayne Municipal / Stan Morris Field	100

Source: McFarland Johnson Analysis, 2023.

Nebraska Aviation System community activity airports were measured against the minimum facility and service objectives defined for that role. **Table 6-8** presents the current performance of each community activity airport in the Nebraska Aviation System. The accompanying chart presents how community activity airports perform against the minimum facility or service standard as a group. The following criteria were not included on the table and accompanying chart since these categories met the 100 percent mark for community activity airports. Objectives that exceeded the minimum objective from a previous category were excluded from the table as well. These facility and service objectives include:

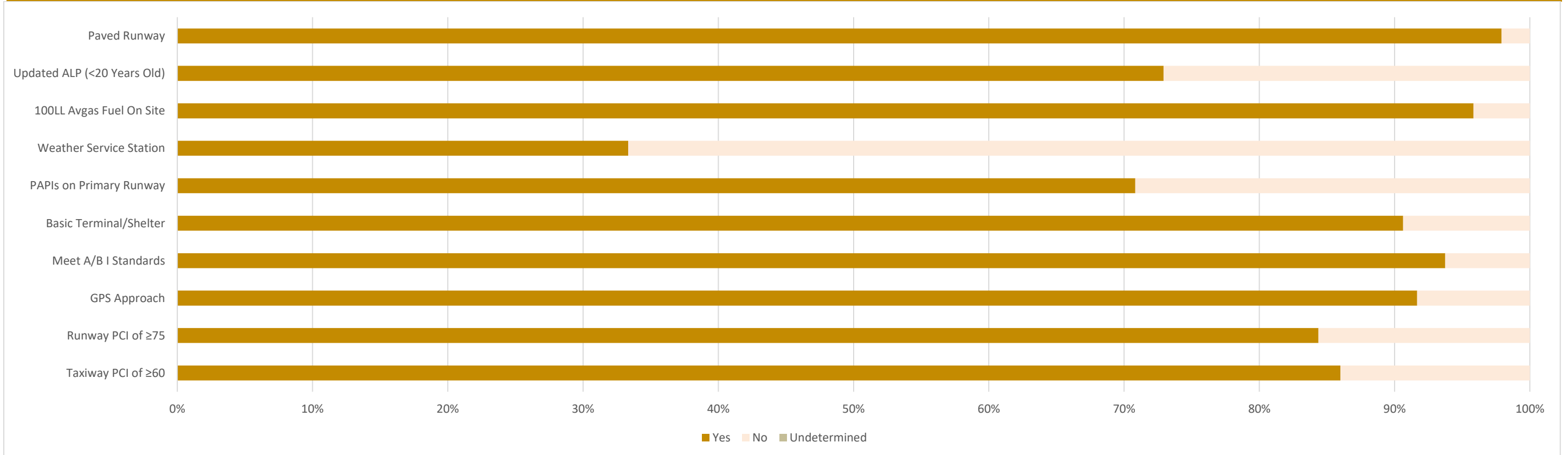
- All Non-NPIAS Objectives
- Open Year Round

As shown in **Table 6-8**, all system community activity airports meet the open year-round criterion and only one airport (Pawnee City) has a turf runway rather than a paved runway. Less than half of airports have an on-site weather service station (automated weather observing system (AWOS) or automated surface observing station (ASOS)).

Table 6-8: Community Activity Airport Performance

Airport	Paved Runway	Updated ALP (<20 Years Old)	100LL Avgas Fuel On Site	Weather Service Station	PAPIs on Primary Runway	Basic Terminal/ Shelter*	Meet A/B-I Standards	GPS Approach	Runway PCI ≥75	Taxiway PCI ≥ 60
Albion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alma	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓
Atkinson	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓
Auburn	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Aurora	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
Bassett	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Burwell	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Cambridge	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Central City	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Chappell	✓	✗	✓	✗	✗	✗	~	✓	✗	✗
Cozad	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Creighton	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Crete	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Curtis	✓	✓	✓	✗	✗	✓	~	✓	✓	✓
David City	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Fairbury	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Fairmont	✓	✓	✓	✗	✗	✓	✓	✓	✗	✓
Falls City	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gordon	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
Grant	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
Hartington	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓
Harvard	✓	✗	✓	✗	✗	✓	✓	✓	✓	✗
Hebron	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hyannis	✓	✗	✓	✗	✗	✗	~	✗	✗	✓
Imperial	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kimball	✓	✗	✓	✓	✓	~	✓	✓	✓	✓
Loup City	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Minden	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓
Nebraska City	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Neligh	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓
Ogallala	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ord	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oshkosh	✓	✗	✓	✗	✓	✓	✓	✓	✗	✓
Pawnee City	✗	✓	✓	✗	✗	✓	~	✗	N/A	N/A
Pender	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Plattsmouth	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
Red Cloud	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Rushville	✓	✗	✓	✗	✓	✗	✓	✓	✓	✓

Airport	Paved Runway	Updated ALP (<20 Years Old)	100LL Avgas Fuel On Site	Weather Service Station	PAPIs on Primary Runway	Basic Terminal/ Shelter*	Meet A/B-I Standards	GPS Approach	Runway PCI ≥75	Taxiway PCI ≥ 60
Sargent	✓	✓	✗	✗	✗	✗	~	✗	✓	✓
Scribner	✓	✓	✓	✗	✗	✓	✓	✓	~	~
Seward	✓	✗	✓	✗	✓	✓	✓	✓	✓	✓
Superior	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
Tecumseh	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓
Tekamah	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
Thedford	✓	✗	✓	✓	✗	✓	✓	✓	✓	✓
Wahoo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wallace	✓	✓	✗	✗	✗	✓	~	✗	✗	✗
Wayne	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Total	98%	73%	96%	33%	71%	91%	94%	92%	84%	86%



✓ - yes, ✗ - no, ~ - partial, Und. - Undetermined: Not available from a published source and not available from the survey responses.

Source: McFarland Johnson analysis, 2023.

Non-NPIAS Airports

Table 6-9 shows the performance scores of each of the Non-NPIAS airports.

Table 6-9: Non-NPIAS Airports Performance Results

City	Airport	Performance Score
Alma	Harlan County Lake (Seaplane Base)	78
Arapahoe	Arapahoe Municipal	100
Bloomfield	Bloomfield Municipal	100
Genoa	Genoa Municipal	100
Gothenburg	Gothenburg Municipal	100
Hay Springs	Hay Springs Municipal	100
South Sioux City	Martin Field	100

Source: McFarland Johnson Analysis, 2023.

Nebraska Aviation System non-NPIAS airports were measured against the minimum facility and service objectives defined for that role. Table 6-10 presents the current performance of each non-NPIAS airport in the Nebraska Aviation System. The accompanying chart presents how non-NPIAS airports perform against the minimum facility or service standard as a group.

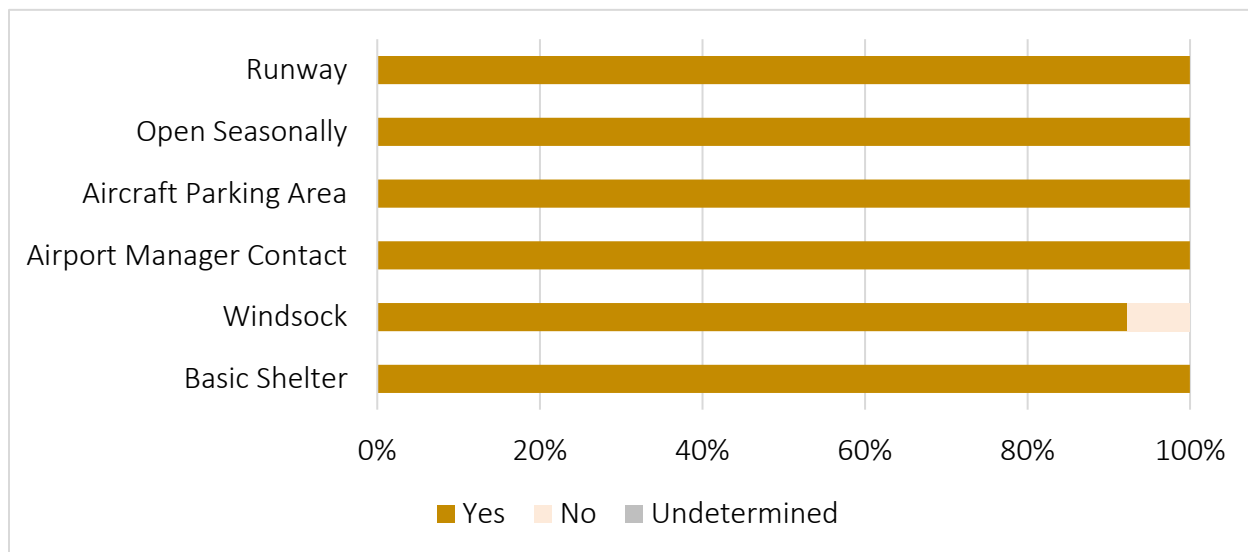
Table 6-10: Non-NPIAS Airport Performance

Airport	Runway	Open Seasonally	Aircraft Parking Area	Airport Manager Contact Info Available	Windsock	Basic Shelter*
Alma (H63)	✓	✓	✓	✓	✘	✓
Arapahoe	✓	✓	✓	✓	✓	✓
Bloomfield	✓	✓	✓	✓	✓	✓
Genoa	✓	✓	✓	✓	✓	✓
Gothenburg	✓	✓	✓	✓	✓	✓
Hay Springs	✓	✓	✓	✓	✓	✓
South Sioux City	✓	✓	✓	✓	✓	✓
Total	100%	100%	100%	100%	86%	100%

✓ - yes, ✘ - no, ~ - partial, * A review by aerial map was done and could be inaccurate.

Und. - Undetermined: Not available from a published source and not available from the survey responses.

Source: McFarland Johnson Analysis, 2023.



As shown in **Table 6-10**, all system non-NPIAS airports meet the runway (paved, turf, or water), seasonal opening, aircraft parking area criteria, availability of airport manager information, and basic shelter. All airports except Alma – Harlan County Lake Seaplane Base have windsocks.

6.3. AIRPORT SYSTEM GEOGRAPHIC PERFORMANCE

Following the evaluation of airports and roles against minimum facility and service objectives, this section considers geographic areas of the state that are proximate to system airports as a measure of the area each airport – and each SASP Role – serves.

One overarching and reasonable assumption for evaluating the current performance of the Nebraska Aviation System is that an airport’s performance is based upon its location relative to existing and prospective users. In this way, drive times and nautical mile distances from system airports represent service areas for the Nebraska Aviation System, where aviation services are available to aircraft owners, operators, passengers, and the general public. The analysis provides information on airport service areas and geographic gaps in service for the Nebraska Department of Transportation (NDOT) Aeronautics, airport management, aviation businesses, and aviation policy makers.

As described in *Chapter 3, Facility & Service Objectives*, performance of the Nebraska Aviation System is evaluated by estimating geographic service areas for ground access and air access. **Figure 6-2** and **Figure 6-3** illustrate population and employment centers in the state for reference, which will be discussed in the following sections.

6.3.1. Ground Access Service Area Coverage

Each system airport’s service area, defined by automobile drive-times, was utilized to quantify discrete values for coverage in terms of land area, population, and employment centers. These metrics are applied using 30-minute drive times for non-NPIAS and community activity system

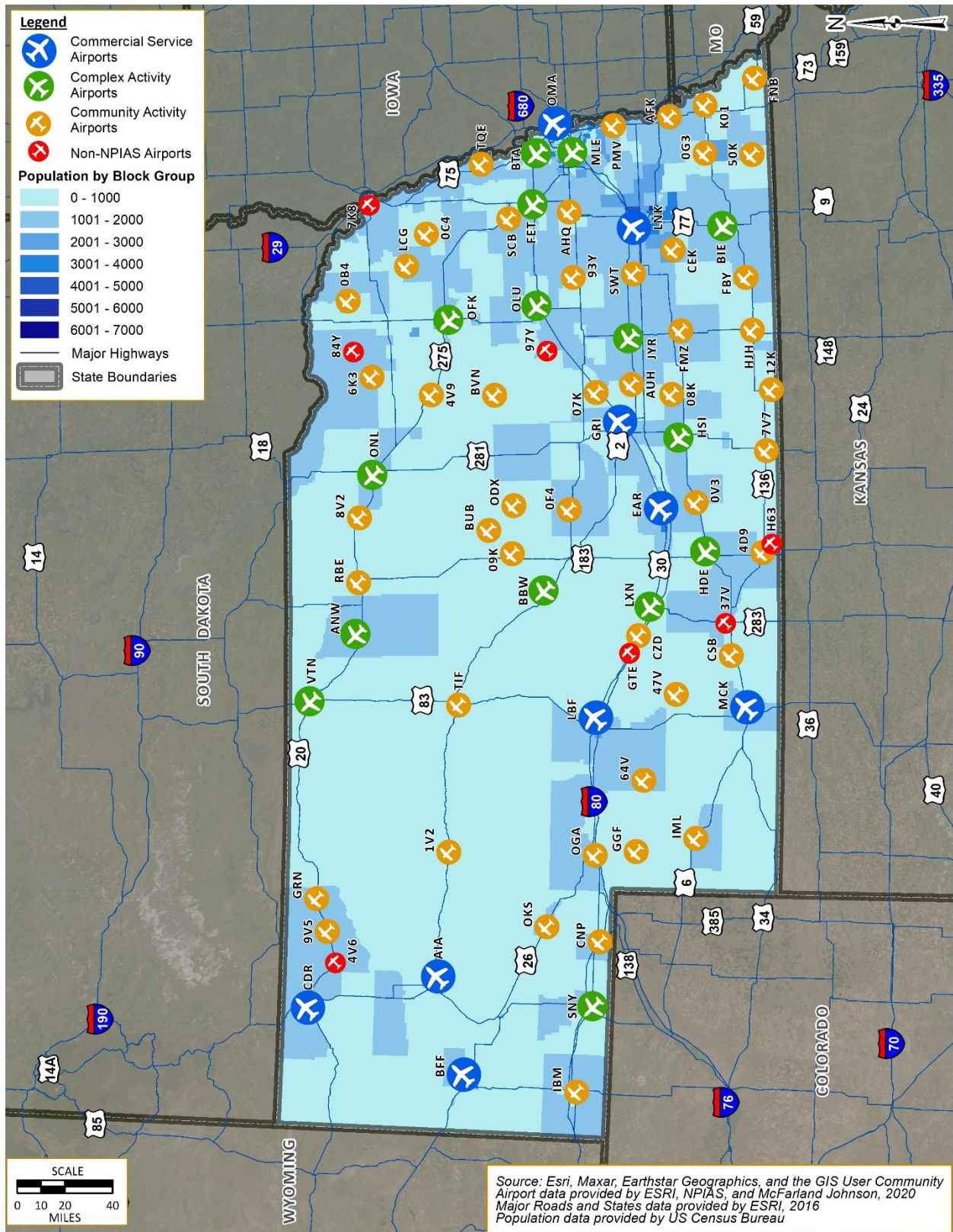
airports and 45-minute drive times for complex activity system airports. A 60-minute drive time is used to evaluate the coverage of scheduled passenger service by commercial service system airports.

Land Area

Drive-time coverage was assessed for each airport SASP Role and is summarized below. As shown on each figure, individual airport drive time service areas overlap in some areas. Therefore, total coverage noted for each SASP Role of airport is not a sum of each individual SASP Role, but a combination. Quantities and percentages are for Nebraska land area only, and do not include adjacent state land areas covered by system airports.

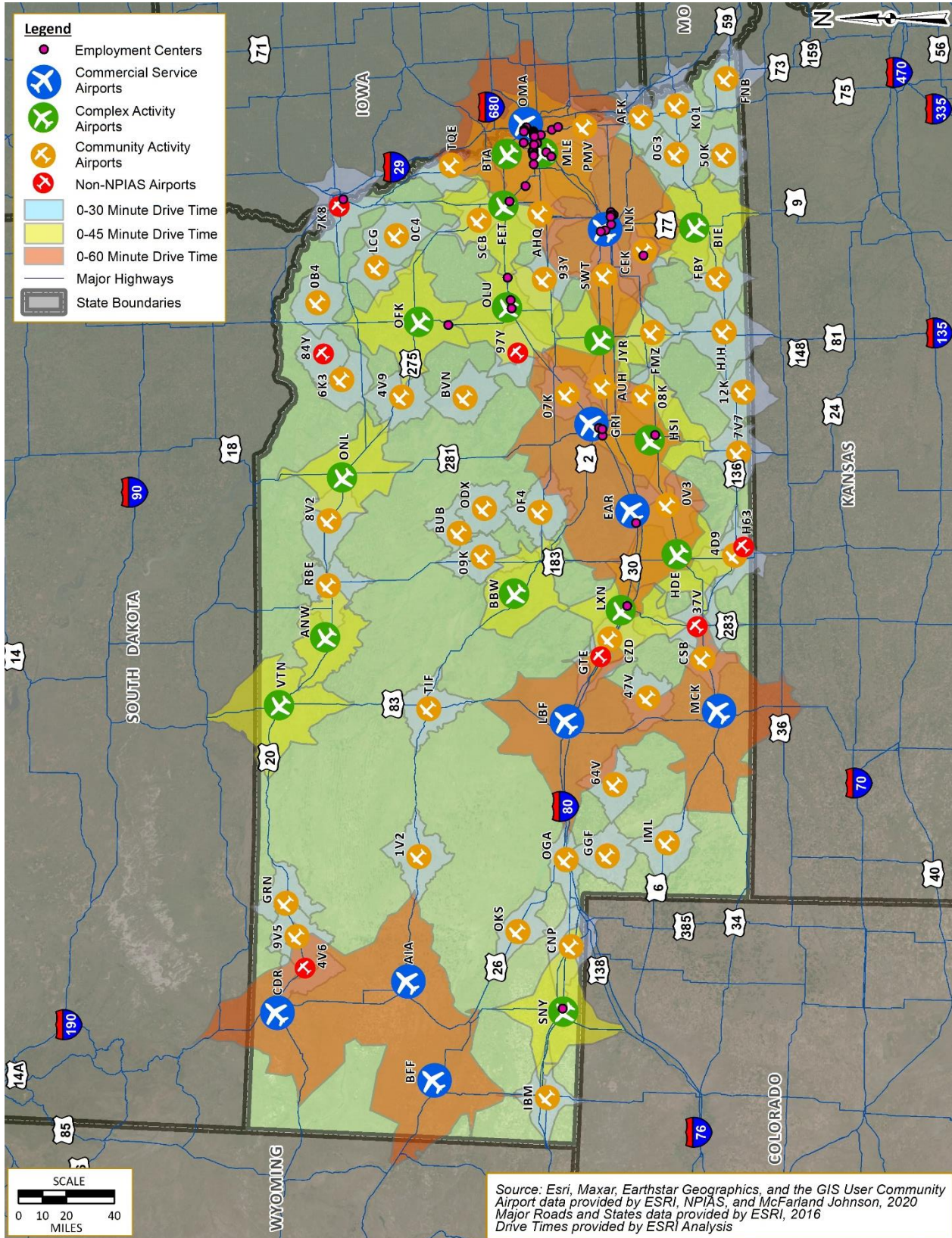
Table 6-11 presents drive time land area coverage for each of the SASP Role, which is illustrated in **Figure 6-4**, **Figure 6-5**, and **Figure 6-6**.

