Chapter 1. Introduction

1.1. Introduction

Aviation is a cornerstone of North Dakota's economy and infrastructure. The state's 89 public-use airports are vital assets that fulfill a wide range of needs, including the transportation of essential goods and services, connecting residents and visitors to destinations across the state and nation, and supporting key industries such as agriculture and tourism. These airports also serve as significant economic drivers through airport administration, construction activity, visitor spending, and other contributions. To ensure the continued success and optimization of these assets, the North Dakota Aeronautics Commission (NDAC) engages in long-term planning efforts, such as the North Dakota State Aviation System Plan (NDSASP) and the North Dakota Aviation Economic Impact Study (NDAEIS). These efforts provide critical insight into the needs and benefits of the state's aviation system.

The 2025 NDSASP has been developed alongside the 2025 NDAEIS to provide a comprehensive understanding of the aviation system's requirements and impact. The methodology and findings of the NDAEIS are discussed in detail in **Chapter X: 2025 North Dakota Aviation Economic Impact Study.**

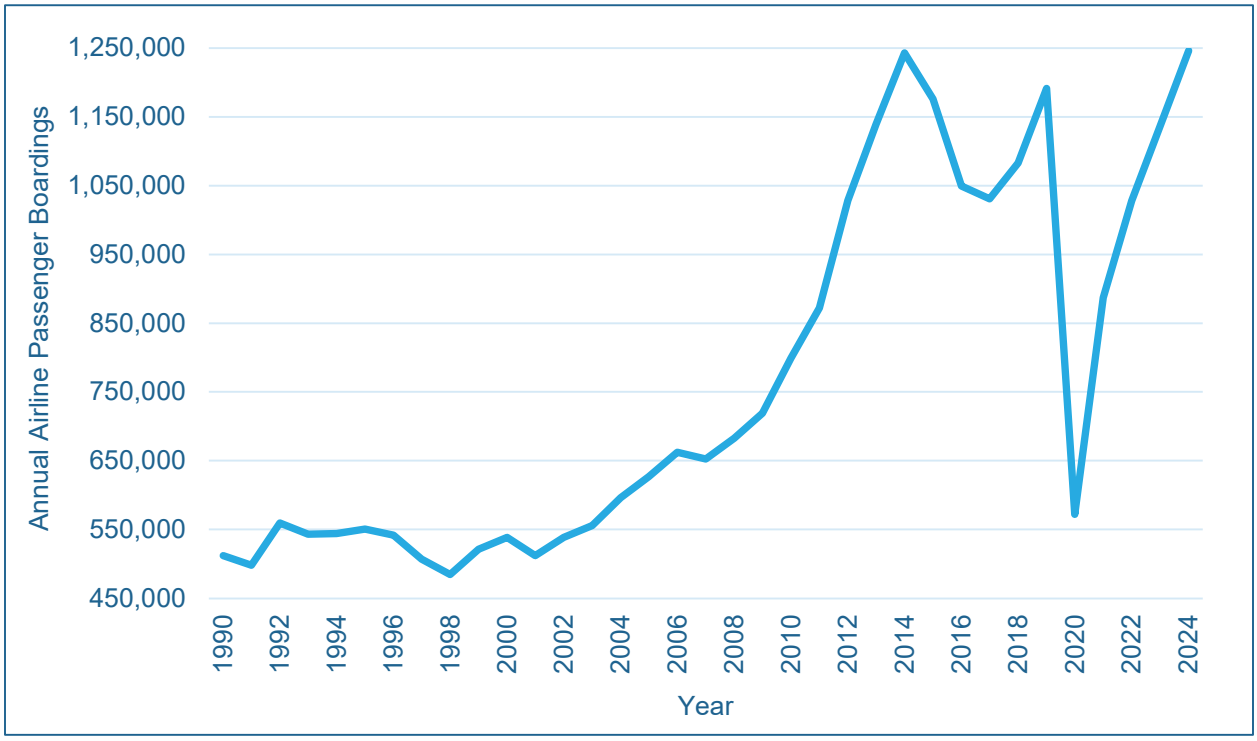
The 2025 NDSASP builds on the previous 2014 plan, reflecting the substantial changes in North Dakota's aviation landscape over the past decade. Following a period of rapid expansion driven by the oil boom that peaked in 2014, the state experienced a downturn between 2015 and 2017 due to declines in the energy sector. Growth resumed in 2018, only to face another significant challenge with the onset of the COVID-19 pandemic in 2020, which caused annual passenger boardings to drop by over 50%, falling below 600,000.