Figure 6-2: Existing Airport Coverage by Role and Population



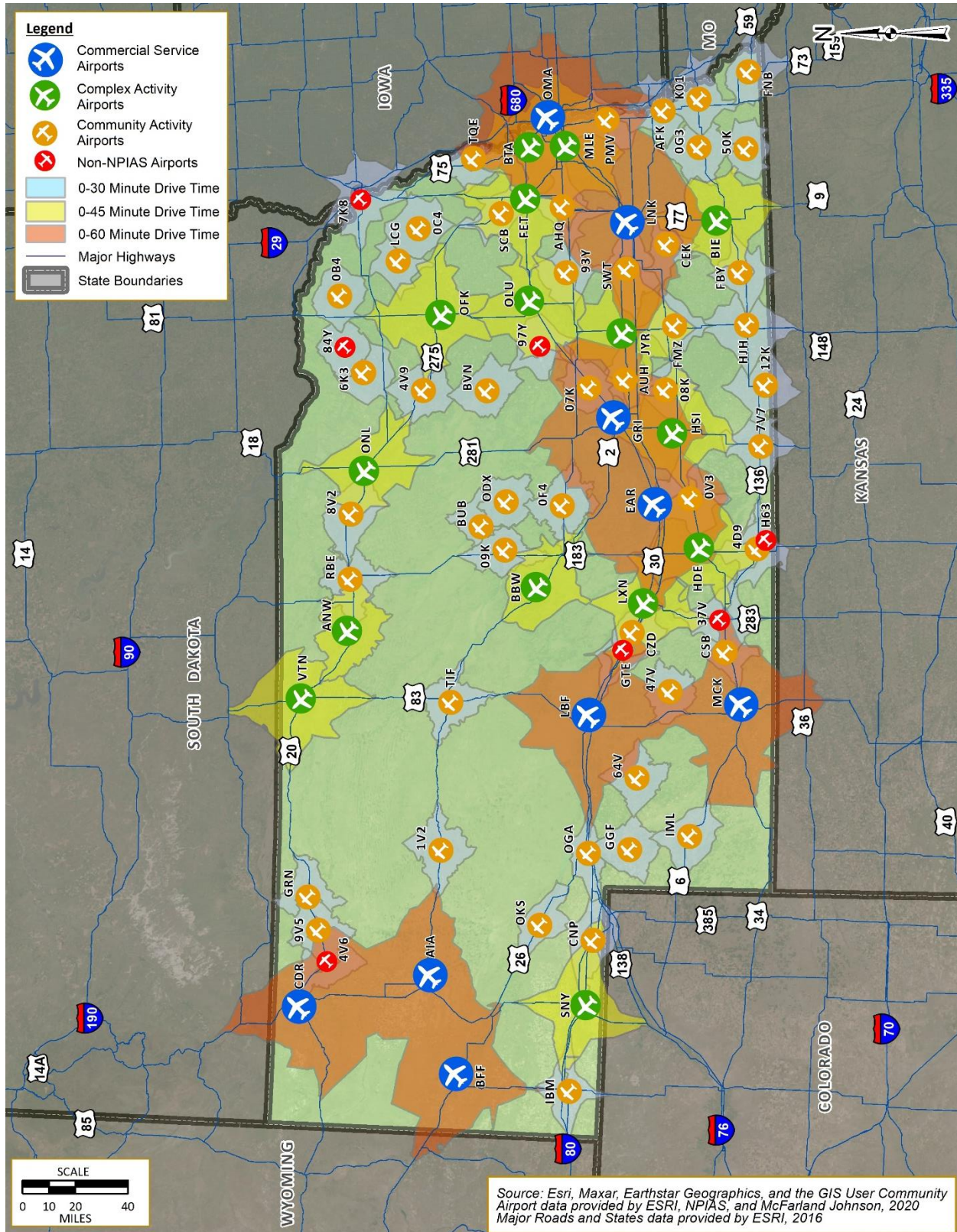
Source: McFarland Johnson, Inc. 2023.

Figure 6-3: Existing Airport Coverage by Role and Employment Centers



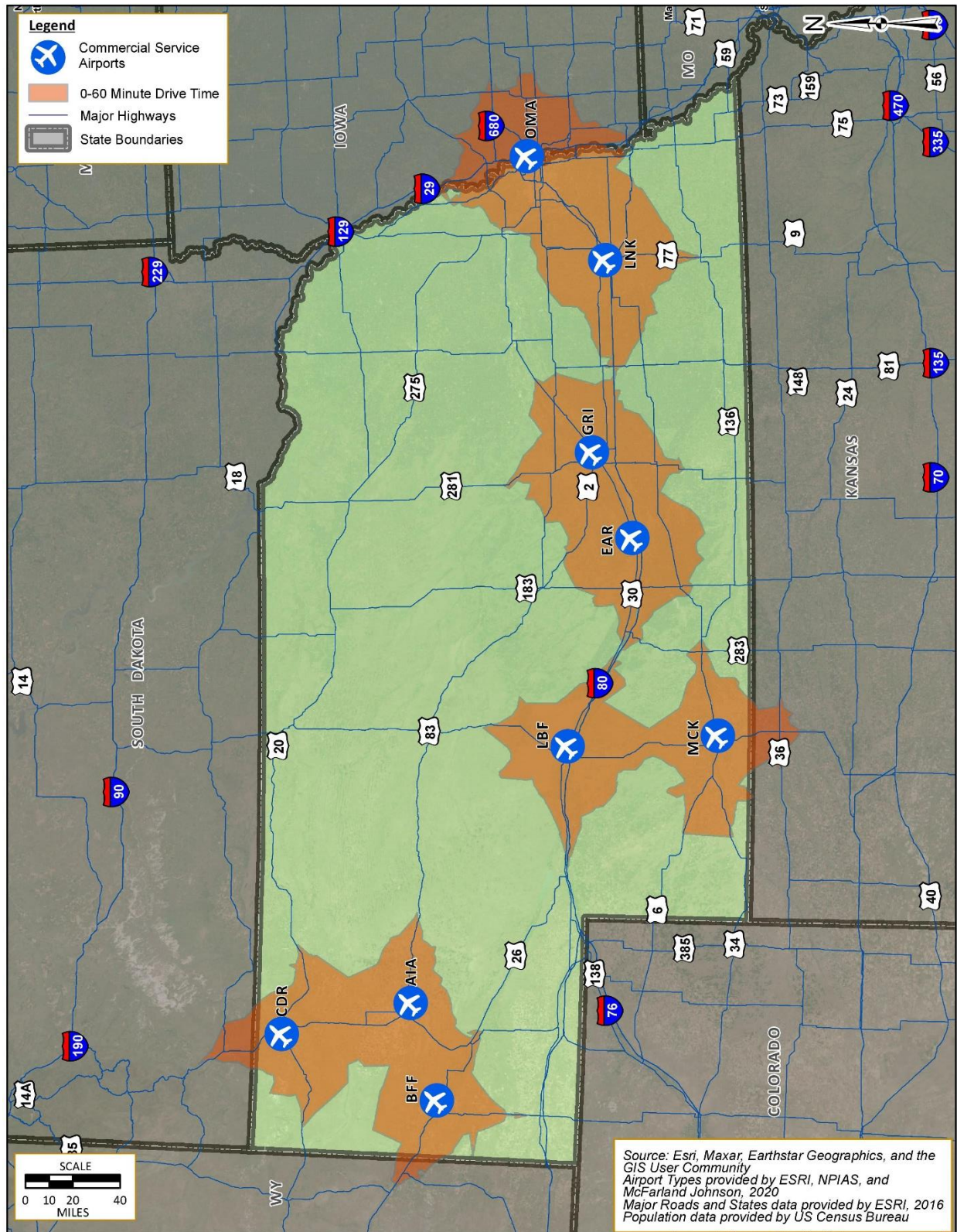
Source: McFarland Johnson, Inc. 2023.

Figure 6-4: Existing Airport Coverage – All Airports



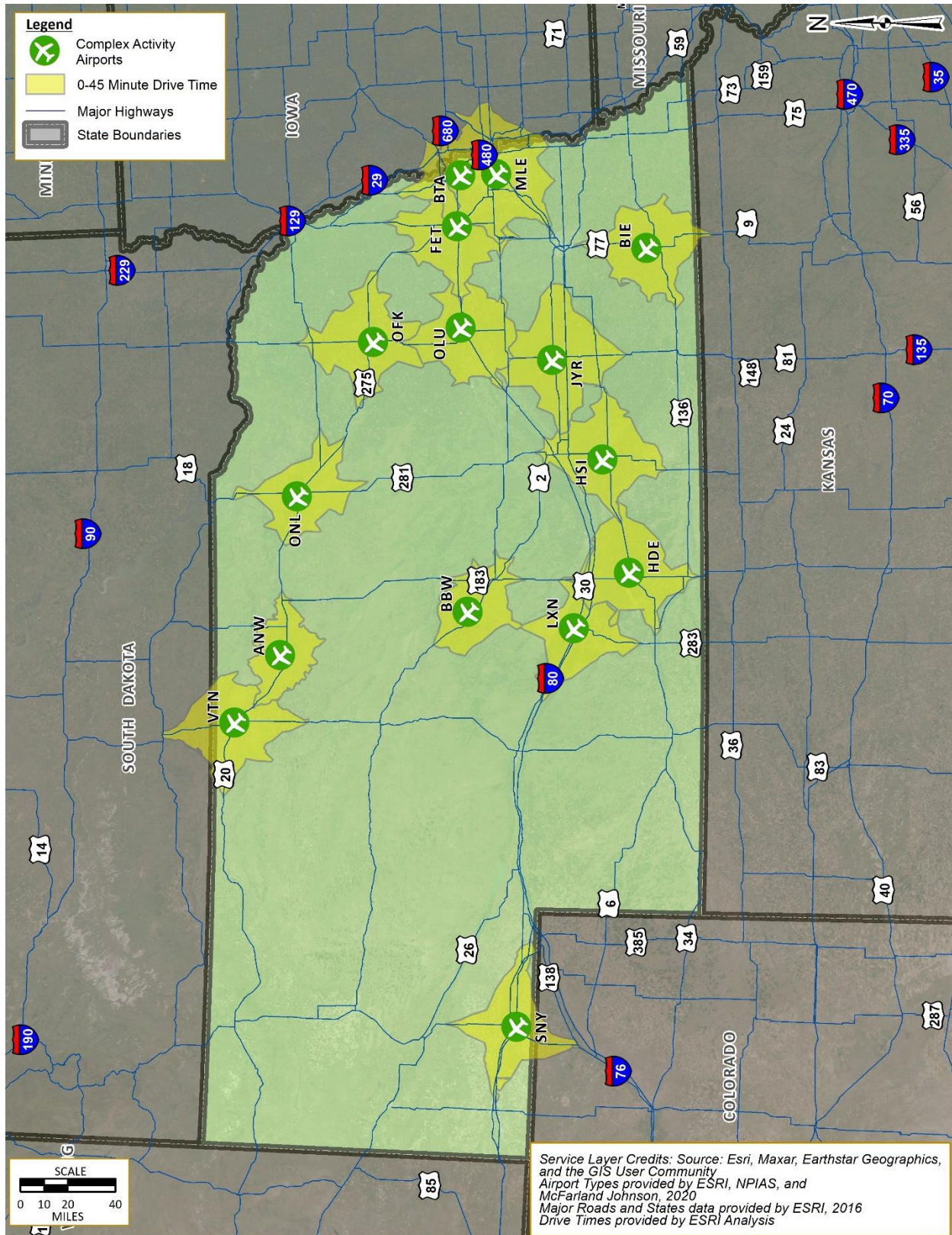
Source: McFarland Johnson, Inc. 2023.

Figure 6-5: Existing Airport Coverage – Commercial Service Airports



Source: McFarland Johnson, Inc. 2023.

Figure 6-6: Existing Airport Coverage – Complex Activity Airports



Source: McFarland Johnson, Inc. 2023.

Table 6-11: Ground Access Land Area Coverage and Population Coverage by SASP Role

Airport SASP Role	Land Area Coverage (SQMI)	Land Area Coverage (% Total) ¹	Population	Population Coverage (% Total) ¹
Commercial Service	22,749	29.4	1,510,839	77.2
Complex Activity	17,319	22.4	1,203,974	61.5
Community Activity	22,610	29.2	542,878	27.7
Non-NPIAS	3,283	4.2	55,236	2.8
Sub-Total (Complex + Commercial)	34,717	44.9	1,729,021	88.4
All SASP Airports	49,420	63.9	1,872,679	95.7

¹ Nebraska has a total land area of 77,353 square miles and population of 1.957 million (2022).

Source: McFarland Johnson Analysis, 2023.

Table 6-11 summarizes the geographic reach of SASP airports, which includes areas of overlap. As indicated, system airports combine to cover 49,420 square miles or 64 percent of the State. Approximately 29 percent of the land area is served by commercial service airports and 22 percent by complex activity airports.

The next two sections discuss the population and employment centers served by SASP airports, which provides insights into the value of SASP geographic coverage and performance.

Population

Population coverage was assessed for each airport SASP Role by drive-time and is summarized in this section. As shown on preceding figures, individual airport drive time service areas overlap in some areas. Therefore, total coverage noted for each SASP Role accounts for this overlap and is not the simple sum of each individual airport’s service area population.

Figure 6-4, **Figure 6-5**, and **Figure 6-6** show service areas in terms of drive times also represent the areas of population that are served. Quantities and percentage served are for Nebraska population data only and do not include adjacent state data.

Table 6-11 presents drive time population coverage for each of the SASP Role. As indicated in **Table 6-11**, Nebraska SASP airports serve an impressive 96 percent of the State’s population despite not reaching 58 percent of the State’s geographic area. This reflects the concentrations of population in and near major cities and towns, versus more remote and agricultural areas of the State.

Employment Centers

Employment center coverage was assessed in the same way as population coverage, and for each SASP Role by drive-time. Third party data available from IBIS World was used for the top employment in the industry by sector. **Table 6-12** shows employment industry by sector that provide employment for ten percent or more of the State employment. Total, all industries in

Table 6-12 employ over 80 percent of the Nebraska working population. On the other hand, **Table 6-13** shows that agriculture, forestry, fishing, and hunting make up the State’s top two largest industries by revenue but are 14th in terms of employment.

Table 6-12: Top 5 Nebraska Employment Industries

Top Nebraska Employment Industries	Employment
Healthcare and Social Assistance	160,449
Retail Trade	131,851
Information	110,124
Administration, Business Support and Waste Management Services	96,936
Accommodation and Food Services	74,704
Total	574,064

Source: IBIS World 2022.

Table 6-13: Nebraska’s Top 10 Largest Industries by Revenue

Industry	2022 Revenue (\$ in billions)
Corn, Wheat, and Soybean Wholesaling	18.8
Meat, Beef, and Poultry Processing	17.0
Health and Medical Insurance	12.6
Life Insurance and Annuities	12.4
Property, Casualty and Direct Insurance	9.1
Hospitals	8.0
New Car Dealers	7.5
Commercial Banking	7.0
Gas Stations and Convenience Stores	6.8
Gasoline and Petroleum Bulk Stations	6.0

Source: IBIS World, 2022.

Table 6-14 presents employment center coverage for each of the SASP Roles. Large companies generally set up near complex activity or commercial service airports for access. This can be seen in **Table 6-14** as employment centers are clustered around complex activity and commercial service airports – these two SASP Roles cover 98 percent of employment centers.

Table 6-14: Ground Access Employment Center Coverage by SASP Roles

Airport SASP Role	Employment Centers	Employment Center Coverage (% Total)
Commercial Service	43	86
Complex Activity	39	78
Community Activity	7	14
Non-NPIAS	1	2
Sub-Total (Complex + Commercial)	49	98
All SASP Airports	50	100

Source: McFarland Johnson Analysis, 2023.

Similar to population coverage, **Table 6-14** shows impressive coverage of the State’s employment centers, with all 50 of the top 50 being within a reasonable drive of a SASP airport.

6.3.2. Air Access Service Area Coverage

In addition to the analyses of service area coverage by airport SASP Role presented thus far, the analysis also considered air access service area coverage by system airports with specific infrastructure, equipment, and services. *Chapter 3, Facility & Service Objectives*, includes a summary of data collected for SASP airports. This section focuses on a set of key infrastructure elements that are important for aircraft in operation within and in route over Nebraska. The key infrastructure elements included in the analysis of air access coverage are:

- Coverage by Airports with Precision Instrument Approaches
- Coverage by Airports with Non-Precision/GPS Instrument Approaches
- Coverage by Airports with Jet-A Fueling Services
- Coverage by Airports with AvGas/100LL Fueling Services
- Coverage by Airports with On-Site Weather Reporting Service

These key infrastructure elements are important decision factors for many operators; however, they can be more critical to those utilizing more sophisticated aircraft filing flight plans for cross-country routes or traveling from other regions of the U.S. Focusing on air access by measuring the reach of these key infrastructure elements provides another perspective on the performance of the Nebraska Aviation System, and one that can highlight the types of needs operators originating outside the State may find most important. Air access coverage by Nebraska SASP airports is illustrated in **Figure 6-7** through **Figure 6-10**.

Coverage by Airports with Precision Instrument Approaches

SASP airports with precision approach capability combine to serve 86 percent of the State’s population and 96 of the top employers. **Table 6-15** presents the breakdown of coverage by these system airports. **Figure 6-7** illustrates this coverage.

Table 6-15: Air Access Coverage – SASP Airports with Precision Instrument Approach

Metric	Coverage ¹	Coverage (% Total) ¹
Land Area	31,798	41.1
Population	1,675,544	85.6
Employment Centers	48	96

¹ Land Area, Population, and Employment Center Coverage refers to the portions of Nebraska only and does not include coverage in neighboring airports’ host communities.

Source: McFarland Johnson Analysis, 2023.

Coverage by Airports with Non-Precision/GPS Instrument Approaches

SASP airports with non-precision approach capability serve nearly 99 percent of the State population and all 50 of the top 50 employers. **Table 6-16** presents the breakdown of coverage by these system airports. **Figure 6-8** illustrates this coverage.

Table 6-16: Air Access Coverage – SASP Airports with Non-Precision Instrument Approach

Metric	Coverage ¹	Coverage (% Total) ¹
Land Area	67,529	87.3
Population	1,933,145	98.8
Employment Centers	50	100

Source: McFarland Johnson Analysis, 2023.

¹ Land Area, Population, and Employment Center Coverage refers to the portions of Nebraska only and does not include coverage in neighboring airports’ host communities.

Coverage by Airports with Jet-A Fueling Services

System airports offering Jet-A fuel service combine to serve roughly 94 percent of the State’s population and 48 of the top 50 employers. **Table 6-17** presents the breakdown of coverage by these system airports. **Figure 6-9** illustrates this coverage.

Table 6-17: Air Access Coverage – SASP Airports Jet-A Fueling Service

Metric	Coverage ¹	Coverage (% Total) ¹
Land Area	51,993	67.2
Population	1,836,315	93.8
Employment Centers	49	98

Source: McFarland Johnson Analysis, 2023.

¹ Land Area, Population, and Employment Center Coverage refers to the portions of Nebraska only and does not include coverage in neighboring airports’ host communities.

Coverage by Airports with 100LL/AvGas Fueling Services

System airports offering Avgas fuel service combine to serve almost 100 percent of the State’s population and all 50 of the 50 top employers. **Table 6-18** presents the breakdown of coverage by these system airports. **Figure 6-10** illustrates this coverage.

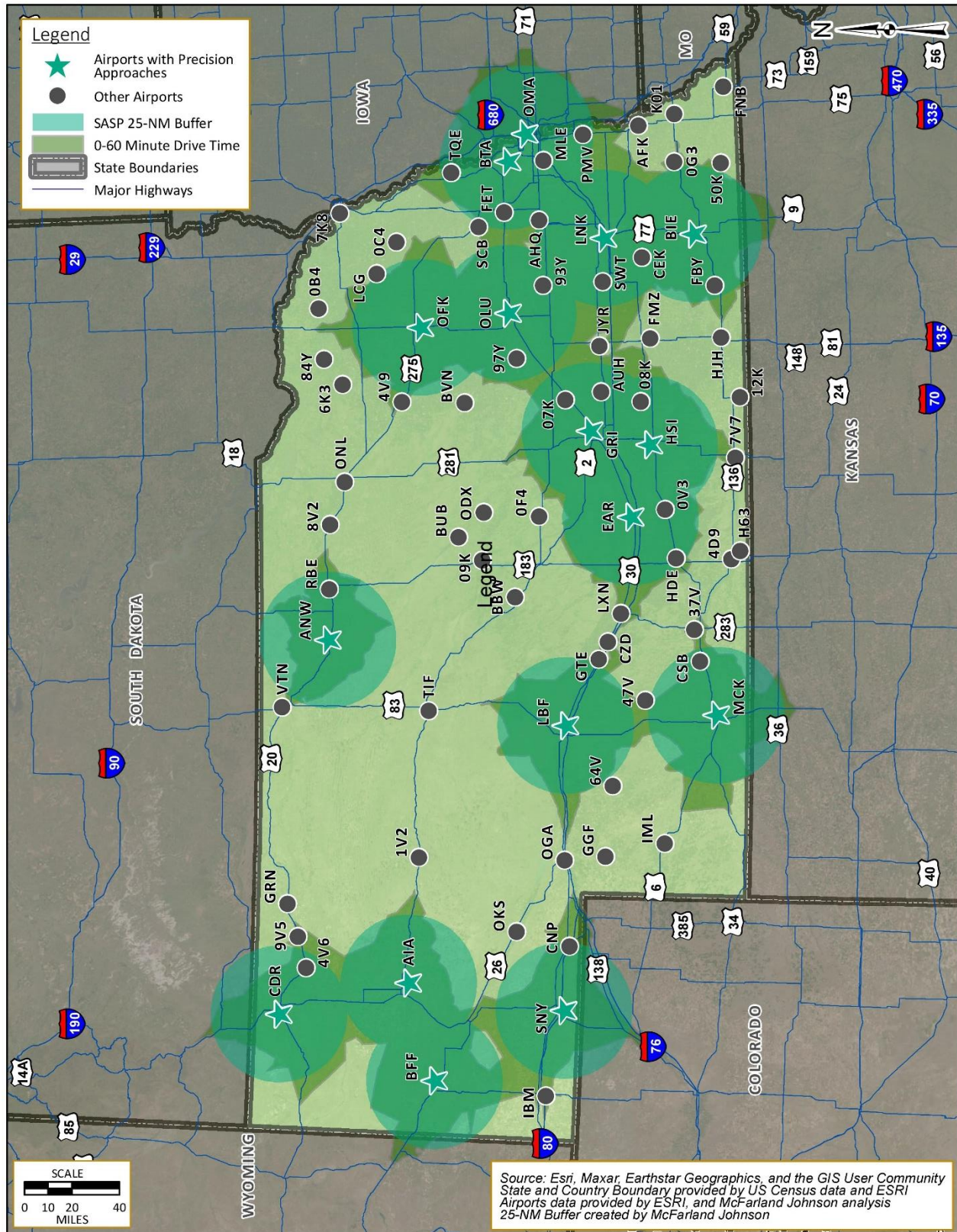
Table 6-18: Air Access Coverage – SASP Airports 100LL/AvGas Fueling Service

Metric	Coverage ¹	Coverage (% Total) ¹
Land Area	70,822	91.6
Population	1,946,574	99.5
Employment Centers	50	100

Source: McFarland Johnson Analysis, 2023.

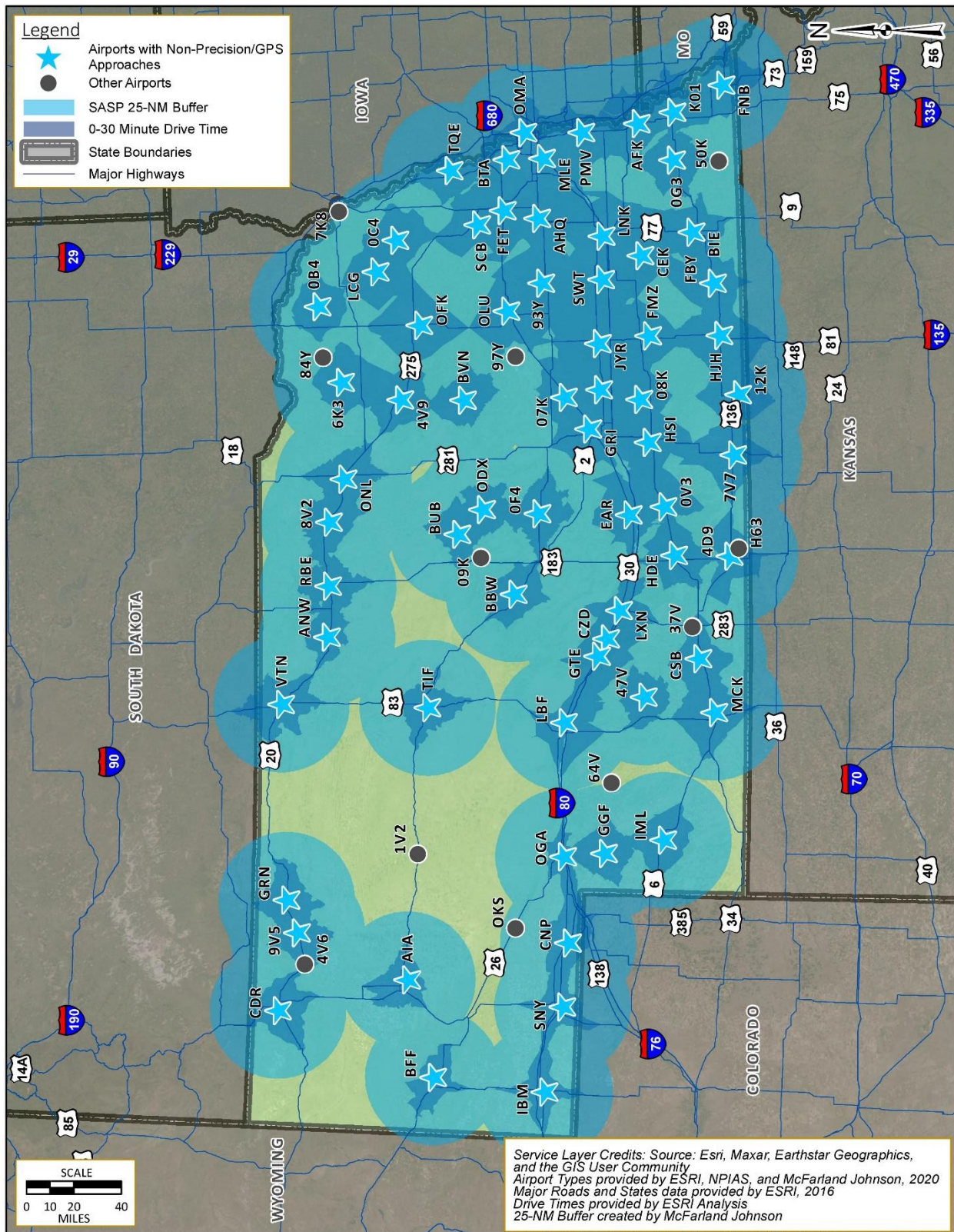
¹ Land Area, Population, and Employment Center Coverage refers to the portions of Nebraska only and does not include coverage in neighboring airports’ host communities.

Figure 6-7: Existing Air Access Coverage – Airports with Precision Approaches



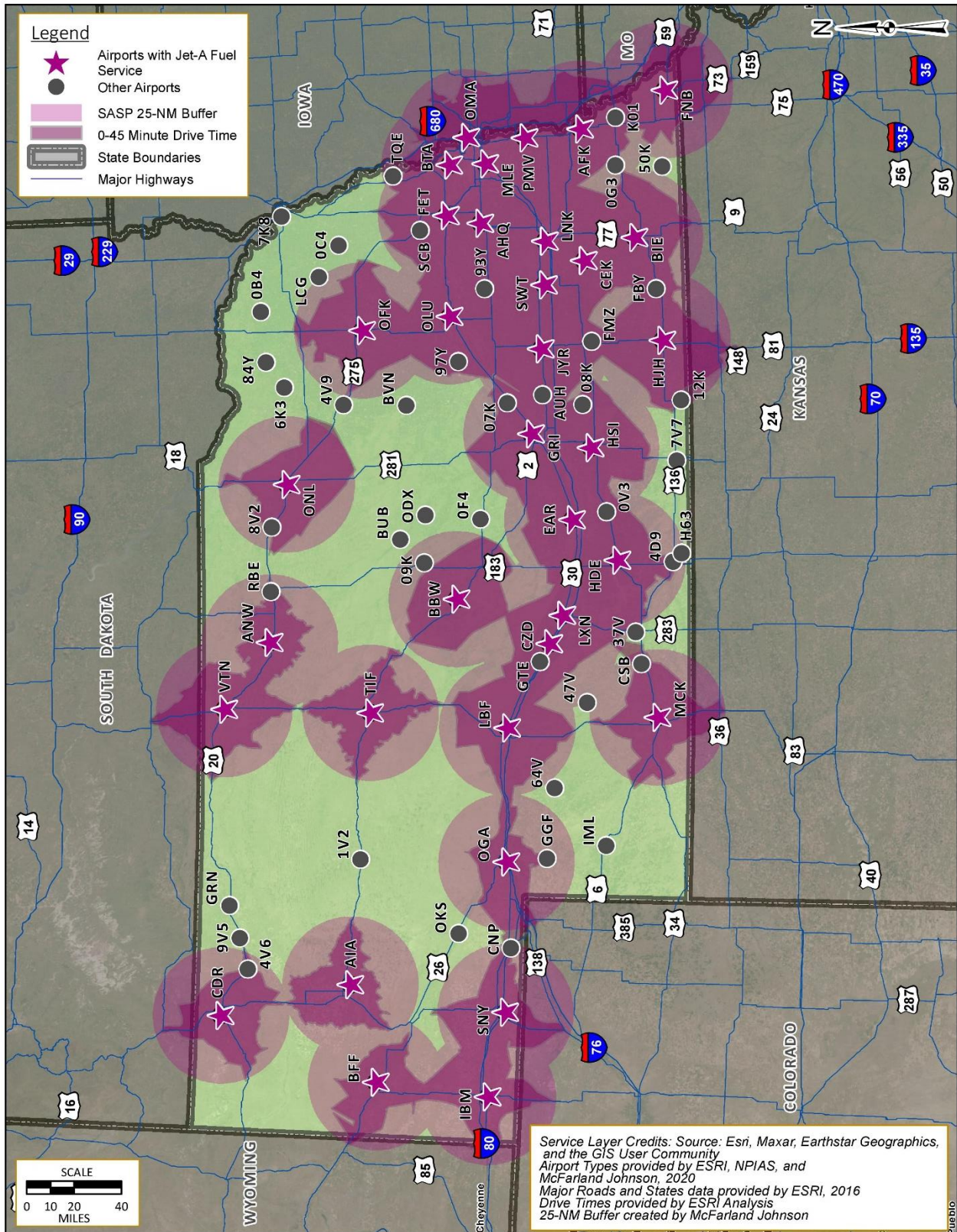
Source: McFarland Johnson, Inc. 2023.

Figure 6-8: Existing Air Access Coverage – Airports with Non-Precision/GPS Approaches



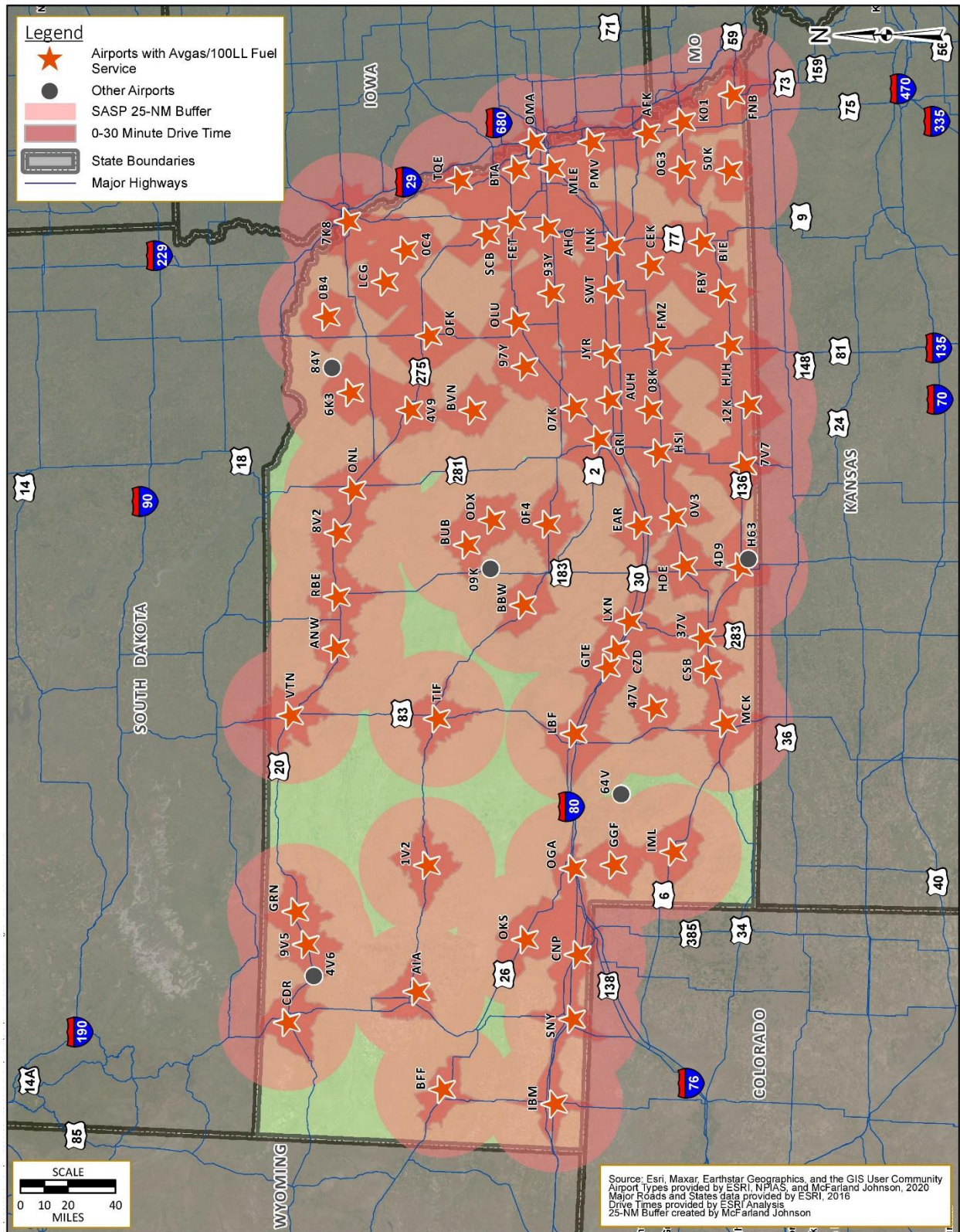
Source: McFarland Johnson, Inc. 2023.

Figure 6-9: Existing Air Access Coverage – Jet-A Fuel Service



Source: McFarland Johnson, Inc. 2023.

Figure 6-10: Existing Air Access Coverage – 100LL/AvGas Fuel Service



Source: McFarland Johnson, Inc. 2023.

Coverage by Airports with On-Site Weather Reporting Service

System airports with on-site official weather reporting service combine to serve 97 percent of the State population and 49 of the top 50 employers. **Table 6-19** presents the breakdown of coverage by these system airports. **Figure 6-11** illustrates this coverage.

Table 6-19: Air Access Coverage – SASP Airports with On-Site Weather Reporting Service

Metric	Coverage ¹	Coverage (% Total) ¹
Land Area	61,138	79.0
Population	1,892,507	96.7
Employment Centers	49	98

Source: McFarland Johnson Analysis, 2023.

¹ Land Area, Population, and Employment Center Coverage refers to the portions of Nebraska only and does not include coverage in neighboring airports’ host communities.

6.4. CRITICAL USE FUNCTIONS

As described in *Chapter 4, Inventory of Existing System*, the following are critical use functions relevant to this SASP and discussed further in this section:

- Agriculture
- Health Care and Emergency Response
- Economic Development
- Tourism

6.4.1. Agriculture

Nebraska is the fourth largest agricultural economy and fifth largest agricultural exporting state in the United States. Approximately 92 percent of the State’s land area is dedicated to agriculture. Agriculture includes livestock production, food manufacturing, farming (crops), and associated maintenance and production services. Because of the vast rural landscape, aviation is essential for fast delivery of equipment replacement parts.

Based on the results of the airport manager’s surveys, a large percentage of airports listed agriculture/spraying as their business and operations as shown in **Table 6-20**. Every SASP Role of airports contributes to the agriculture industry in Nebraska in a variety of forms. While many people first think of aerial application, with regards to agricultural aviation, the industry utilizes corporate, cargo and passenger elements as well to support essential functions. Of note, 100 percent of non-NPIAS airport managers that responded to the survey indicated that their airport has agriculture/spraying business(es) and/or operations. These are airports that operate without federal funding and are providing significant contributions to Nebraska’s economy.

6.4.2. Health Care and Emergency Response

Health care and emergency response are broken down into two categories:

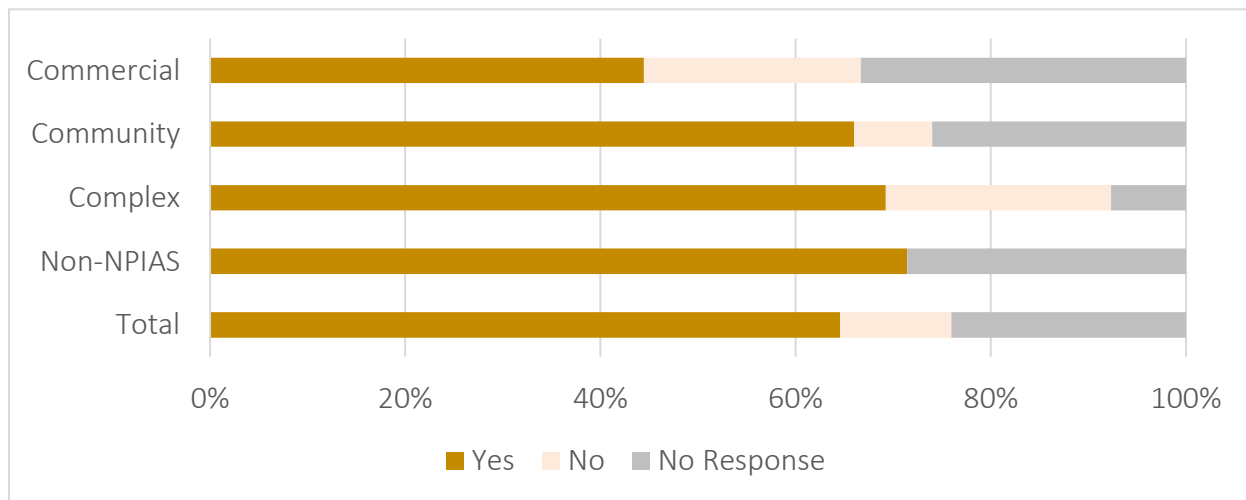
- Emergency Preparedness and Response
 - Aeromedical flights

- Law enforcement/national security/boarder security
- Emergency response
- Aerial fire fighting support
- Emergency diversionary airport
- Disaster relief and search and rescue
- Critical federal functions

- Critical Community Access:
 - Remote population/island access
 - Air taxi/charter services
 - Essential scheduled air service cargo

Table 6-20: Airport Manager Survey Results: Agriculture/Spraying Business and Operations