Airline Passenger Recovery

Despite these challenges, North Dakota's aviation industry has demonstrated remarkable resilience. Passenger enplanements at commercial service airports rebounded from pre-pandemic levels, setting a new record of 1.24 million boardings in 2024. This milestone not only surpasses the previous peak during the 2014 oil boom but also highlights the growing demand for air travel in the state. **Figure 1-1** shows the total historical passenger enplanements at the eight commercial service Airports in North Dakota from 1990 to 2024.

As passenger demand continues to rise, the state has prioritized investments in airport infrastructure to meet evolving needs. These enhancements enable greater flight availability, expanded destinations, increased seat capacity, and more competitive ticket prices. Additionally, the growing aviation sector creates opportunities for a skilled workforce, including pilots, aircraft mechanics, airport operators, and unmanned aircraft technicians—fields poised for sustained demand, as well as increases opportunities for the non-specialized or entry-level workforce.

Figure 1-1. Airline Passenger Boardings at ND Commercial Airports, 1990 – 2024

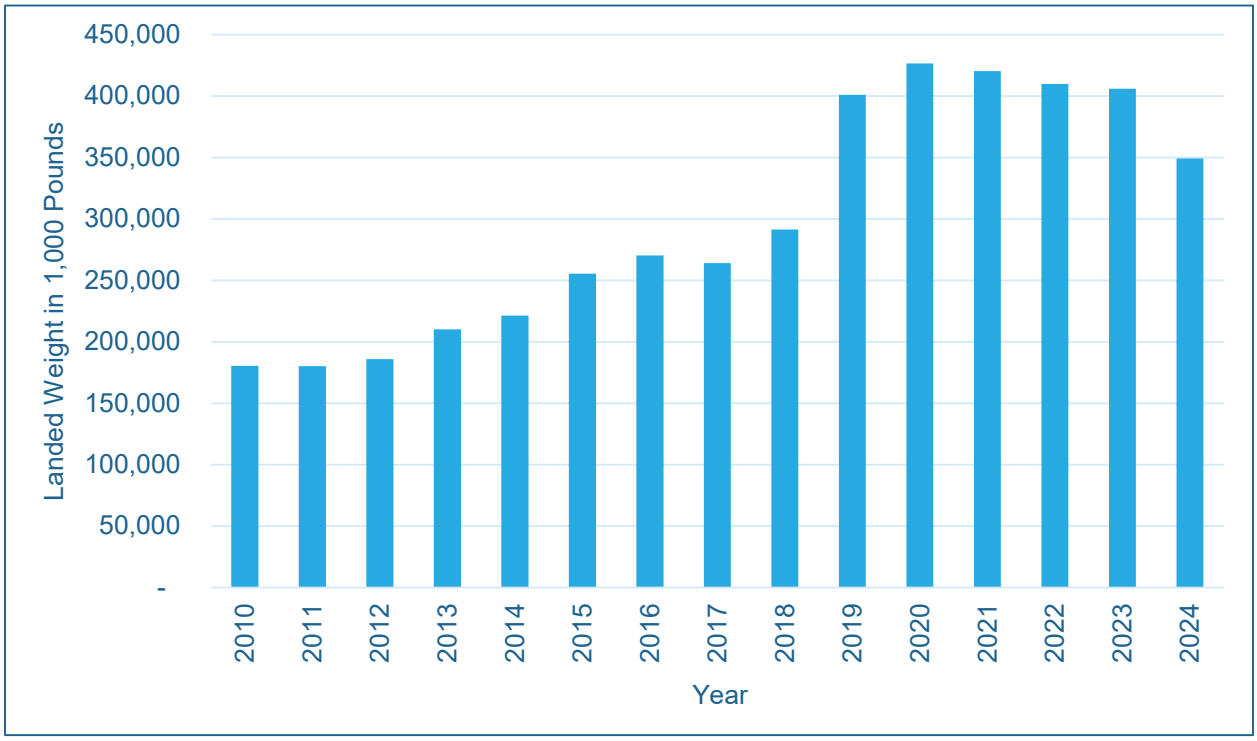


Sources: FAA TAF, 2024; Kimley-Horn, 2025; NDAC, 2025.