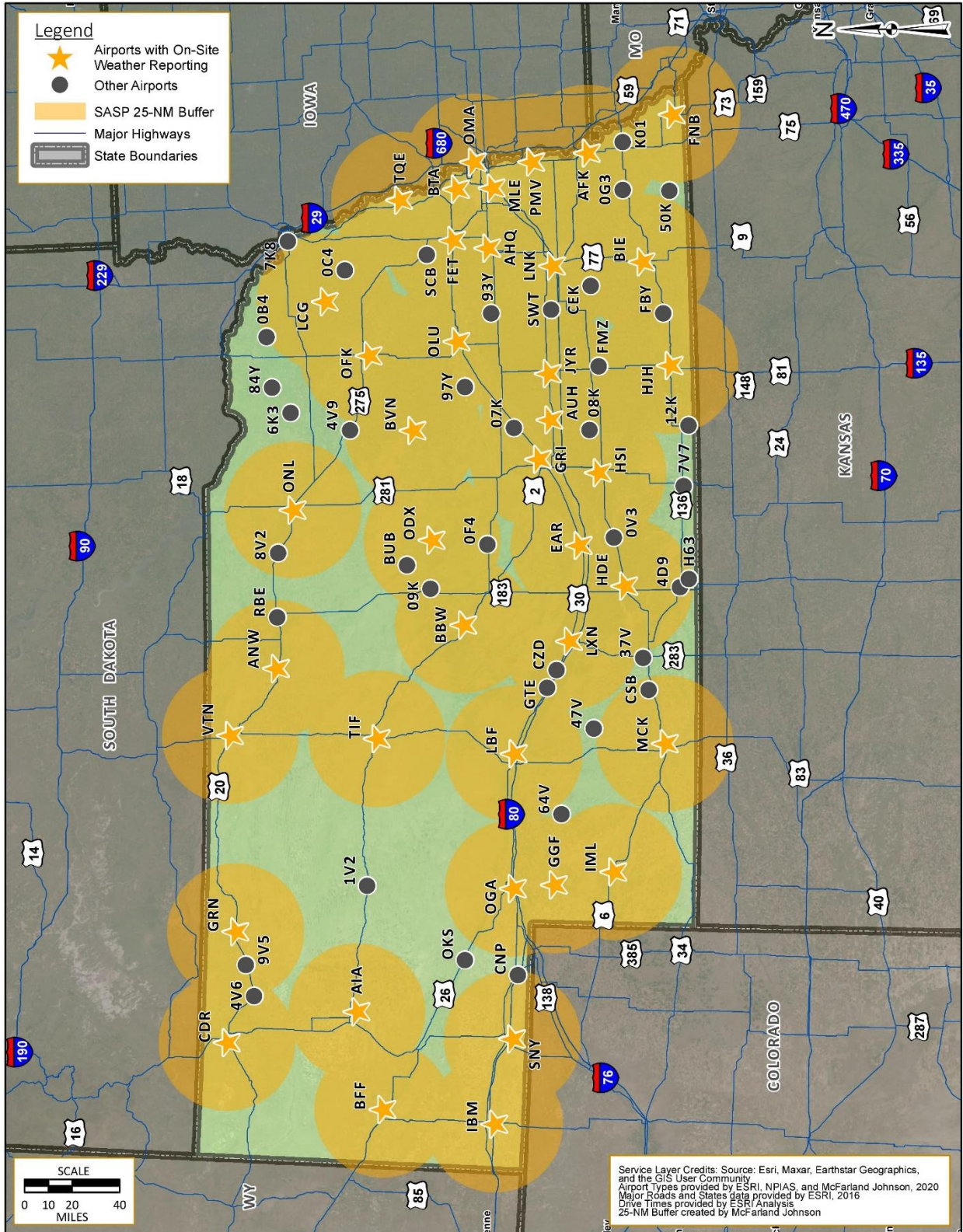
SASP Role	Yes	No	No Response	% "Yes" Responses of Total Respondents
Commercial	44.4% ¹	22.2%	33%	66.7%
Community	66.0%	8.0%	26%	89.2%
Complex	69.2%	23.1%	7.7%	75.0%
Non-NPIAS	71.4%	0.0%	28.6%	100.0%
Total	64.6%	11.4%	24.1%	85.0%



Source: McFarland Johnson Analysis, 2023.

¹ While Kearney did not respond to the survey, its role is critical for the operation and inspection of the local Kosher Beef Plant. If Kearney is included, the "Yes" response increases to 55.6 percent.

Figure 6-11: Existing Air Access Coverage – On-Site Weather Reporting Service



Source: McFarland Johnson Inc., 2023.

Emergency Preparedness and Response

The airport manager’s survey asked if the airport is a base for one or more aeronautical or businesses/operators as they relate to emergency preparedness and response:

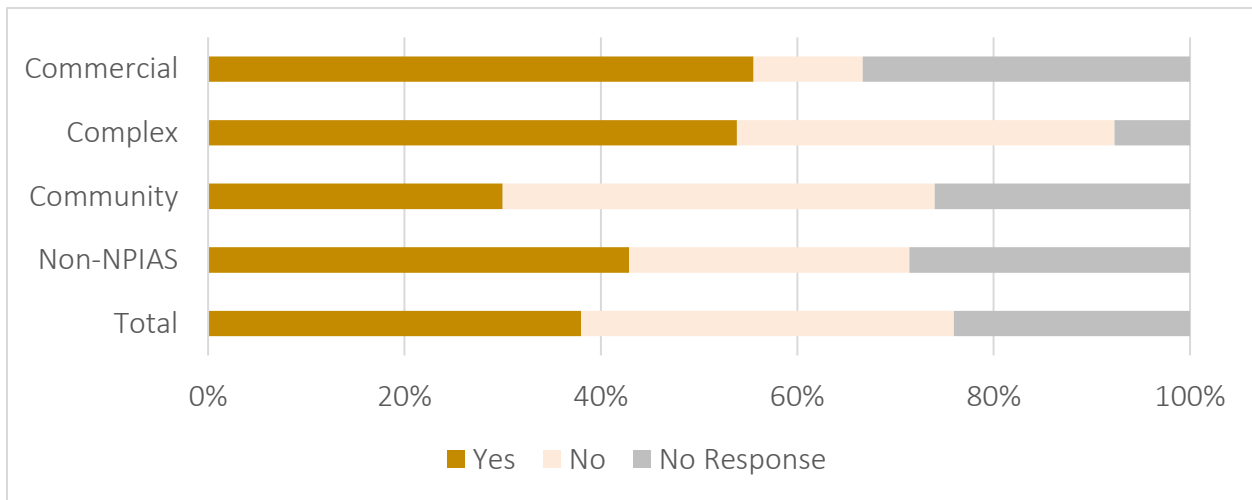
- Air medical/medevac
- Law enforcement
- Emergency response
- Military
- State agency
- Local agency

When combining airports that serve these emergency preparedness and response functions, it results in over 50 percent of commercial service and complex activity airports as well as over 40 percent of non-NPIAS and 30 percent of community activity airports serving an emergency preparedness and response role as shown in **Table 6-21**. Emergency preparedness and response is highly dependent on Jet-A fuel access for air medical/medevac and large-scale emergency response (such as wildfires), which is shown in **Section 6.3.2** of this chapter. Community activity and non-NPIAS airports are part of the emergency air ambulance, rescue, law enforcement, emergency management, and disaster relief.

For general and specialty medical care in rural communities, flying doctors provide quality care access to populations that are not near large hospitals or have local medical access. The aviation community is a critical link in providing healthcare and emergency preparedness and response. Poor runway conditions, lack of runway length, and access during inclement weather can all be inhibitors to this type of healthcare.

Table 6-21: Airport Manager Survey Results: Emergency Preparedness and Response Businesses and Operations

SASP Role	Yes	No	No Response	% "Yes" Responses of Total Respondents
Commercial	55.6%	11.1%	33.3%	83.3%
Complex	53.8%	38.5%	7.7%	58.3%
Community	30.0%	44.0%	26.0%	40.5%
Non-NPIAS	42.9%	28.6%	28.6%	60.0%
Total	38.0%	38.0%	24.1%	50.0%



Source: McFarland Johnson Analysis, 2023.

Critical Community Access

Remote population access is generally provided through air taxi, charter, and essential air service (EAS) operations. These types of operations generally need longer runways, better weather coverage, and fuel availability, although some charter operators fly single engine piston operations, so runway length need varies. These can usually be provided by commercial service and complex activity airports. Some community activity airports meet the varying minimum standards of charter service providers. Additionally, a review of two charter companies that provide services in Nebraska indicated that at least 38 airports would be accessible via charter service.

As previously noted, EAS is provided at seven commercial service airports.

The third category of critical community access is essential scheduled air service cargo. Eight airport managers responded that air cargo operates at their airport, including one community activity airport (Broken Bow Municipal Airport).

The following airports have been identified as having some form of scheduled commercial cargo activity:

- Alliance Municipal Airport

- Western Nebraska Regional Airport/William B. Heilig Field
- Beatrice Municipal Airport
- Kearney Regional Airport
- Central Nebraska Regional Airport
- Hastings Municipal Airport
- North Platte Regional Airport/Lee Bird Field
- Norfolk Regional Airport/Karl Stefan Memorial Field
- The O’Neill Municipal Airport-John L Baker Field

These operations often occur on a small single- of multi-engine turboprop aircraft such as a Cessna Caravan or the Beech99. Operators include Ameriflight, Key Lime, Baron Aviation, and Alpine Air Express.

6.4.3. Economic Development

While agriculture is a major economic driver for Nebraska, this section focuses on two additional aspects of economic development:

- Workforce development
- Opportunities for financial sustainability

Workforce development includes educational programs including flight instruction and A&P (airframe and powerplant) mechanic instruction. According to Niche.com, there are 44 4-year and 2-year educational institutions in Nebraska of which 10 offer engineering technicians degrees and four (4) fire science and firefighting.

When considering opportunities for financial sustainability, airports with business parks allow an airport to have a more diversified and consistent revenue source. Similarly, airports with maintenance facilities have a higher labor force to provide the maintenance (both small and large) services. **Table 6-22** shows airports by SASP role that have at least one of the following economic development aspects: flight instruction (42%), airframe and powerplant (A&P) instruction (3%), and/or a business park (10%).

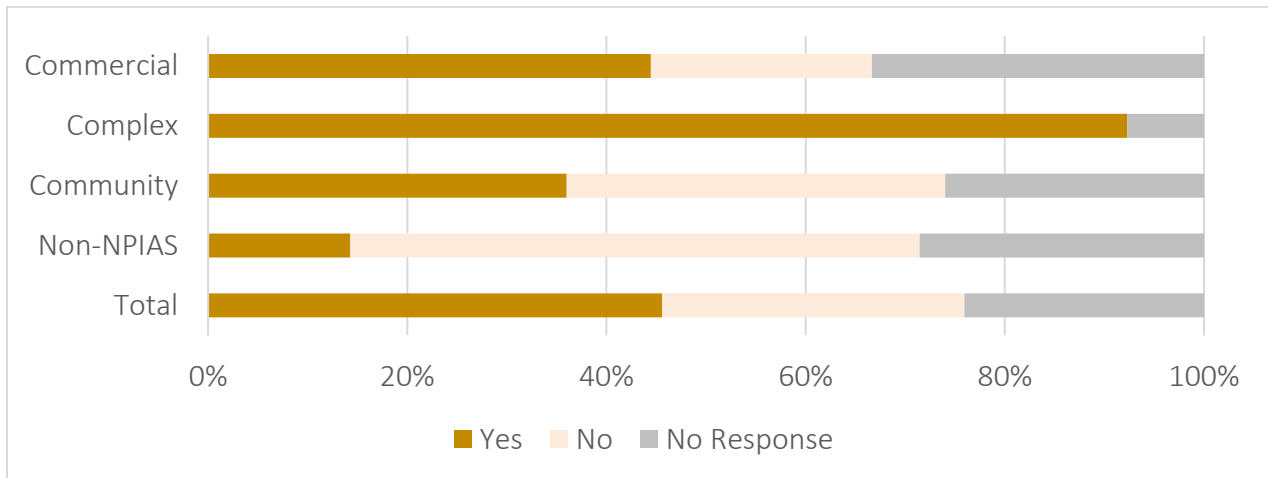
As noted in **Section 6.3.1**, employment centers, which are also economic drivers, are more likely to be near complex activity and commercial service airports. For example, Cabela’s was founded and headquartered in Sidney, Nebraska for decades until it was acquired by Bass Pro Shops in 2017.

6.4.4. Tourism

Tourism is best known for big cities with commercial service airports. Additionally, tourism can come in the form of people driving, flying charter, or personal flying. Nebraska offers other tourist attractions including golfing, nature get-aways, Berkshire Hathaway’s annual shareholder meeting, College World Series in June, and many others. Based on a high-level review of charter companies that offer services in Nebraska, at least 38 airports would be accessible for these charter companies. There is a great opportunity for marketing airports above and beyond the commercial service airports to capture a larger tourism market, as discussed further in *Chapter 8, Policy & Project Recommendations*.

Table 6-22: Airport Manager Survey Results: Economic Development Businesses and Operations

SASP Role	Yes	No	No Response	% "Yes" Responses of Total Respondents
Commercial	44.4%	22.2%	33.3%	66.7%
Complex	92.3%	0.0%	7.7%	100.0%
Community	36.0%	38.0%	26.0%	48.6%
Non-NPIAS	14.3%	57.1%	28.6%	20.0%
Total	45.6%	30.4%	24.1%	60.0%



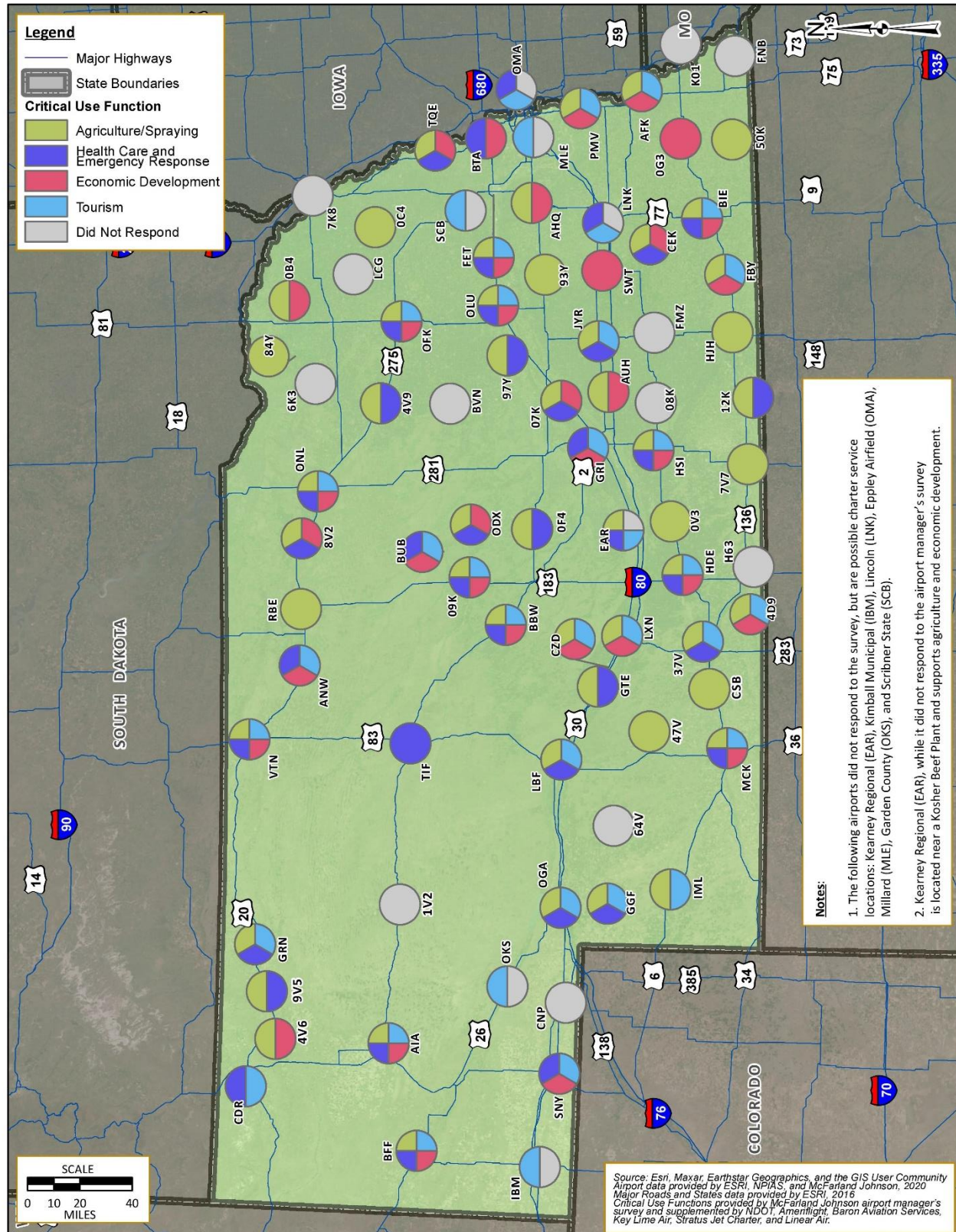
Source: McFarland Johnson Analysis, 2023.

6.4.5. Summary

Figure 6-12 shows Nebraska’s airports and the critical use functions they serve based on the airport manager’s survey responses as well as supplemented information from Nebraska operating charter and cargo companies and NDOT Division of Aeronautics data. As noted, additional airports, that did not respond to the survey, provide critical use functions to the State’s system.

100% OF RESPONDING AIRPORTS PROVIDE ONE OR MORE CRITICAL USE FUNCTIONS.

Figure 6-12: Summary of Critical Use Functions by Airport



Source: McFarland Johnson Inc., 2023.

6.5. SUMMARY OF PROGRAM

The Nebraska system as a whole has average scores of 82 to 98 percent meeting goals both by SASP Role and by region, as shown in **Table 6-23**.

Table 6-23: Summary of Performance Metrics by SASP Role and Region

SASP Role	Average	Maximum	Minimum
Commercial Service	89%	96%	77%
Complex Activity	84%	98%	70%
Community Activity	88%	100%	53%
Non-NPIAS	98%	100%	78%

Region	Average	Maximum	Minimum
Metro	83%	96%	70%
Northeast	92%	100%	73%
Panhandle	84%	100%	60%
Sandhills	82%	100%	53%
South Central	91%	100%	78%
Southeast	90%	100%	57%
Southwest	88%	100%	60%

Source: McFarland Johnson Analysis, 2023.

While the goal is to have 100 percent of the airports meet the minimum facility and service objectives, the average scores as presented above showcase a healthy aviation system that generally meets the needs of the State.



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DEPARTMENT OF TRANSPORTATION

CHAPTER 7 ALTERNATIVES & IMPLEMENTATION PLAN

7. Alternatives & Implementation Plan

7.1. INTRODUCTION

As outlined, the findings from *Chapter 6, Existing System Performance Findings*, and what will later be discussed in *Chapter 8, Policy & Project Recommendations*, represent the desired future system of airports and programming required to implement the Airports Capital Improvement Plan (ACIP) and strategic initiatives. Implementing the future program will depend substantially on funding, from airport sponsors, the Federal Aviation Administration (FAA), and the State.

7.2. CURRENT SYSTEM-WIDE AIRPORT CAPITAL IMPROVEMENT PROGRAM

This section summarizes the 2021 Capital Improvement Program (CIP), which shows proposed projects from 2022 to 2041 (except for Omaha – Eppley (OMA), Lincoln (LNK), and Grand Island (GRI)). The 2021 statewide capital improvement program (CIP), in its entirety, is included in *Appendix F, 2021 Airports Capital Improvement Program*.

The baseline CIP is comprised of the following;

- Previous system plan recommendations;
- Airport master plans and airport layout plan (ALP) update recommendations;
- Input received from annual airport/Nebraska Department of Transportation (NDOT) coordination meetings and data sheets;
- And other project needs as provided by the airport sponsor to NDOT.

Prior to the identification of a reasonable funding source, some projects, especially at Non-NPIAS airports, did not progress through the typical project development process. The projects, most notably at Non-NPIAS airports have not traditionally been reflected in recent year CIPs. With the availability of new funding sources, these projects should be added to the CIP and considered in the overall funding need going forward.

For the purposes of this Plan, OMA, LNK, and GRI are not included in the CIP project lists. Historically, these airports have gone through the State’s channeling to complete and distribute finances for their CIPs. However, since 2008, these airports no longer channel their finances through NDOT. They submit their data sheets to the State for approval from the commission, but they no longer channel their finances. Primary airports within the State have the option to opt out of the State’s channeling. If at any point one of these airports falls below the necessary 10,000 enplanements to be classified as primary, the State resumes channeling for them.

7.2.1. Programmed CIP Projects

Table 7-1 shows a summary of programmed projects (in 2021 dollars), according to the 2022-2041 CIP by type of project. Primary and secondary pavements have the highest funding programmed, followed closely by buildings.

Table 7-1: Nebraska Programmed 2022-2041 CIP Projects (in 2021 Dollars)

Type	Description ¹	Programmed Funding
Primary Pavements	Runways and RSA/ROFA Improvements	\$157,041,180
Secondary Pavements	Taxiways, Taxilanes, TSA/TOFA Improvements, and Aprons	\$134,421,112
NAVAIDS and Visual Aids	Approach Equipment, Lighting, and Weather Stations	\$46,237,022
Services and Equipment	Fueling, ARFF, and SRE	\$16,944,500
Buildings	Hangars, Terminals, and Maintenance/SRE Buildings	\$115,625,007
Planning, Land Acquisition, and Environmental	Planning Studies, ALPs, Fee Simple Acquisitions, Avigation Easements, Surveying, and Environmental Studies	\$24,903,520
Other	Landside Pavement, Fencing, Wayfinding, Ground Transportation, and Obstruction Removal	\$18,038,305
Total		\$513,210,646

Sources: *NDOT Division of Aeronautics 2021 CIP and McFarland Johnson Analysis, 2023.*

¹ Runway Safety Area (RSA); Runway Object Free Area (ROFA); Taxiway Safety Area (TSA); Taxiway Object Free Area (TOFA); Aircraft Rescue and Fire Fighting (ARFF); Snow Removal Equipment (SRE); and Airport Layout Plan (ALP)

² Excluding OMA, LNK, and GRI funding needs.

As shown in **Table 7-1**, the programmed funding for projects during the planning period from 2022-2041 are approximately \$513 million. These projects are anticipated or have been presented to the commission for approval in the grant submission process.

7.2.2. Unprogrammed CIP Projects

Table 7-2 shows a summary of unprogrammed projects (in 2021 dollars), according to the 2022-2041 CIP by type of project. Primary pavements and buildings have the highest funding estimates, followed closely by secondary pavements.

As shown in **Table 7-2**, the estimated funding for unprogrammed projects for the planning period from 2022-2041 is approximately \$78 million. These projects are projects that are on the radar of NDOT, but not part of the anticipated ACIP.

Table 7-2: Nebraska Unprogrammed 2022-2041 CIP Projects (in 2021 Dollars)

Type	Description	Funding Estimates ¹
Primary Pavements	Runways and RSA/ROFA Improvements	\$21,308,730
Secondary Pavements	Taxiways, Taxilanes, TSA/TOFA Improvements, and Aprons	\$18,424,114
NAVAIDS and Visual Aids	Approach Equipment, Lighting, and Weather Stations	\$5,791,385
Services and Equipment	Fueling, ARFF, and SRE	\$1,773,730
Buildings	Hangars, Terminals, and Maintenance/SRE Buildings	\$23,265,885

Type	Description	Funding Estimates ¹
Planning, Land Acquisition, and Environmental	Planning Studies, ALPs, Fee Simple Acquisitions, Avigation Easements, Surveying, and Environmental Studies	\$1,973,100
Other	Landside Pavement, Fencing, Wayfinding, Ground Transportation, and Obstruction Removal	\$5,238,520
Total		\$77,775,464

Sources: NDOT Division of Aeronautics 2022 CIP and McFarland Johnson Analysis, 2023.

¹ Excluding OMA, LNK, and GRI funding needs.

7.3. TOTAL SYSTEM FUNDING NEEDS

In addition to the CIP projects listed in **Section 7.2**, there are project needs that have not been programmed into the CIP yet, that should be addressed within the 20-year planning period. These projects include additional maintenance above and beyond the CIP, updates of planning documents, and projects that would meet the system-wide goals identified in **Chapter 6, Existing System Performance Findings**. **Table 7-3** shows the anticipated funding needs for Nebraska’s Non-NPIAS, community activity, complex activity, and commercial service airports (except for OMA, LNK, and GRI). Non-NPIAS airports do not receive federal funding and would need projects to be fully funded by State and local funding.

Based upon these estimates, a total of over \$544 million (in 2021 dollars) will be needed for Nebraska airports (except for OMA, LNK, and GRI) through 2041. It is anticipated that within the 20-year planning period, the actual funding need exceeds \$1 billion.

Table 7-3: Estimated Costs Over 20-Year Period

	Non-NPIAS	Community	Complex	Commercial	Total	Average Annual
Maintenance /Planning	\$1,322,075	\$84,545,952	\$64,308,126	\$69,485,330	\$218,775,483	\$10,938,774
Airside SASP	\$0	\$13,691,100	\$7,519,722	\$7,103,320	\$28,314,142	\$1,415,707
Landside SASP	\$0	\$10,038,000	\$21,429,850	\$35,054,080	\$66,521,930	\$3,326,097
Programmed CIP	\$0	\$132,933,558	\$60,735,736	\$37,344,160	\$231,013,454	\$11,550,673
Total	\$1,322,075	\$241,208,610	\$153,993,434	\$148,986,890	\$544,625,009	\$27,231,250

Sources: 2021 Nebraska CIP and McFarland Johnson Analysis, 2023.

¹ Annual Local Share

² OMA, LNK, and GRI are not included in this table and the total 20-year need likely exceeds \$1 billion.

Table 7-4 shows the estimated funding available over the 20-year planning period.

Table 7-4: Estimated Funding Over 20-Year Period

	Non-NPIAS	Community	Complex	Commercial ¹	Total	Average Annual
Estimated Entitlement	\$0	\$144,000,000	\$45,000,000	\$103,000,000	\$312,000,000	\$15,600,000
Estimated Discretionary ²	\$0	\$14,111,458	\$11,595,412	\$49,517,120	\$75,223,990	\$3,761,200
Estimated Total Federal Funding	\$0	\$158,111,458	\$56,595,412	\$152,517,120	\$387,223,990	\$19,361,200
Estimated Total Programmed CIP Funding	\$1,322,075	\$241,208,610	\$153,993,434	\$148,986,890	\$545,511,009	\$27,275,550
Total Funding Gap	\$1,322,075	\$83,097,152	\$97,398,022	\$(3,530,230)	\$158,287,019	\$7,914,351
State Funding Discretionary Match ³	\$1,189,868	\$12,060,431	\$7,699,672	\$7,449,345	\$27,275,550	\$1,363,778
Revised Surplus/ (Deficit)	\$(132,208)	\$(71,036,722)	\$(89,698,350)	\$10,979,575 ⁴	\$(131,011,469)	\$(6,550,573)

Sources: 2021 Nebraska CIP and McFarland Johnson Analysis, 2023.

¹ OMA, LNK, and GRI are not included in this table and the total 20-year programmed CIP funding likely exceeds \$1 billion.

² The estimated discretionary funding is derived from the average historical discretionary funding awarded multiplied by 20 years through the planning period.

³ For non-NPIAS airports, a 90 percent State match was assumed while at community, complex, and commercial airports, a five percent match was assumed.

⁴ Discretionary monies were calculated for the 20-year planning period using the average annual discretionary received between 2011-2020. By using averages, years with much higher than normal discretionary funding can skew the data. In any given year, there will be no excess of federal funding on AIP projects. Therefore, any surplus would be assumed an anomaly due to one year of much higher than average funding.

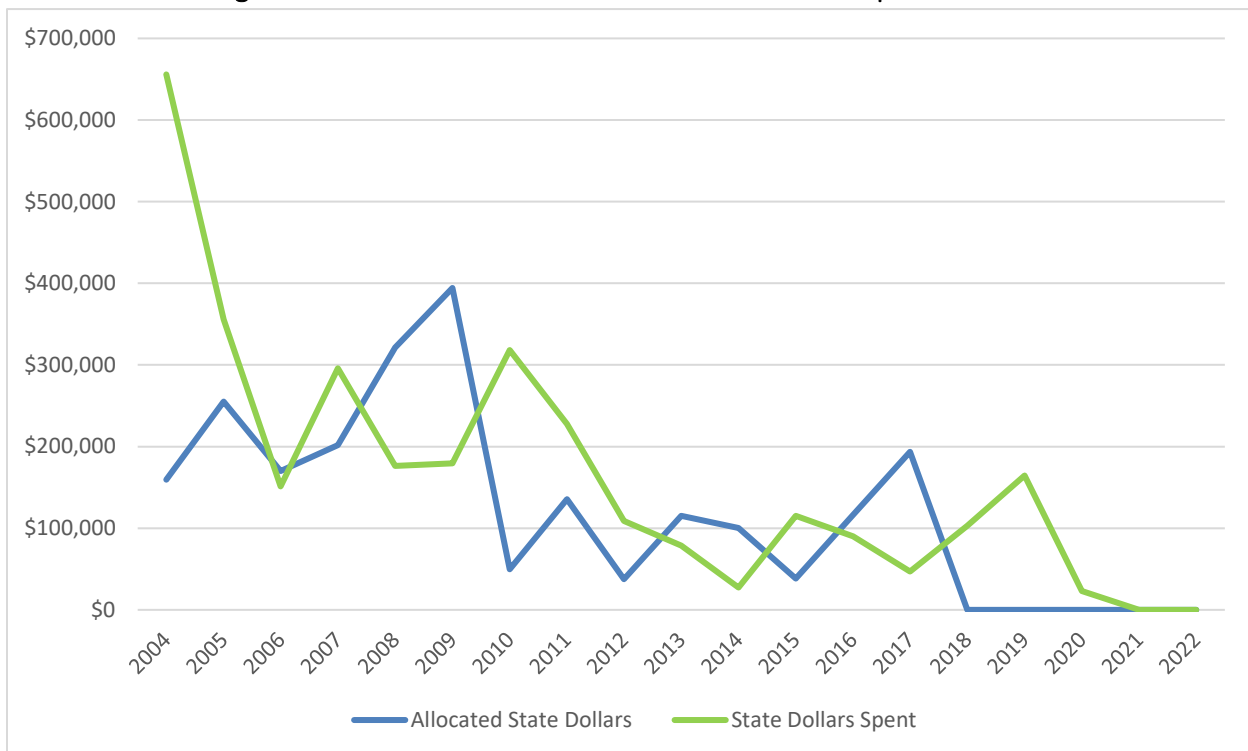
The estimated funding over the planning period anticipates entitlement, discretionary funding, as well as a State match on programmed CIP funds. Non-NPIAS airports are not federally funded and therefore must self-fund or use State dollars to fund projects. For this reason, it is assumed that for these airports to fund projects, a State match of at least 90 percent will be needed. For community activity, complex activity, and commercial service airports, a State match of five percent is assumed. The estimated discretionary funds were calculated using the average funds provided from 2011-2020, multiplied by 20 years. Providing a State match allows for more federal discretionary funding to be gained because the airports can meet their local share. However, with only a State match, there is still an average annual deficit of just over \$6.5 million.

Section 7.4.1. shows the changes that have occurred in State funding starting in June 2023. As of now, the State has an average of \$3.25 million over the next five years. To meet the 90 percent

match for Non-NPIAS airports and five percent match for federal discretionary funding for NPIAS airports, the State would need an average annual investment of approximately \$1.4 million. With approximately \$1.85 million in remaining money, the State could help fund additional projects that do not receive federal discretionary funding to help further reduce the overall funding deficit.

The combination of lack of income/revenues could also explain why the State match for AIP grants has been declining since 2004 as shown in **Figure 7-1**. It should be noted that the funding amount allocated for a State match did not necessarily reflect the funds that were used. While State dollars spent declined since 2004, allocated dollars peaked in 2009 before declining to \$0 in 2018. Despite there being no allocated money, the State still continued to fund programs such as the hangar loan and fuel loan program that offered airports interest free loans. As noted previously, the State’s AIP grant match and State grants to airports was significantly reduced due to funding constraints. Since then, new legislation has been passed providing some State funding for airports.

Figure 7-1: Nebraska State AIP Grant Match Dollars per Year



Source: Nebraska DOT, 2023.

7.4. FUNDING SCENARIOS

Three funding scenarios were analyzed: a no change scenario, a partial funding increase scenario, and a full funding scenario. The no change scenario assumes that the funding available at the time of the publishing of this report, 2023, remains steady throughout the 20-year planning period. The partial funding increase scenario demonstrates potential meaningful increases in funding that could grow the State’s airports fund. The full funding scenario assumes that the State is able to fund all CIP projects for all airports in the State by either matching half the local share of federally funded AIP projects or fully funding ineligible projects with State dollars.

7.4.1. Funding Scenario 1: No Change

In June 2023, legislation was passed and signed that provides additional funding to aviation. These two pieces of legislation are as follows:

- **LB138¹**: This legislation provides that administrative costs of the NDOT Aeronautics Division may be paid for out of the general NDOT budget. This potentially frees up approximately \$1.2 to \$2 million which can now be allocated for airport grants and programs².
- **LB727³**: This legislation creates the Department of Transportation Aeronautics Capital Improvement Fund. This allows for sales and use tax proceeds from aircraft purchases and leases to be deposited into the aviation specific fund rather than the State General Fund. This is expected to provide approximately \$1.4 million in fiscal year (FY) 2023-2024 for airport grants and increase annually up to approximately \$1.9 million in FY 2027-2028⁴.

For the purposes of this report, the 5-year funding average sum of LB 138 (approximately \$1.6 million) and LB727 (approximately \$1.65 million) was used as the no change funding scenario. This scenario projects State revenue of approximately \$3.25 million annually.

As shown in **Table 7-3**, there is programmed CIP funding of over \$544 million in 2021 dollars for Nebraska system airports (excluding OMA, LNK, and GRI). In this funding scenarios, with no change to State funding, **Table 7-5** shows that there will be an average annual deficit of approximately \$4.4 million (in 2021 dollars).

¹ <https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB138.pdf>

² https://nebraskalegislature.gov/FloorDocs/108/PDF/FN/LB138_20230526-141103.pdf

³ <https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB727.pdf>

⁴ https://nebraskalegislature.gov/FloorDocs/108/PDF/FN/LB727_20230526-162442.pdf

Table 7-5: Estimated Revenues over 20-Year Period – No Change Funding Scenario

	Community	Complex	Commercial ¹	Total ¹	Average Annual ¹
Estimated Entitlement	\$144,000,000	\$45,000,000	\$103,000,000	\$292,000,000	\$14,600,000
Estimated Discretionary	\$28,222,916	\$23,190,824	\$49,517,120	\$100,930,880	\$5,046,543
Estimated Total²	\$172,222,916	\$68,190,824	\$152,517,120	\$392,930,860	\$19,646,543
Sub-Total NPIAS Programmed CIP Funding	\$241,208,610	\$153,993,434	\$148,986,890	\$544,188,934	\$27,209,447
Surplus/(Deficit)	\$(68,985,694)	\$(85,802,610)	\$3,530,230 ⁴	\$(151,258,074)	\$(7,562,904)
Non-NPIAS Programmed CIP Funding				\$1,322,075	\$66,104
Total Programmed CIP Funding				\$545,511,009	\$27,275,550
Available State Funding				\$65,000,000	\$3,250,000³
Surplus/(Deficit)				\$(87,580,149)	\$(4,379,007)

Sources: FAA AIP, 2022-2040 NE CIP, 2022 Olsson Cost estimates, and McFarland Johnson Analysis, 2023.

¹ OMA, LNK, and GRI were excluded from the programmed commercial funding.

² Both entitlement and discretionary funds are federal funds and the amount of funding is predicated on allocations from the federal government.

³ This applies the average State funding over the next five years and projects it out over the 20-year planning period. If State funding grows at three percent compound annual growth rate (CAGR), annual State funding could increase to approximately \$5 million by 2043.

⁴ Discretionary monies were calculated for the 20-year planning period using the average annual discretionary received between 2011-2020. By using averages, years with much higher than normal discretionary funding can skew the data. In any given year, there will be no excess of federal funding on AIP projects. Therefore, any surplus would be assumed an anomaly due to one year of much higher than average funding.

Challenge: Some Airports Cannot Meet Local Share/Lack Basic Maintenance Funding

For nonprimary airports, the annual FAA entitlement is \$150,000. At a 90 percent funding rate, this results in an annual local share of approximately \$16,667 needed. This can be a challenge for (particularly smaller) airports in the system. This is especially true for larger projects at smaller airports when entitlement funds are saved for a few years to be able to fund these larger projects.

If the local share cannot be met, it means that an airport must borrow to be able to meet the local share, making it even harder for the airport to sustain itself in the future. In some cases, not meeting the local share can result in an airport delaying/postponing or having to cancel a project altogether. Airports that are most in need of entitlement funding may find that they are forced to forfeit certain years of entitlement funding, putting them further behind on pavement/facility needs and financial self-sufficiency.

Similarly, non-NPIAS airports may lack the funding to complete basic maintenance projects. This could lead to deterioration of airports to the points of inoperability/safety concerns and in extreme cases could result in airports shutting down.

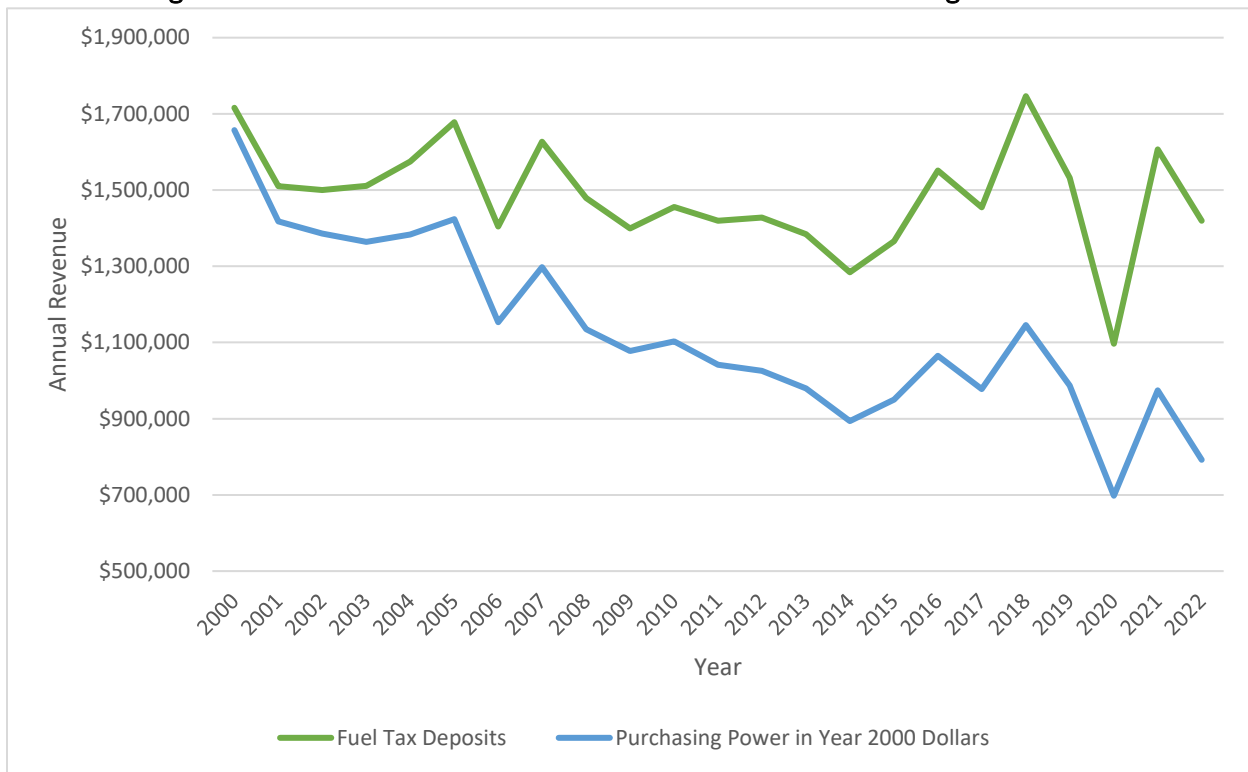
Due to funding constraints, the State was forced to discontinue or modify the following aviation programs:

- State grants to airports
- Local match of AIP grants
- Aviation education programs
- Airport assistance previously provided:
 - Design, bid, and install all automated weather observing systems (AWOS)
 - Crack and joint seal program
 - Airport zoning/land use assistance
 - Airport lease assistance
- Nebraska aeronautical charts publication
- Annual report publications
- Statewide air service development

This reduction in revenues has also been a catalyst for the reduction in Nebraska Aeronautics staff from 36 in 1990 to only 19 in 2023.