Air Cargo Growth

The demand for air cargo services has also grown in North Dakota throughout the last decade, fueled by the rise of e-commerce and the need for expedited shipping. Fargo has emerged as a regional hub for FedEx and UPS, while other North Dakota airports serve as distribution spokes. **Figure 1-2** depicts the growth of air cargo landed aircraft weight across the state from 2010 to 2024.

Figure 1-2. Air Cargo Annual Total Landed Aircraft Weight in North Dakota, 1990 – 2024

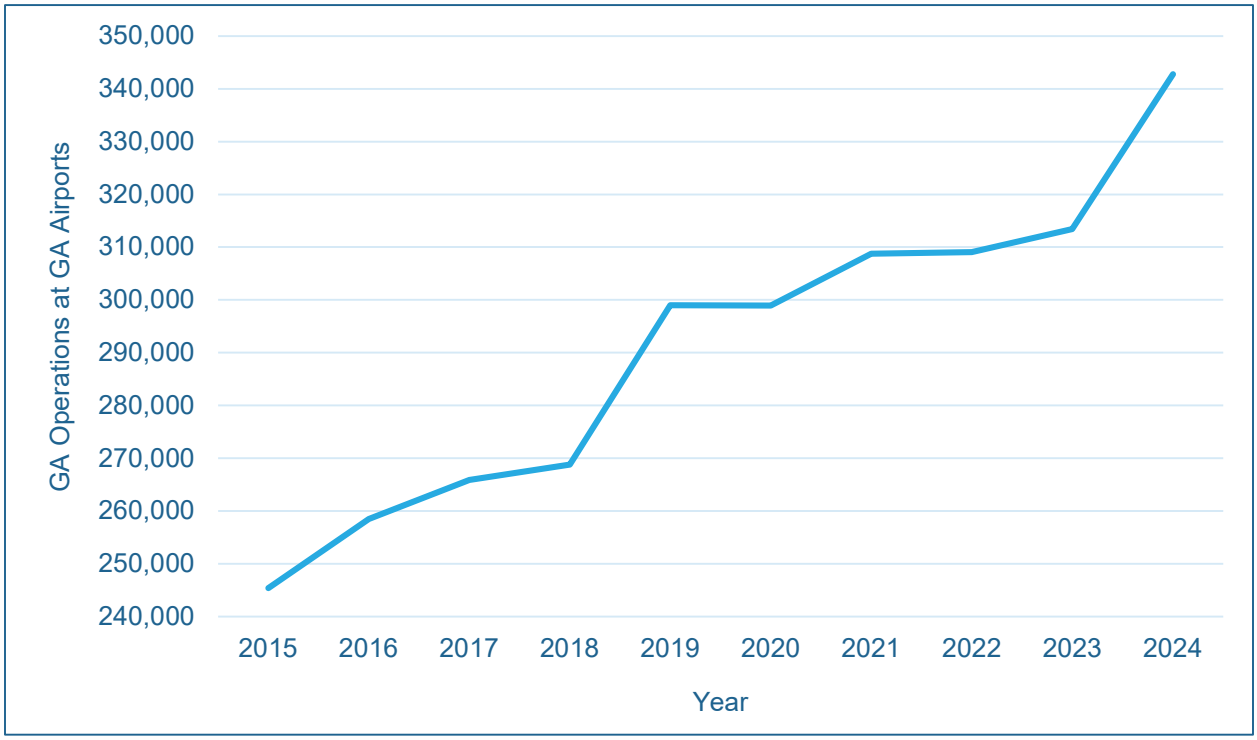


Source: Kimley-Horn, 2025; NDAC,2025.