Fuel tax revenue, the main source of aviation revenue in the State, has been losing purchasing power. As shown in **Figure 7-2**, the purchasing power of the fuel tax revenue has been declining from 2000 to 2015. Revenues increased between 2015 and 2019, but their purchasing power did not exceed the 2000 purchasing power. There was a rapid decline in revenues in 2020 and through 2022. Fuel tax revenue purchasing power in 2014, 2020, and 2022 were the three lowest years since before 2000. This results in a decline of over two percent per year (compounded) between 2000 and 2022 and a loss of approximately \$650,000 in annual purchasing power over the same period.

Figure 7-2: Nebraska Aviation Fuel Tax Revenue and Purchasing Power



Source: NDOT Aeronautics, 2023 and McFarland Johnson Analysis, 2023.

Prior to 2019 with fuel tax deposits of approximately \$1,746,000, the high point in annual fuel tax deposits was approximately \$1,735,000 in 2000. The purchasing power from the year 2000 dollars has declined over the past 20 years and with fuel tax deposits only keeping pace, this further impacts the overall effective buying power of the fuel tax program.

Recommendation: Consider having a funding mechanism in place to supplement local share needs when they cannot be met by airports. This could help prevent delays and cancellation of projects and therefore prevent even more expensive projects down the road. This funding mechanism should also be available for non-NPIAS airports basic maintenance projects.

Challenge: Limited Discretionary Funding

Nebraska airports have been receiving lower levels of discretionary funding than their surrounding airports. Based on a comparison of surrounding states (Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming) FAA grant histories from 2011 through 2020, Nebraska has received the lowest per airport discretionary funding for nonprimary airports and the second lowest total per airport discretionary funding (only South Dakota was lower by ~\$4,500 per airport/year).

Nebraska nonprimary airports receive 42 percent of the average per airport annual discretionary funding of surrounding states and 58 percent of even the second lowest state (South Dakota). Similarly, all Nebraska airports receive 49 percent of average per airport annual discretionary funding of airports in the surrounding states. These historical discretionary funding amounts can be seen in **Table 7-6**.

Table 7-6: Historical Discretionary (2011-2020) for Nebraska and Surrounding States

State ¹	# of NPIAS Airports	Total Discretionary	Average Per Airport	Average Per Nonprimary Airport
Nebraska	72	\$112,252,371	\$155,906	\$57,792
Colorado	49	\$421,389,977	\$859,980	\$299,650
Iowa	79	\$203,494,739	\$257,588	\$138,177
Kansas	80	\$156,007,852	\$195,010	\$140,631
Missouri	73	\$143,595,199	\$196,706	\$103,870
South Dakota	58	\$87,800,315	\$151,380	\$98,923
Wyoming	33	\$140,889,186	\$426,937	\$125,098

Source: FAA Grant History and McFarland Johnson Analysis, 2023.

¹**Bold** States are located within the FAA’s Central Region.

Recommendation: The system should focus on justifying eligible pavement through planning documents and have a source of strong advocacy to be able to increase discretionary funding for its airports.

Challenge: CIP Is Not Adjusted for Annual Inflation

A common challenge for airports, the Federal Aviation Administration (FAA), and state agencies is that the annual CIP process does not include any automatic annual adjustments for inflation or changes of raw material, labor, and other costs. This has been a major point of conversation in recent years as costs for raw materials have skyrocketed above and beyond standard annual rates. This impacts smaller airports more than bigger airports, as the smaller airports generally do not have any additional back-up funding to rely on to supplement any changes in project costs.

For the 2022-2041 CIP alone, that could mean an additional \$150 million for the 20-year planning period, assuming an annual three percent increase in project costs. While the first five years of the CIP typically reflect more accurate costs, as the planning period extends further out, there is less confidence in the spending power of available funds.

Recommendation: CIP project costs should be updated regularly. 10-year average inflation is 2.5 percent and 5-year average inflation is 3.6 percent. Project costs should be manually adjusted by the airport sponsor as projects get closer to being implemented.

Challenge: Entitlement Does Not Fund What It Used To

The formation of the AIP was originally established under the Airport and Airway Improvement Act of 1982 to support airport infrastructure, safety, and capacity needs through annual grants. Sponsors can receive AIP funds for most airfield capital improvements or rehabilitation projects and in some specific situations, for terminals, hangars, and non-aviation development. Certain professional services that are necessary for eligible projects (such as planning, surveying, and design) can also be eligible.

The Wendell H. Ford Aviation Investment and Reform Act of the 21st Century (AIR-21), enacted in 2000, increased the State Apportionment to the lesser of 20 percent of the airport’s 5-year capital

needs or \$150,000 when at least three point two billion dollars (\$3.2 Billion) in AIP funding is available⁵. This number has remained the same since its establishment over 20 years ago.

Not only has the number remained the same, but not all Nebraska airports received entitlement funding when it was first established. Of the 79 public use airports, only 14 airports received entitlement dollars the first year. Without this funding, projects were not able to be completed and therefore, time and spending power was lost before airports were even receiving these dollars.

Purchasing Power of \$150,000

The U.S. Bureau of Labor Statistics states that the cost of goods and services, otherwise known as the Consumer Price Index (CPI) has inflated by approximately 71 percent from the years 2000 to 2022. This rate of inflation means that a project that would have cost \$150,000 in the year 2000 would cost approximately \$256,500 in 2022 dollars. In other words, the purchasing power of the dollar has decreased dramatically while nonprimary entitlement funding has remained the same. **Figure 7-3** illustrates the decrease in purchasing power of \$150,000 from the 2000 to 2022. By the year 2022, the purchasing power of the nonprimary entitlement grant has decreased to approximately \$87,700 in 2000 dollars.

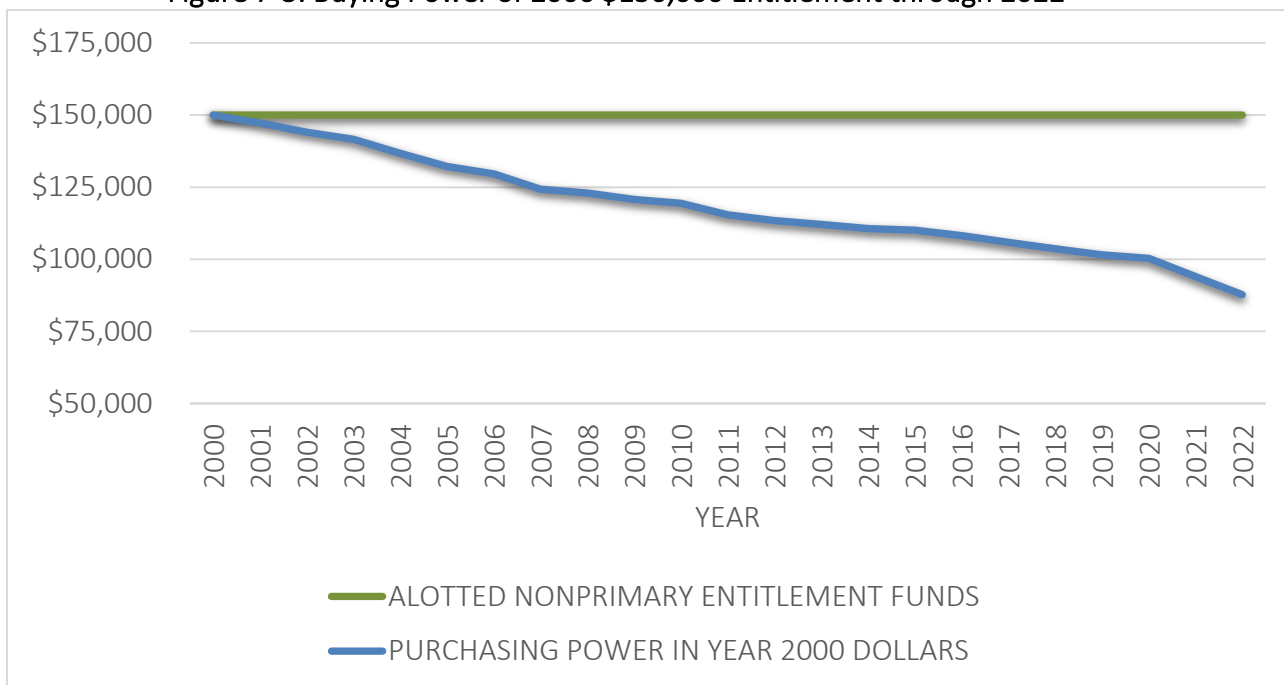
Not only are prices inflating, but the scopes of work associated with AIP-eligible projects are continuously expanding. Increased funding is necessary to keep pace. As shown, the buying power of entitlement funds are decreasing, but it should also be of note that the buying power of State dollars is also decreasing.

Considerations from the National Association of State Aviation Officials

As the FAA Reauthorization Act approaches its expiration date, the National Association of State Aviation Officials (NASAO) works with their members to create a list of priorities to be considered. NASAO's priorities for the 2023 FAA Reauthorization included a proposal to increase nonprimary entitlement funding to airports with more activity. The proposal included increasing nonprimary entitlement funding to \$1 Million for national airports, \$500,000 for commercial service nonprimary airports, \$500,000 for regional airports, \$250,000 for local airports, \$150,000 for basic airports, and \$0 for unclassified airports.

⁵ FAA Airports [Airport Improvement Program History](https://www.faa.gov/sites/faa.gov/files/airports/aip/overview/AIP-Program-History.pdf), November 2017, accessed May 1, 2023 <<https://www.faa.gov/sites/faa.gov/files/airports/aip/overview/AIP-Program-History.pdf>>.

Figure 7-3: Buying Power of 2000 \$150,000 Entitlement through 2022



Sources: Consumer Price Index and McFarland Johnsons Analysis, 2023.

Considerations for Discretionary Funding Priority Program

The creation and subsequent implementation of a funding priority program could provide NDOT with a tool to promote mindfulness when funding airport projects within the State. It is recommended that NDOT assess program effectiveness through evaluation of the success of other States.

Recommendation: As the buying power of federal entitlement and State funding continues to erode, it is more and more important for airports to have an advocate for additional federal discretionary funding until federal entitlement funding may or may not increase.

Challenge: Anticipated Reduced Fuel Sales/Tax Revenue

As noted in the previous section, in 2016 through 2023, on average, approximately 68 percent of State Aeronautics Cash Funds were from aviation fuel taxes on an annual basis. This is the single largest revenue source available when you remove FAA funds that are channeled through the State. While the State has seen a compound annual growth rate increase of approximately six percent per year during that period, the two most current years’ data have not been published to confirm this growth rate continued through the COVID-19 pandemic. Within the long-term period, it is anticipated that more and more aircraft manufacturers will come to the market with electric aircraft. The trend is already starting with 9-seat and smaller aircraft and will continue to expand from there. Additionally, alternative fuel sources are being tested to reduce the United States’s carbon footprint. Increased fuel efficiency and alternative fuel sources are likely to reduce the aviation fuel need and associated taxes. This challenge is not unique to Nebraska, but rather a national trend that will continue to evolve.

Recommendation: Put a fee structure in place to replace reduced fuel tax revenue (in aviation and transportation as a whole) through an equivalent electric/alternative fuel flowage fee, higher electric aircraft sales taxes or registration fees, higher electric aircraft landing fees, and/or other revenue structure.

Long-Term Outlook

In the long-term, this no change scenario could result in:

- **Maintaining the *most critical* portions of the current system:** By injecting additional funding opportunities (both through additional discretionary funding and additional State funding), it will allow more airports to complete projects without costly delays and therefore more efficiently maintain the current system.
- **Documenting eligible and justified airport pavement and facilities:** Funding Scenario 1 focuses on leveraging planning projects to accurately document eligible and justified pavements and facilities for federal funding. This increases the chance of getting federal funding for projects, including increased discretionary funding.
- **Maintaining the State’s critical use functions:** As discussed in *Chapter 6, Existing System Performance Findings*, every airport that responded to the airport manager’s survey in the Nebraska system supports one or more of the State’s critical use functions. Providing additional funding to maintain the existing aviation system (both NPIAS and non-NPIAS airports) will continue to maintain the infrastructure needed to support the State’s critical use functions: agriculture/spraying, healthcare and emergency response, economic development, and tourism.

Community activity airports usually have the hardest time proving eligibility and having the financial means to provide the local share of federally funded projects. By documenting need, eligibility, and justification and having a mechanism in place to help airports that may need funding to supplement their local share, supports the industries that need these airports the most. Non-NPIAS airports generally have the least means to maintain their infrastructure and need financial support for basic maintenance and upkeep to continue to provide the services they currently provide.

7.4.2. Funding Scenario 2: Partial Funding Increase

A partial funding increase scenario means that additional means of revenue have been created and added to the aeronautics fund. This increase will allow additional State funding for projects but falls shy of funding the entire system. With current system revenue sources decreasing in value, there is an emphasis on funding resiliency and finding revenue sources that will sustain into the future, especially as fuel tax revenue decreases.

Changes to be considered would include: increasing the fuel tax, adding aircraft registration fees, increasing aircraft sales tax, specialty license plates, and increased fees for electric aircraft. Each of these potential sources was analyzed for both their revenue benefits as well as their user

impacts. **Table 7-7** below shows the level of benefit and impact qualified for each potential new revenue source.

Table 7-7: Alternative Revenue Source Benefits/Impacts

Funding Source	Benefit	Impact
Fuel Tax Increase	High	Low
Add Aircraft Registration Fee	Medium	Medium
Aircraft Sales and Use Tax Increase	High	High
Specialty License Plates	Medium	Low
Modernized Fee Structure	Low	High

Source: McFarland Johnson Analysis, 2023.

When evaluating the potential benefits and impacts high, medium, and low classifications were created for both benefits and impacts.

Benefit classifications are as follows:

- High benefit results in over \$250,000 of potential revenues
- Medium benefit results in over \$100,000 of potential revenues
- Low benefit results in less than \$100,000 of potential revenues

Impact classifications are as follows:

- High impact results in system users changing how they interact with aviation within the State that would result in a notable change in the annual costs to the user.
- Medium impact results in some changes in how system users make decisions, but not enough to cause significant changes in behavior.
- Low impact results in little change in system user behavior.

Fuel Tax Increase

As of 2023, Nebraska charges a 5-cent tax on 100LL and a 3-cent tax on Jet-A fuel⁶. Sale of 100LL and Jet-A fuel accounted for approximately \$1.4 million of revenue put directly into the aviation fund. By increasing 100LL tax to 6 cents and Jet-A tax to 4 cents, this could produce additional revenue per fiscal year. **Table 7-8** shows the aviation fuel tax rates for the States surrounding Nebraska.

⁶ <https://revenue.nebraska.gov/motor-fuels/fuel-tax-rates>

Table 7-8: Fuel Tax by State

State	100LL/Avgas	Jet-A
Colorado	\$0.06/gallon	\$0.04/gallon
Iowa	\$0.08/gallon	\$0.05/gallon
Kansas	None	None
Missouri	\$0.09/gallon	None
Nebraska	\$0.05/gallon	\$0.03/gallon
South Dakota	\$0.06/gallon	\$0.04/gallon
Wyoming	\$0.05/gallon	\$0.05/gallon

Source: <https://www.complyiq.io/gas-tax-state-2/>

As shown in **Table 7-8**, Nebraska’s fuel tax is lower than each of the surrounding States except Kansas, which has not fuel tax and Missouri, which does not have a Jet-A fuel tax. In addition to comparing the aviation fuel taxes to surrounding States, the 2023 sales tax on motor vehicles was also identified. This tax, as of 2023, is 29 cents per gallon, which is more than five times that of aviation fuel.

Increasing the fuel tax by 1-cent for both 100LL and Jet-A would add revenue while still staying on par with the surrounding areas.

New Aircraft Registration Fee

As of 2023, Nebraska does not require aircraft to be registered with the State and therefore, does not collect aircraft registration fees.

Of the surrounding States, the Aircraft Owners and Pilot Association (AOPA) notes that only Iowa and South Dakota have aircraft registration fees.

Iowa has a fee structure⁷ set up that generates a minimum of \$35 and a maximum of \$5,000 dollars annually per aircraft. Aircraft are charged a percentage of the manufacturer's list price: one percent for the first year, 0.75 percent for the second year, 0.50 percent for the third year, and 0.25 percent for the fourth year and older. There are specialty rates for helicopters used for air ambulance, schedule airline service providers, and FBOs with agreements with public-owned airport's governing bodies.

South Dakota tiers their registration fees by weight and age. The minimum fee is \$12.50 and the maximum fee is \$300. There are ten weight classes and two age ranges (new to nine years and ten plus years).

As of 2023 there are 2,519 aircraft registered in Nebraska. If the State used a tiered system, similar to Iowa, this could result in a *minimum* of approximately \$88,000 in additional funds. This number assumes that all registered aircraft in the State are paying a minimum \$35 registration fee. For more complex and newer aircraft, this could be much higher.

⁷ <https://secure.iowadot.gov/Aviation/aircraftregistration/registration.aspx>

Aircraft Sales and Use Tax Increase

Aircraft sales tax is different in every State. In Nebraska, the State sales and use tax is 5.5 percent with the addition of local taxes up to two percent. The States surrounding Nebraska also have varying sales and use tax.

By increasing the sales tax annually by 0.5 percent, it would help the State to keep up with the buying power of the dollar decreasing and to maintain a level of funding.

Specialty License Plates

In 2022, there were 2,451,708⁸ motor vehicles registered in the State. There are specialty license plates that cost between \$5 for assigned alphanumeric identifier and \$70 for a personalized identifier per plate with 75 percent of the plate fee going towards the specialty organization fund. For example, if 5,000 vehicles at \$40 each purchased an aviation plate, that would total approximately \$150,000. While the potential benefits are limited, this is a low impact option for additional revenue.

Modernized Fee Structure

The State's existing fee structure is rooted in aircraft operating characteristics that date back decades and are based on per gallon consumption of aircraft fuel. As aircraft become more efficient and there are more electric aircraft being introduced into the fleet mix, funding from 100LL and jet fuel tax is decreasing. The existing methodology is not sustainable.

7.4.3. Funding Scenario 3: Full Funding

A fully funded system means that with additional funding provided by the local and state share, additional funding could be sought from federal funding sources. It is estimated that community and complex activity airports could get an additional ten percent above and beyond the Funding Scenario 1 of discretionary funding. It is anticipated that commercial funding is maximized as part of Funding Scenario 3 and is not increased. The results are shown in **Table 7-9** and indicate a programmed funding amount of more than \$8.7 million per year (in 2021 dollars) throughout the planning period.

⁸ https://dmv.nebraska.gov/sites/dmv.nebraska.gov/files/doc/data/mvregstats1913_2022.pdf

Table 7-9: Estimated Revenues over 20-Year Period – Full Funding Scenario (in 2021 Dollars)

	Community	Complex	Commercial ¹	Total ¹	Average Annual ¹
Estimated Entitlement	\$144,000,000	\$45,000,000	\$103,000,000	\$292,000,000	\$14,600,000
Estimated Discretionary	\$28,222,916	\$23,190,824	\$49,517,120	\$100,930,860	\$5,046,543
Estimated Total Federal Funding	\$172,222,916	\$68,190,824	\$152,517,120	\$392,930,860	\$19,646,543
Available State Funding				\$65,000,000	\$3,250,000
Sub-Total NPIAS Airports Programmed CIP Funding				\$544,188,934	\$27,209,447
Non-NPIAS Airports Programmed CIP Funding				\$1,322,075	\$66,104
Total Airports Programmed CIP Funding				\$545,511,009	\$27,275,550
Surplus/(Deficit)				\$(87,580,149)	\$(4,379,007)
State/Local NPIAS Airports Funding				\$87,580,149	\$4,379,007

Sources: FAA AIP, 2022-2040 NE CIP, 2022 Olsson Cost estimates, and McFarland Johnson Analysis, 2023.

¹ OMA, LNK, and GRI were excluded from the programmed commercial CIP funding.

Challenge: Additional State Funding

Funding Scenario 3 shows approximately \$7.6 million of State/local CIP programmed funding per year (in 2021 dollars) for the next 20 years. Assuming the State will match the local funding at five percent each, this results in approximately \$5.5 million per year (in 2021 dollars) of State funding.

Aviation fuel taxes represent the highest non-federal funds revenue with over 50 percent of revenues every year (excluding federal funds). As seen in **Figure 7-2**, aviation fuel taxes have been declining in purchasing power and do not seem to be recovering.

Recommendation: As of June 2023, aircraft sales taxes (which are approximately \$1 million per year) are contributing to the State’s Aeronautics Cash Fund. It is recommended that aircraft sales taxes should be used to help pay for aviation needed expenses.

Challenge: Anticipated Reduced Fuel Sales/Tax Revenue

As noted in the previous section, in 2016 through 2023, on average, approximately 68 percent of State Aeronautics Cash Funds were from aviation fuel taxes. While the State has seen a compound annual growth rate increase of approximately six percent per year during that period, the two most current years’ data have not been published to confirm this growth rate continued through the COVID-19 pandemic. Within the long-term period, it is anticipated that more and more aircraft manufacturers will come to the market with electric aircraft. The trend is already starting with 9-seat aircraft and will continue to expand from there. Additionally, alternative fuel sources are being tested to reduce the US’s carbon footprint. Increased fuel efficiency and alternative fuel sources are likely to reduce the aviation fuel need and associated taxes.

Recommendation: Put a fee structure in place to replace reduced fuel tax revenue (in aviation and transportation as a whole) through an equivalent electric/alternative fuel flowage fee, higher

electric aircraft sales taxes or registration fees, higher electric aircraft landing fees, and/or other revenue structure.

Long-Term Outlook

In the long-term, this could result in:

- **Maximizing the current system:** Funding Scenario 3 puts systems in place that help resolve funding challenges identified. By injecting additional funding opportunities (both through additional discretionary funding and additional State funding), it will allow more airports to complete projects without costly delays and therefore more efficiently maximize the current system.
- **Maximizing eligible and justified airport pavement and facilities:** While Funding Scenario 1 focuses on leveraging planning projects to accurately document eligible and justified pavements and facilities for federal funding. Funding Scenario 3 provides the funds to be able to build (through local share support and match) and maintain this infrastructure. This maximizes the chance of getting federal funding for projects, including increased discretionary funding.
- **Increasing operations which increases revenues:** When all eligible and justified infrastructure can be built and maintained, this can result in increased operations and added incentives for business and individuals to operate out of and base aircraft in Nebraska. In turn, this results in increased revenues from fuel sales, hangar/tie-down fees, landing fees, aircraft sales tax revenues, and the economic impact of people visiting local restaurants, etc.
- **Protecting against changing eligibility and justification standards:** Federal funding eligibility and justification are continuously becoming harder to meet as FAA’s standards change. By funding the existing system to the maximum extent possible, it protects existing eligible pavements and facilities from being cut out of the system in the future. For example, crosswind runway eligibility is getting harder for untowered/GA airports. For now, the AIP Handbook identifies that even if a crosswind runway is not eligible for reconstruction funding, it is still eligible for rehabilitation funding. By rehabilitating crosswind runways at airports that may not be able to document their operations eligibility, it prolongs the assets of an airport and provides an opportunity for data to provide justification and eligibility in the future.
- **Maximizing the State’s critical use functions:** As discussed in *Chapter 6, Existing System Performance Findings*, every airport that responded to the airport manager’s survey in the Nebraska system supports one or more of the State’s critical use functions. Providing additional funding to maximize the existing aviation system (both NPIAS and non-NPIAS airports) will continue to maintain the infrastructure needed to support the State’s critical use functions: agriculture/spraying, healthcare and emergency response, economic development, and tourism.

Community activity airports usually have the hardest time proving eligibility and having the financial means to provide the local share of federally funded projects. By documenting need and eligibility and having a mechanism in place to help airports that may need funding to supplement their local share, supports the industries that need these airports the most. Non-NPIAS airports generally have the least means to maintain their infrastructure and need financial support for basic maintenance and upkeep to continue to provide the services they currently provide.

- **More efficient operations:** When all eligible and justified infrastructure can be built and maintained, this can result in more efficient operations as airports may be able to construct things such as full parallel taxiways (that previously did not have funds available) or have completed planning studies that identify a more efficient airport layout/use of properties. These can all result in maximum revenue (and perhaps financial sustainability), reduced taxi times (fuel savings, lower emissions), and other benefits and positive impacts to the aviation system and the State of Nebraska.

7.5. PROJECT PRIORITIZATION CONSIDERATIONS

A project prioritization methodology should be developed based on the Division goal to develop a method by which to rank projects.

The prioritization categories to consider, as presented in **Table 7-10**, are safety, airport asset preservation, planning, landside asset preservation, airside growth and development, and landside growth and development. Further development of prioritization models by NDOT (outside the scope of this work) should be developed to consider individual airport projects/needs from focused studies and master plans alongside SASP recommendations.

Table 7-10: Project Prioritization Methodology for Airport Projects

Category
<p>Safety:</p> <ul style="list-style-type: none"> • Obstruction removal and avigation easements/acquisitions for existing surfaces • Lighting • Fencing • Existing safety areas • ARFF Equipment • VISAIDs • SRE
<p>Airside Asset Preservation:</p> <ul style="list-style-type: none"> • Airside project justifications • Runway rehabilitation/reconstruction • Taxiway rehabilitation/reconstruction • Apron rehabilitation/reconstruction • Weather station repair/maintenance • NAVAID repair/maintenance
<p>Airport Planning:</p> <ul style="list-style-type: none"> • Master Plans • ALPs • Environmental documents • Project justifications
<p>Landside Asset Preservation:</p> <ul style="list-style-type: none"> • Fuel farm replacement • SRE building rehabilitation • ARFF building rehabilitation • Terminal building rehabilitation • Hangar maintenance • Vehicle parking/access road(s) repair/maintenance
<p>Airside Growth & Development:</p> <ul style="list-style-type: none"> • Runway extension/expansion • New taxiway &/or taxiway extension • New or expanded apron • New NAVAIDs • New weather stations
<p>Landside Growth & Development:</p> <ul style="list-style-type: none"> • New fuel farms • New hangars • New or expanded terminal building • New ARFF building • New SRE building • New/expanded vehicle parking/access road(s)

Source: McFarland Johnson Analysis, 2023.



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DEPARTMENT OF TRANSPORTATION

CHAPTER 8 POLICY & PROJECT RECOMMENDATIONS

8. Policy & Project Recommendations

This chapter of the Nebraska State Aviation System Plan (SASP) addresses a range of topics that arose from the stakeholder engagement process. Policy framework is needed to maintain, sustain, and grow Nebraska airports over the 20-year planning period and recommendations will be critical to the development of individual airport planning and project development activities. The policy framework will also serve as a critical input into the development and updates to individual airport master plans, and associated project development activities.

In previous chapters, SASP airports have been grouped into four categories: commercial service, complex activity, community activity, and non-national plan of integrated airport systems (NPIAS). Facility and service objectives were also established for each category of airport. The policy framework incorporates the varied roles of Nebraska airports, and due to their local, State, and federal significance, are guided by the following policies and plans.

8.1. POLICY FRAMEWORK

8.1.1. Channeling Act Legislation

As described in *Chapter 1, Introduction*, the Nebraska Department of Transportation (NDOT) Division of Aeronautics (Division) is responsible for administering Federal Aviation Association (FAA) funds for approved, airport improvement project (AIP) eligible projects for non-primary public use airports in the State through the Channeling Act. The Division develops an annual update to the capital improvement program (CIP) and organizes FAA and sponsor funds to accomplish the annual program.

Through the Channeling Act, airports cannot directly submit their projects to the FAA for approval for funding. Airports submit their data sheets to the Division and the Aeronautics Commission (stand-alone from NDOT) approves these data sheets prior to FAA AIP grant applications. Projects that are supported by the Commission can be submitted by the State for grant funding. Once funding is received, the Division oversees all grant management.

Overall, the FAA grant program process can be cumbersome for smaller communities and channeling projects through NDOT reduces the labor burden, especially for smaller communities that might not have staff knowledgeable with FAA grant programs. Though channeling provides an opportunity for Nebraska airport sponsors to develop their own ACIPs, the State retains the ability to step in and advocate for projects at individual airports should the sponsors not fully develop their ACIPs or advocate for their own projects. While the State and NDOT have consistently advocated for projects at Nebraska airports, an industry-wide argument against the channeling act is that local communities are better suited to advocate and communicate their priorities directly to the funding agencies.

A review with airport stakeholders should be conducted to determine which approach is in the best interest of Nebraska airports. Data on historical discretionary funding gaps relative to neighboring states is presented in Chapter 7 and can be used to inform the review.

8.1.2. Multimodal Connectivity

Nebraska SASP airports are integral to the local, State, and national transportation system. The benefits of air travel are further enhanced when interconnected with ground transportation.

Rental Cars

Rental car facilities, whether it be on-site at the airport or nearby, offer users of the airport access to a personal vehicle during their visit to the local area. Approximately 8 of 9 commercial service and 8 of 13 complex activity airports are known to have rental car and/or courtesy car availability.

Public Transit

Fixed route public transit services are available at two public use airports: Lincoln and Omaha – Eppley. Lincoln is served by the Star Tran 52 bus line while Omaha – Eppley is served by the Omaha Metro Route 16 – East Omaha/North 16th bus line.

Ride Sharing/Taxi Services

Ride sharing using transportation network companies (TNCs) has become an increasingly popular mode of transportation in recent years. Companies such as Uber and Lyft use computer applications, typically installed on mobile phones, to connect drivers and riders for a fee. These services are dependent on driver availability and since drivers can work at their discretion from their personal vehicles, it is difficult to determine the geographic and time range covered by TNC service.

Taxi services, while not as prominent as they once were, are still viable transportation options, particularly in cities with commercial service. Local taxi services are available in many cities/towns offering commercial service where TNC service is not available.

Air Freight/Cargo

Airport access to air freight and cargo is important in the delivery of cargo, raw materials, finished products, and goods to various parts of Nebraska. Airports are the origin and destination for domestic and international transfer of goods. Airports throughout the State interface with ground transportation for the transfer of these products and goods from the airport to other destinations via truck and train.

The State should consider discussion with other modes of transportation to explore connectivity options.

8.1.3. Land Use and Zoning

The long-term sustainability of airports depends in large part on compatibility with their communities, both in terms of adjacent land uses and environmental linkages. Airports are interested in keeping nearby airspace free of obstructions and maintaining community support. Communities support their residents’ quality of life and reasonable opportunity to participate in decisions that will affect them. Best practices for airports and communities to engage in

cooperative planning are detailed in resources such as the FAA’s *Airport Environmental Programs*¹ and the *Aircraft Owners and Pilots Association’s Guide to Airport Noise and Compatible Land Use*².

Protection of airports, land, and local community assets can be accomplished through many methods, including land use and zoning codes. For airports, the surrounding areas need to be compatible with normal airport operations, including both takeoff and landing.

FAA Grant Assurance 21 states that an airport sponsor should take reasonable, appropriate action to restrict incompatible land uses around and near an airport. This can be difficult to achieve as many times both land use and zoning regulations are regulated by municipalities that preclude specific language related to compatible land use around airports. To better define compatible land use around airports and to help achieve the standards set in Grant Assurance 21, the FAA put out guidance in 2022. FAA Advisory Circular (AC) 150/5190-4B, *Airport Land Use Compatibility Planning*, provides guidance for attaining compatible land use with airports around the country.

To achieve consistency through the State, a policy guiding municipalities in zoning and land use on and around airports should be considered. This policy guidance document should emphasize airport obstructions while also considering ground land uses, aircraft noise areas, airport lighting impacts, and provide direction on FAA Form 7460 and other airspace filing requirements. Nebraska Administrative Code Title 17, Chapter 2, *Rules and Regulations Concerning Airport Hazard Area Zoning*.

Nebraska should develop a guidebook to supplement the existing regulations that will aid communities in addressing land use conflicts.

8.1.4. Economic Development

As described in *Chapter 2, Aviation System Overview*, Nebraska SASP airports provide nearly \$6.5 billion in economic impact across the State³. While commercial service airports provide most of the impact at just over \$6.1 billion, general aviation (GA) airports also contributed just under \$400 million in impacts. As a vital part of the State and local economies, it is important to have policies that both aid and encourage airport driven economic development.

Aside from the more visible and obvious aviation uses, many of the users of Nebraska’s aviation system are aligned with other key industries in the state. While Omaha area airports play a vital role in the State’s finance, insurance and investments employment sectors, many of the airports support the State’s agricultural industries. Airports of all sizes support the agriculture industry in different ways. Non-NPIAS and community activity airports often support aerial application operations, while complex activity and commercial service airports are often used for support

¹ FAA Airport Environmental Programs www.faa.gov/airports/environmental.

² AOPA’s Guide to Airport Noise and Compatible Land Use, <https://www.aopa.org/-/media/Files/AOPA/Home/Supporting-General-Aviation/Get-Involved/Airport-Support-Network/AOPA-Resources-for-You/120112asn-airport-noise-compatible-land-use.pdf>.

³ *Nebraska Aviation Counts!* Economic Impact Study, Division of Aeronautics, 2019.

services which can include both people and vital parts/supplies necessary for all aspects of the supply chain.

An opportunity for Nebraska is to conduct workshops educating airport operators and inviting key industries to share and communicate the ways in which they use Nebraska airports and maintaining an overall dialogue on mutual interests to ensure key industries in the State are supported by the appropriate airport facility infrastructure. Additionally, NDOT should consider furthering its partnership with the Department of Economic Development as a way to develop a mutually beneficial relationship that would aid both airport development as well as generate business for the economies in which these airports are located.

Other topics for these workshops could include information on economic development, self-sustainability, internal Section 163⁴ screening, etc. Airports could be encouraged to conduct high-level Section 163 screening using the criteria the Central Region FAA uses, to identify opportunities of revenue with potentially fewer up-front investments. The Section 163 process would be implemented once these projects are more imminent.

8.1.5. Tourism and Marketing

The marketing of airports, along with the offerings of the surrounding communities, is critical to the success of airports and the community. The Department of Tourism currently works with most of the commercial service airports to advertise the area and highlight local businesses and attractions. Discussions with State tourism leaders revealed that any tourism efforts are primarily focused on Omaha – Eppley, Lincoln, and Grand Island airports.

In discussions with tourism representatives, it was acknowledged that there is a lack of familiarity regarding the offerings of the GA airports in the State. Marketing of GA airports is typically accomplished by airport sponsors, who have limited resources to consistently drive promotion efforts. The GA community opens up a vast array of possibilities for the tourism industry in Nebraska. With 70 GA airports in the State, many attractive golf, hunting/fishing, stargazing, and college sports (by no means an all-encompassing list) are near these airports and offer a closer landing spot to the final destination for charter operations.

Establishing and maintaining a dialogue between NDOT Aeronautics and State tourism officials on how airports aside from OMA, LNK and GRI can support State tourism efforts. Soliciting examples from GA and other commercial airports can help promote mutual interest of tourism and the State aviation system.

⁴ “Section 163(a) of the [FAA Reauthorization] Act [of 2018] limits the FAA’s authority to directly or indirectly regulate an airport owner or operator’s acquisition, use, lease, encumbrance, transfer or disposal of land, any facility upon such land, or any portion of such land or facility.” FAA Section 163 Instructions, August 2022 <<https://www.faa.gov/sites/faa.gov/files/2022-08/Section-163-Instructions-2022-08.pdf>> accessed March 15, 2023.

8.1.6. Financial Sustainability Best Practices

Similar to other types of transportation infrastructure, airport infrastructure will need to expand to meet the needs of users. However, expanding airport infrastructure poses the financial risk that maintenance and operations budgets will not keep up with rising costs. This was also shown as the result of the airport manager survey, that the top two challenges in maintaining Nebraska airports identified were funding/expenses and maintenance, respectively.

The link between projects recommended in airport master plans and financial sustainability is critical to ensuring cost-effective airport growth. If, for example, a runway expansion is needed to accommodate future traffic growth, the incremental cost of maintaining that runway should strive to approximate the combined contributions of airport revenues and the natural growth in State transportation funds for aviation.

Evaluating capital spending is one way to ensure financial sustainability. Optimizing operating revenues is another. The following summary includes federal guidance related to opportunities for improving revenue generation at airports:

Rates and Charges and Airport Leases Standardization – FAA Order 5190.6B, *FAA Airport Compliance Manual*, sets forth FAA policies and guidance for FAA personnel working to ensure airport compliance. Chapter 17 – Self-Sustainability, and Chapter 18 – Airport Rates and Charges, are useful tools for airports to become and remain as self-sustaining as possible, given each of their unique circumstances.

Self-sustaining Principle – FAA Order 5190.6B states that “airports must maintain a fee and rental structure that make the airports as financially self-sustaining as possible under the particular circumstances at that airport. The requirement recognizes that individual airports will differ in their ability to be fully self-sustaining, given differences in conditions at each airport. The purpose of the self-sustaining rule is to maintain the utility of federal investment in the airport.”

Airport Circumstance – At some airports, reasonable and fair market rates may not be sufficient to recover aeronautical costs, while keeping them low enough to attract and retain commercial aeronautical services. In such circumstances, a sponsor's decision to charge rates that are below those needed to achieve self-sustainability to assure that services are provided to the public is not inherently inconsistent with the federal obligation to make the airport as self-sustaining as possible, given its particular circumstances.

Long-term Approach – If market conditions and/or demand for air services do not permit the airport to be financially self-sustaining, the sponsor should establish long-term goals and targets to make the airport as financially self-sustaining as possible.

Rates Charged for Aeronautical Use – Charges for aeronautical uses of Nebraska airports must be reasonable. For aeronautical users, the FAA considers charges that cover the cost of the services or facilities as satisfying the self-sustaining requirement. Accordingly, the FAA does not consider the self-sustaining obligation to require airport sponsors to charge fair market value rates to aeronautical users. As explained in more detail in Chapter 18 of FAA Order 5190.6B, fees for the use of an airfield generally may not exceed the airport's capital and operating costs of providing the airfield. Aeronautical fees for landside or non-movement area airfield facilities (e.g., hangars

and aviation offices) may be at a fair market rate but are not required to be higher than a level that covers the cost of services and facilities. In other words, those charges can be somewhere between cost and fair market value. In part, this is because hangars and aviation offices are exclusively used by the leaseholders while airfield facilities are used in common by all aeronautical users. The FAA will not ordinarily investigate the reasonableness of a general aviation airport's fees absent evidence of a progressive accumulation of surplus aeronautical revenues.