General Aviation Resilience

General aviation (GA) has also been a pillar of strength within the aviation sector. According to the FAA's Terminal Area Forecast (TAF), GA operations at North Dakota's NPIAS airports increased approximately 40% since 2015. During the COVID-19 pandemic, GA airports demonstrated resilience as industries and travelers relied on their flexibility when commercial aviation was restricted. **Figure 1-3** shows the total operations at NPIAS GA airports in North Dakota from 2015 to 2024, with a significant increase from 2018 to 2019 and a steady increase from 2019 to 2024.[3]

Figure 1-3. GA Operations at GA Airports, 2015 - 2024

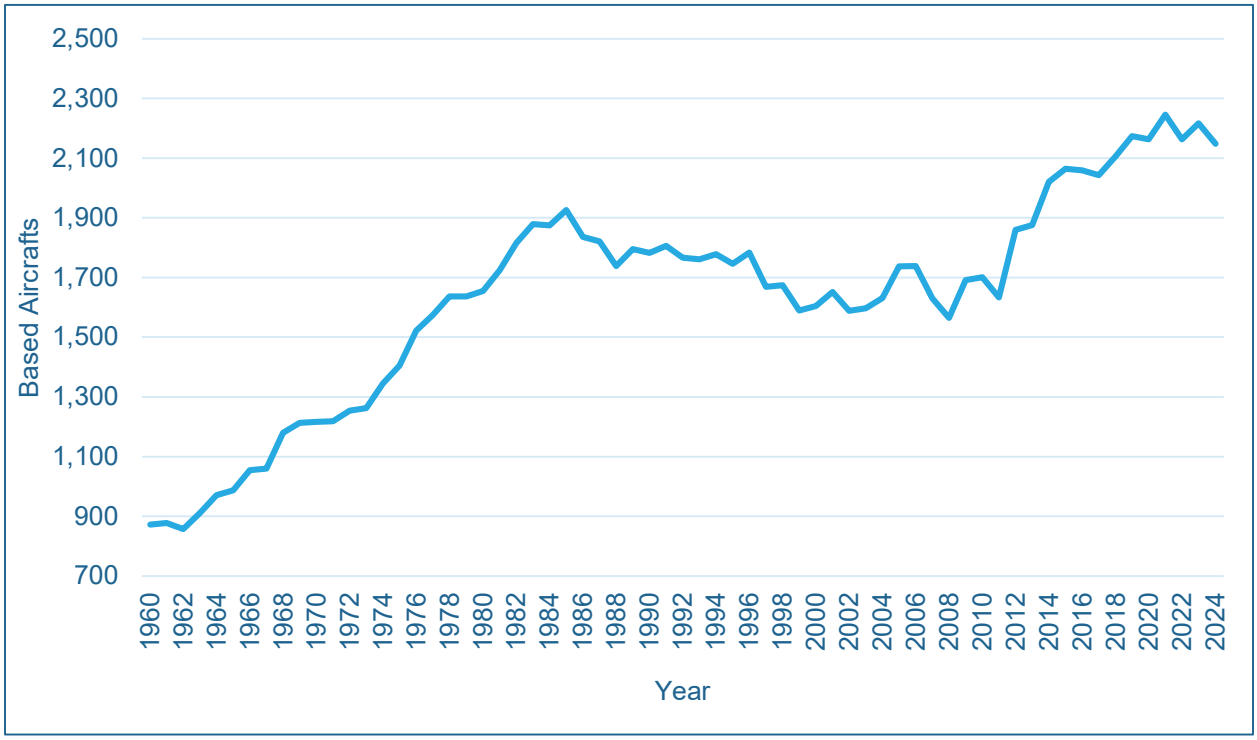


Sources: FAA TAF, 2024; Kimley-Horn, 2025; NDAC 2025.

In addition to the operational growth, the number of based aircraft has increased significantly over the past decade, leading to substantial private investments in airport infrastructure. These investments include new hangars and business operation facilities, underscoring the growing demand for GA services. Many airports across the state are now reporting full hangar occupancy, with waiting lists for individuals eager to base their aircraft on-site.

Figure 1-4 depicts the historical based aircraft counts within the state, as tracked through annual aircraft registrations received by North Dakota. These trends highlight the ongoing vitality of GA in supporting the state's economy and aviation ecosystem.