Nonaeronautical Revenue – Lease rates charged for nonaeronautical use (e.g., non-aeronautical parcels on airport) of an airport must be based on fair market value (e.g., lease of land at fair market rent subject to the specific exceptions listed in Chapter 17 of FAA Order 5190.6B). If market rent for nonaeronautical uses results in a surplus, that surplus can be used to subsidize aeronautical costs of an airport. It is to the benefit of aviation and the traveling public that aeronautical users be able to use an airport at rates and charges below the cost of providing the aviation facilities and services if these are effectively subsidized by nonaeronautical revenues. See, for example, *Bombardier Aerospace, et al. v. City of Santa Monica, FAA Docket No. 16- 03-11, January 3, 2004*⁵, where the FAA noted that it promotes the practice of using nonaeronautical revenues to subsidize aeronautical activities since it reduces the economic impact on aviation users and the aviation public.

It is recommended that hangar lease rates consider the full cost i.e., the cost of maintenance and/or replacement value. Airports should also charge fair market value for nonaeronautical leases.

8.1.7. Benchmarking Against Neighboring States

In Nebraska, the most competitive region of the State is the eastern region. This is due to the higher density of airports both in the eastern portion of Nebraska as well as the airports located in the western portion of Iowa. The western, northern, and southern portions of Nebraska are not as impacted by the neighboring States due to limited populations and limited number of airports near those borders and therefore, only Iowa was used as a comparison.

When directly comparing Iowa and Nebraska, aircraft sales and use tax was reviewed. Iowa has a six percent use tax on the purchase price of aircraft⁶ while in Nebraska, that same tax is 5.5 percent. To remain competitive, maintaining a sales and use tax that is equal to or less than the neighboring State will help local airport businesses.

⁵ *Bombardier Aerospace, et al. v. City of Santa Monica, FAA Docket No. 16- 03-11, January 3, 2004* <<https://crp.trb.org/acrp/lrd21/wp-content/themes/acrp-child/lrd21/documents/16-03-11d.pdf>>, accessed March 6, 2023.

⁶ IowaDOT Aircraft Registration in Iowa, <<https://secure.iowadot.gov/Aviation/aircraftregistration/registration.aspx#:~:text=A%20six%20percent%20use%20tax,and%20fees%20for%20annual%20registration.>> accessed March 6, 2023.

It is recommended that Nebraska continues to use the state aviation tax (fuel taxes, etc.) for its dedicated aviation fund. Nebraska should also evaluate potential fuel tax rate charges to be in line with those present in other neighboring States. As of March 2023, there is no aircraft registration fee in Nebraska⁷; whereas there is one (based on the age and use) in Iowa.⁸ It is also recommended that Nebraska consider implementing an aircraft registration fee that would go directly into the dedicated aviation fund.

8.1.8. Emergency Response and Training Planning

Emergency response and training for potential airport accidents are coordinated through the Nebraska Emergency Management Agency (NEMA), local responders, and airport sponsors. As part of the airport manager survey, 18 airports responded that air medical/medevac and/or emergency response was based at their airport.

Emergency Operations Plan

State Emergency Operations Plan - Nebraska’s State Emergency Operations Plan⁹ serves as the framework for the approach to both response and recovery from emergencies in the State. It details various State organization/agency responsibilities for both coordinating resources and programmatic support.

Local Emergency Operations Plan – The local emergency operations plan is the plan compiled for each county in the State. Each local emergency operations plan must be in accordance with Title 67, of the Nebraska Administrative Code, Chapter 7.

Hazard Mitigation Plan

State Hazard Mitigation Plan - The State Hazard Mitigation Plan (SHMP) identifies the natural hazards that could potentially affect the State. The SHMP assesses risk and vulnerability to these hazards and identifies top priority mitigation actions at the State level.

Local Hazard Mitigation Plan - Local Hazard Mitigation Plans are used to identify policies and actions that can be implemented over the long term to reduce risk and future losses. Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.

⁷ Nebraska AOPA State Aviation Tax < <https://www.aopa.org/advocacy/state-advocacy/nebraska>> accessed March 6, 2023.

⁸ Iowa aircraft registration application and instructions.
<<https://iowadot.seamlessdocs.com/f/AircraftRegistrationApplication>> accessed March 6, 2023.

⁹ State of Nebraska Emergency Operations Plan, Feb. 1, 2014 < <https://www.animallaw.info/sites/default/files/Nebraska%20State%20Emergency%20Operations%20Plan.pdf>> accessed March 6, 2023.

Airport Emergency Plan

In addition to State and local plans, all airports that operate under the Federal Aviation Regulation (FAR) Part 139 are required to create an airport emergency plan. A Part 139 airport is an airport that offers scheduled and unscheduled air carrier operations in aircraft with more than 9 seats. Currently, there are eight Part 139 certified airports in the State consisting of Alliance (AIA), Grand Island (GRI), Kearney (EAR), Lincoln (LNK), McCook (MCK), North Platte (LBF), Omaha – Eppley (OMA), and Scottsbluff (BFF).

Aircraft Rescue and Firefighting (ARFF)

Aircraft rescue and firefighting (ARFF) training, whether it be for full-time on-site ARFF responders or ARFF trained responders within the town, city, or county, is a lifesaving necessity. However, there are limited opportunities, in some parts of the State, for responders to attend ARFF specific training. This is an opportunity for NDOT to facilitate and host a State-wide training program. A State-wide program would give airports and local partners a cost-efficient way by which to train their responders.

In addition to State and local plans, it is recommended that all airports have access to specific ARFF training opportunities to prepare in the event of an aircraft emergency.

8.1.9. Aviation Education Support

When engaging with stakeholders, one of the most prevalent topics that was brought up was aviation education. With shortages of both pilots and support service positions in maintenance and operations, training and education of future aviation professionals is of the utmost importance to supporting Nebraska aviation.

Throughout the U.S. the growth in the number of aircraft is outpacing the number of certified pilots. Similarly, with an increased growth in aircraft, there is a growing demand for aviation professionals with the ability to support the operational and maintenance needs of these aircraft.

Nebraska has opportunities to support training and development of aviators through both high school, technical education, and university programs.

Currently Civil Air Patrol (CAP) offers flight training opportunities to members of their organization. There is also a U.S. Army Junior Reserve Officer Training Corps (JROTC) program in Scottsbluff, which had over 100 cadets within three years of its opening. Additionally, there are aviation programs at University of Nebraska at Kearney, Western Nebraska Community College in Sidney, and University of Nebraska Omaha. All of these have opportunities to expand and serve as models for other aviation training and education programs looking to start in other parts of the State.

In addition to the education of future aviation professionals, current airport sponsors should be supported in their efforts to further advocate for their airports. Not all airports throughout the State have a full-time airport manager and it is not uncommon for an airport manager to hold many roles within a local government. For this reason, not all airport managers have a strong aviation background. The State should support the education and training of all airport sponsors to better support, run, and advocate for their airports.

NDOT should support training of future aviation workforce through collaborative education efforts with high school, technical education, and university programs. Furthermore, it is recommended that support be put into place to help educate and train airport sponsors on how to best support and advocate for their airports.

8.1.10. Workforce Development

In addition to education and training, the retention and development of the aviation workforce was one of the top priorities of stakeholders during the public engagement process.

Staffing shortages are prevalent throughout the world, particularly with pilots. Overall, the FAA Aerospace Forecast fiscal years 2022-2042 show a relatively steady pilot supply over the next 20 years. However, airline transport pilots (ATP) show an annual growth of 0.8 percent and commercial pilots show an annual growth of 0.1 percent annually while private pilots have showed an annual decrease of 0.6 percent annually. To encourage more pilots, the FAA eliminated expiration dates on new student pilot certificates in April 2016. Without including student pilots, this projected annual growth equals approximately 0.3 percent. The pilot shortage was further exacerbated by the temporary COVID-19 shutdown and reduction in airline service.

In addition to pilots, there is a shortage of other qualified aviation professionals including airframe and powerplant (A&P) mechanics, airport traffic controllers (ATC), and airport management staff. The increase in active commercial aircraft over the next 20 years, coupled with modest growth in GA will drive the need for of these professionals through the planning period. According to the Bureau of Labor Statistics, there are approximately 12,800 aircraft mechanic positions projected each year on average and 2,000 ATC jobs projected each year over the next decade. This includes a 4 percent growth for aircraft mechanics and a relatively stable job condition for ATC. These are quality jobs that pay good wages that would serve Nebraska's economy well beyond fulfilling the needs of airports.

It is recommended that NDOT continue to support the efforts of airport sponsors and aeronautical businesses develop to their workforce in addition to making efforts to recruit aviation professionals to Nebraska.

8.1.11. Electrification and Alternative Fuel Sources

In recent years, the aviation industry has been taking steps towards modernizing aircraft and aviation practices. With the introduction of electric aircraft and new sustainable aviation fuel (SAF) becoming more prevalent, Nebraska has an opportunity to be at the forefront of innovation.

Electric aircraft are becoming more prevalent and have differing needs from that of fuel-based aircraft. To accommodate the influx of electric aircraft, a policy outlining the establishment of electric charging stations and energy producing methods, such a solar farms, to keep up with demand should be considered. Additionally, rates and charges on electric aviation should be considered and discussed on a State level to help offset the anticipated reduced fuel sales (considerations could include electric aircraft landing fees, charging rates, parking rates, etc.).

Supporting the transition to electrified aircraft at SASP airports will require necessary charging infrastructure. A combination of Level 2 and direct-current fast charging (DCFC) would be appropriate for electric aircraft development. Level 2 can charge aircraft overnight without demand charges and could take advantage of time of use rates. DCFC would be needed for quick charges to keep experimental aircraft flying.

It is also anticipated that SAF will eventually replace standard Jet A fuel with a plant-based fuel source. In 2022, 300 million liters of SAF was produced. This amount was doubled in 2023 and is projected to triple the 2023 volume in 2024. With the goal of net zero emissions for aviation in 2050, increased SAF production is crucial¹⁰. With Nebraska being a large producer of corn, there is vast opportunity for Nebraska to be on the cutting edge of SAF projection. New corn based SAF could be produced in Nebraska, helping to boost the economy.

In the short term (1-3 years) it is recommended to do a review/small study on the electrification needs and alternative fuel, applicability, and needs of Nebraska aviation with a more detailed study likely required in the years that follow.

8.1.12. Air Service Development/Enhancement

As noted in previous chapters, Nebraska is served by nine commercial service airports. Of these nine, seven are served by the essential air service (EAS) program¹¹. This federally subsidized air service program is vital to Nebraskans and their connectivity to the national airspace system. Without this service, many members of these communities, as well as those flying into those communities for business or leisure, would need to commute hours to the next closest commercial service airport. In November 2022, Nebraska Amendment 1 was voted on by the Nebraska public to authorize local airport operators to spend revenue to develop commercial air travel at the local airport.¹² This is the first step in continuing to support and enhance air service. One example of successful air service enhancement stems from the 2004 Wyoming State Legislature passing the Air Service Enhancement Program (ASEP) into law. “Under this program, the Wyoming Aeronautics Commission is granted \$1.4 million on an annual basis to be used in support of air service

¹⁰ <https://www.iata.org/en/pressroom/2023-releases/2023-12-06-02/>

¹¹ Southern Airways Express ordered electric REGENT Seaglider aircraft, which are expected to be used for East Coast operations and not planned for Nebraska. *Southern Airways Express Purchases 20 REGENT Seaglidars for their U.S. East Coast Operations in \$250M Deal*, Dec. 1, 2021 < <https://www.aviationpros.com/airlines/press-release/21248487/southern-airways-express-purchases-20-regent-seaglidars-for-their-us-east-coast-operations-in-250m-deal>> accessed March 6, 2023.

¹² Nebraska Amendment 1, Authorize Local Governments to Develop Commercial Air Travel Service Amendment (2022), <[https://ballotpedia.org/Nebraska_Amendment_1,_Authorize_Local_Governments_to_Develop_Commercial_Air_Travel_Service_Amendment_\(2022\)](https://ballotpedia.org/Nebraska_Amendment_1,_Authorize_Local_Governments_to_Develop_Commercial_Air_Travel_Service_Amendment_(2022))>, accessed March 6, 2023.

initiatives.”¹³ With nine commercial service (including seven EAS) airports, Nebraska has a major opportunity to maintain, develop, and enhance air service.

Commercial air service and the EAS program were the most commented on aspects of this system plan during the stakeholder engagement process. The current nature of the EAS program bids each of the Nebraska EAS airport services separately. For Nebraska this means different bid cycles and operators which currently include Skywest, Denver Air Connection and Southern Airways Express. The rapidly increasing costs of the EAS program, partly due to pilot requirements and fuel, combined with a bid cycle that is either two or four years, has resulted in volatile service patterns for these airports. The program costs and subsequently the government scrutiny of the overall program is expected to continue going forward meaning that it is unlikely that the quality of the services provided to Nebraska under the EAS program are unlikely to improve beyond present levels.

NDOT and Commercial Service airports should consider exploring opportunities to take a more active role in an attempt to improve the quality of EAS in the State for Nebraskans, visitors and businesses that rely on the service. This would include public outreach and user surveys, discussions with existing and potential operators as well as the US DOT to potentially coordinate bid cycles. The overall end goal should be the maximum, safe and efficient air service that is best aligned with user needs.

8.1.13. Modernized Fee Structure

The State’s existing fee structure is rooted in aircraft operating characteristics that date back decades and are based on per gallon consumption of aircraft fuel. As aircraft become more efficient and there are more electric aircraft being introduced into the fleet mix, funding from 100LL and jet fuel tax is decreasing. The existing methodology is not sustainable and will affect all States and all modes of transportation that rely on fuel tax for funding.

It is recommended that a modernized fee structure be developed and implemented. This will require coordination and consideration of all system users, surrounding states and what will ultimately become common practice as this issue is not exclusive to Nebraska.

8.1.14. Project Prioritization Model

As discussed in *Chapter 7, Alternatives & Implementation Plan*, there are a number of project categories that should be considered when prioritizing where State money should be directed. These categories include: safety, airside asset preservation, airport planning, landside asset preservation, airside growth and development, and landside growth a development. While the aeronautics commission makes decisions as to which projects are supported and ultimately are chosen to receive funding, a prioritization model would help take into account special

¹³ Wyoming Department of Transportation Frequently Asked Questions
<https://www.dot.state.wy.us/home/aeronautics/air_service/frequently-asked-questions.html>, accessed March 15, 2023.

circumstances. This is particularly relevant in cases where projects do not qualify for federal dollars, but are of utmost importance to the local community and the State.

NDOT should develop a project prioritization model to distribute State funds to public use airports. By establishing a prioritization model, it will ensure the highest and best use of limited State funds across the system.

8.1.15. Airport Capacity Planning

In system planning, analysis focuses on the airport network and the coverages associated with facilities and services that comprise the broader airport system. Individual airport considerations and unique constraints are not often captured at the system level but rather through airport master plans and various focused planning studies, such as a detailed capacity assessment relative to airport constraints. Individual airports assessing future capacity needs will want to consider guidance from AC 150/5060-5 *Airport Capacity and Delay*, which indicates planning for additional capacity once you reach 60 percent of your annual service volume, which for most airports would be approximately 100,000 annual operations per runway (slightly less for intersecting runways). Aside from operations, detailed based aircraft and itinerant operations forecasts identify potential needs relative to hangar and apron demand that may result in a capacity constraint that needs to be addressed by the system if an individual airport cannot meet projected demand.

Capacity planning by individual airports should be emphasized by NDOT in order to justify facility needs that exist outside of those identified in this SASP.

8.2. SUMMARY OF RECOMMENDATIONS/ACTION PLAN

There are many different policy frameworks to consider when planning for the growth and sustainability of airports in the State. It is recommended that each of these frameworks be considered for legislative policy to better assist in the growing needs of airports. Progress on these efforts and NDOT goals should tracked for accountability. Tracking on airport-specific impacts (local zoning, emergency responders trained in aircraft incidents, etc.) could occur as part of NDOT’s public use airport licensing requirement that are valid for three years and associated airport inspections that occur on a three-year rotating basis.

Ultimately, it is the goal of NDOT to maintain and support growth of the system of airports within the State of Nebraska. With industry changes and newly available State funding, it is recommended that NDOT modernize their fee structure to maintain and/or grow their revenue stream while also using their available resources to fund the projects that most benefit the statewide system.

A summary of policy recommendations, as presented in this chapter, can be seen in **Table 8-1**.

Table 8-1: Summary of Recommendations

Category	Recommendation
Channeling Act Legislation	A review with airport stakeholders should be conducted to determine which approach is in the best interest of Nebraska airports. Data on historical discretionary funding gaps relative to neighboring states is presented in Chapter 8 and can be used to inform the review.
Multimodal Connectivity	The State should consider discussion with other modes of transportation to explore connectivity options.
Land Use and Zoning	Nebraska should develop a guidebook to supplement the existing regulations that will aid communities in addressing land use conflicts.
Economic Development	An opportunity for Nebraska is to conduct workshops educating airport operators and inviting key industries to share and communicate the ways in which they use Nebraska airports and maintaining an overall dialogue on mutual interests to ensure key industries in the State are supported by the appropriate airport facility infrastructure. Additionally, NDOT should consider furthering its partnership with the Department of Economic Development as a way to develop a mutually beneficial relationship that would aid both airport development as well as generate business for the economies in which these airports are located.
Tourism and Marketing	Establishing and maintaining a dialogue between NDOT Aeronautics and State tourism officials on how airports aside from OMA, LNK and GRI can support State tourism efforts. Soliciting examples from GA and other commercial airports can help promote mutual interest of tourism and the State aviation system.
Financial Sustainability Best Practices	It is recommended that hangar lease rates consider the full cost i.e., the cost of maintenance and/or replacement value. Airports should also charge fair market value for nonaeronautical leases.
Benchmarking Against Neighboring States	It is recommended that Nebraska continues to use the state aviation tax (fuel taxes, etc.) for its dedicated aviation fund. Nebraska should also evaluate potential fuel tax rate charges to be in line with those present in other neighboring States. As of March 2023, there is no aircraft registration fee in Nebraska; whereas there is one (based on the age and use) in Iowa. It is also recommended that Nebraska consider implementing an aircraft registration fee that would go directly into the dedicated aviation fund.
Emergency Response and Training Planning	In addition to State and local plans, it is recommended that all airports have access to specific ARFF training opportunities to prepare in the event of an aircraft emergency.

Category	Recommendation
Aviation Education Support	NDOT should support training of future aviation workforce through collaborative education efforts with high school, technical education, and university programs. Furthermore, it is recommended that support be put into place to help educate and train airport sponsors on how to best support and advocate for their airports.
Workforce Development	It is recommended that NDOT continue to support the efforts of airport sponsors and aeronautical businesses develop to their workforce in addition to making efforts to recruit aviation professionals to Nebraska.
Electrification and Alternative Fuel Sources	In the short term (1-3 years) it is recommended to do a review/small study on the electrification needs and alternative fuel, applicability, and needs of Nebraska aviation with a more detailed study likely required in the years that follow.
Air Service Development/Enhancement	NDOT and Commercial Service airports should consider exploring opportunities to take a more active role in an attempt to improve the quality of EAS in the State for Nebraskans, visitors and businesses that rely on the service. This would include public outreach and user surveys, discussions with existing and potential operators as well as the US DOT to potentially coordinate bid cycles. The overall end goal should be the maximum, safe and efficient air service that is best aligned with user needs.
Modernized Fee Structure	It is recommended that a modernized fee structure be developed and implemented. This will require coordination and consideration of all system users, surrounding states and what will ultimately become common practice as this issue is not exclusive to Nebraska.
Project Prioritization Model	NDOT should develop a project prioritization model to distribute State funds to public use airports. By establishing a prioritization model, it will ensure the highest and best use of limited State funds across the system.
Airport Capacity Planning	Capacity planning by individual airports should be emphasized by NDOT in order to justify facility needs that exist outside of those identified in this SASP.

Source: McFarland Johnson analysis, 2023.