Figure 1-4. Historical Based Aircraft Counts in North Dakota, 1960 - 2024



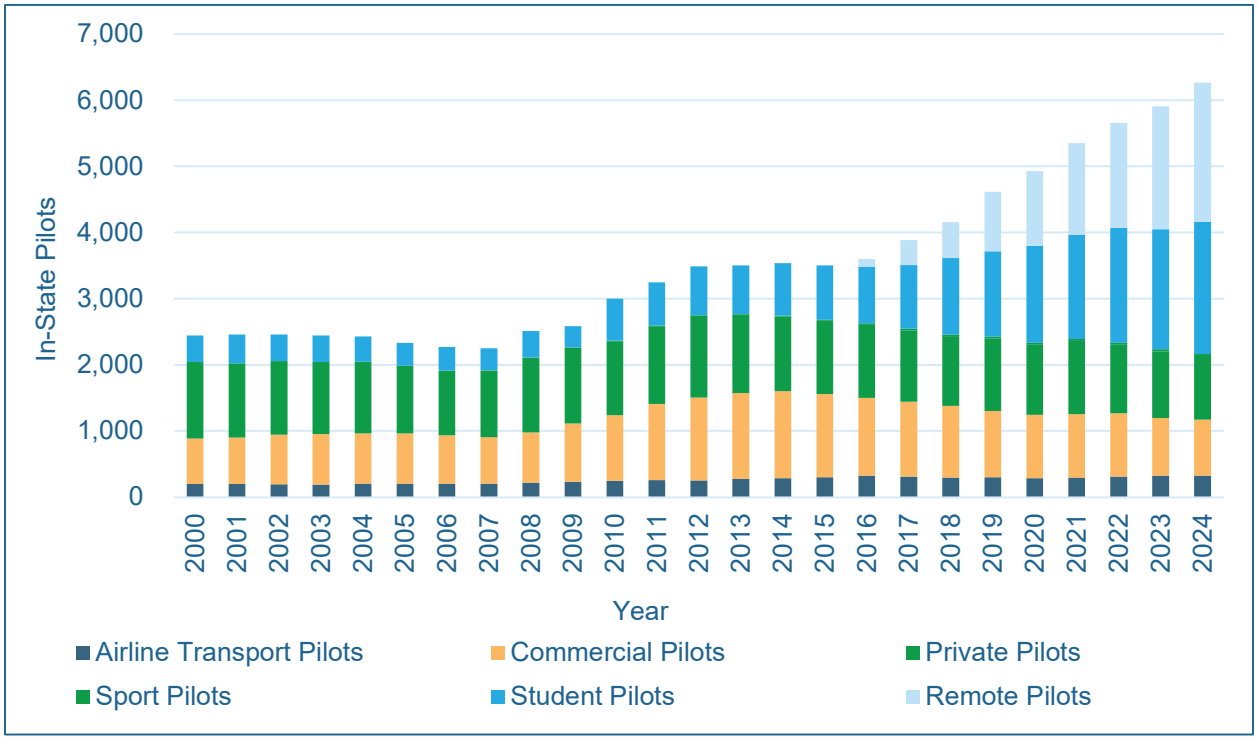
Source: Kimley-Horn, 2025; NDAC,2025.

Aviation Workforce and Training

North Dakota's aviation workforce is expanding steadily, fueled by a growing interest in pilot training and the rapid development of the unmanned aircraft systems (UAS) industry. Institutions like the University of North Dakota's School of Aerospace Sciences and other flight training programs, as well as high school aviation education programs, are playing a pivotal role in addressing the national pilot shortage by training the next generation of aviators.

In parallel, the state's advancements in UAS technology have contributed to a significant increase in the number of certified remote pilots, further solidifying North Dakota's reputation as a leader in this innovative sector. **Figure 1-5** illustrates the historical growth of in-state pilots, reflecting the sustained momentum and diverse opportunities within the state's aviation workforce.

Figure 1-5. Historical In-State Pilots in North Dakota



Source: Kimley-Horn, 2025; NDAC,2025.

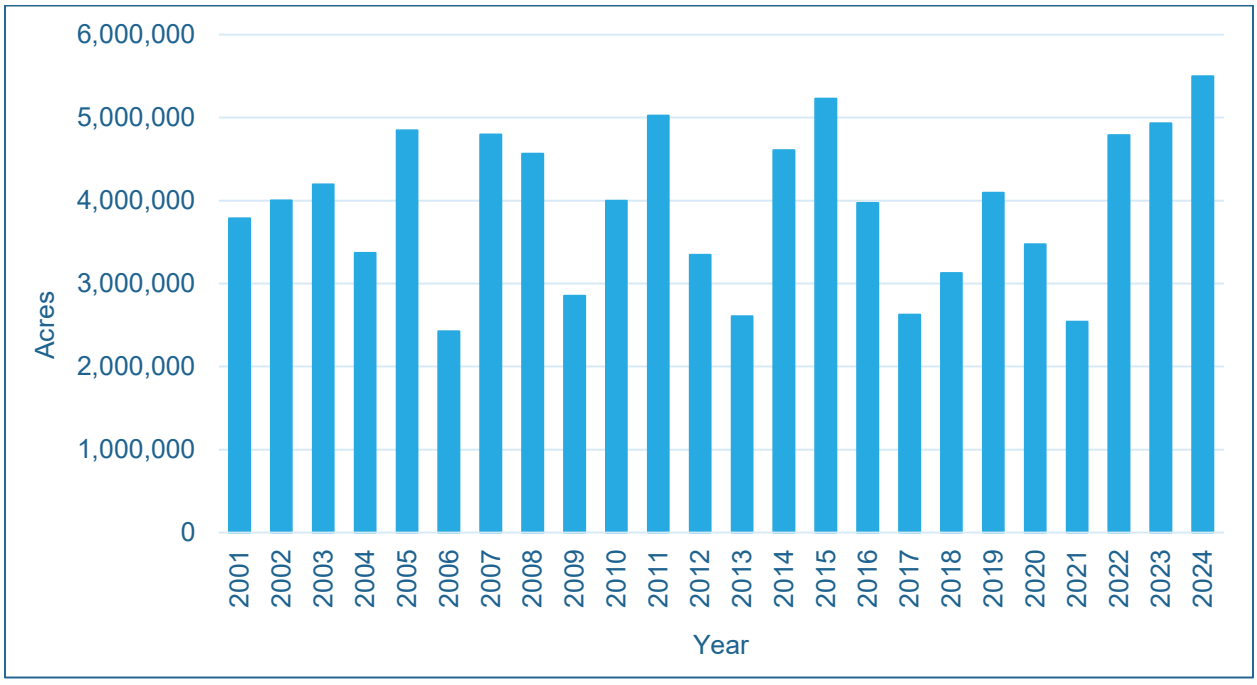
Agricultural Aviation

Aerial applicators remain integral to North Dakota's economic strength and agricultural success, significantly contributing to crop protection, yield enhancement, and the worldwide food supply. These skilled professionals deliver essential services that provide substantial economic benefits to the state and beyond.

During the 2024 growing season, aerial applicators achieved a historic milestone, treating a record-breaking 5.5 million acres of cropland—a testament to their vital role in supporting agricultural productivity. **Figure** 1-6 provides the historical acres treated by ND Aerial Applicators from 2001 - 2024.

The sector has also embraced innovation with the licensing of unmanned aerial applicators, which has further diversified and strengthened agricultural aviation. In 2024, unmanned aerial applicators covered nearly 70,000 acres annually, showcasing the potential for continued growth and modernization in this critical industry.

Figure 1-6. Historical Acres Treated by ND Aerial Applicators



Source: Kimley-Horn, 2025; NDAC,2025.

Aviation's Resilience and Vision

The economic and industry indicators that were briefly outlined in this chapter tell a compelling story of North Dakota's dynamic and evolving aviation industry. They highlight not only the impressive growth across various sectors but also the remarkable resilience demonstrated in the aftermath of the COVID-19 pandemic. Throughout that challenging period, public-use airports remained operational, serving as critical infrastructure that supported communities and sustained essential services when they were needed most.

As North Dakota enters a new era of growth and opportunity, the 2025 NDSASP emphasizes the state's unwavering commitment to fostering a diverse, resilient, and forward-thinking aviation system. Through strategic investments in infrastructure, air service expansion, and workforce development, the state is well-equipped to meet the demands of its thriving aviation industry while unlocking new possibilities for future generations.

1.2. Purpose of Aviation System Planning

The NDSASP is a vital planning document that is instrumental in helping the NDAC make informed and data-driven decisions to support the aviation system over the long-term planning horizon. The objective of the 2025 NDSASP is to evaluate the system's existing conditions since the previous 2014 NDSASP, analyze its performance based on identified goals and performance metrics, understand the impacts of industry trends, and provide considerations or recommendations to help guide future aviation development in North Dakota.

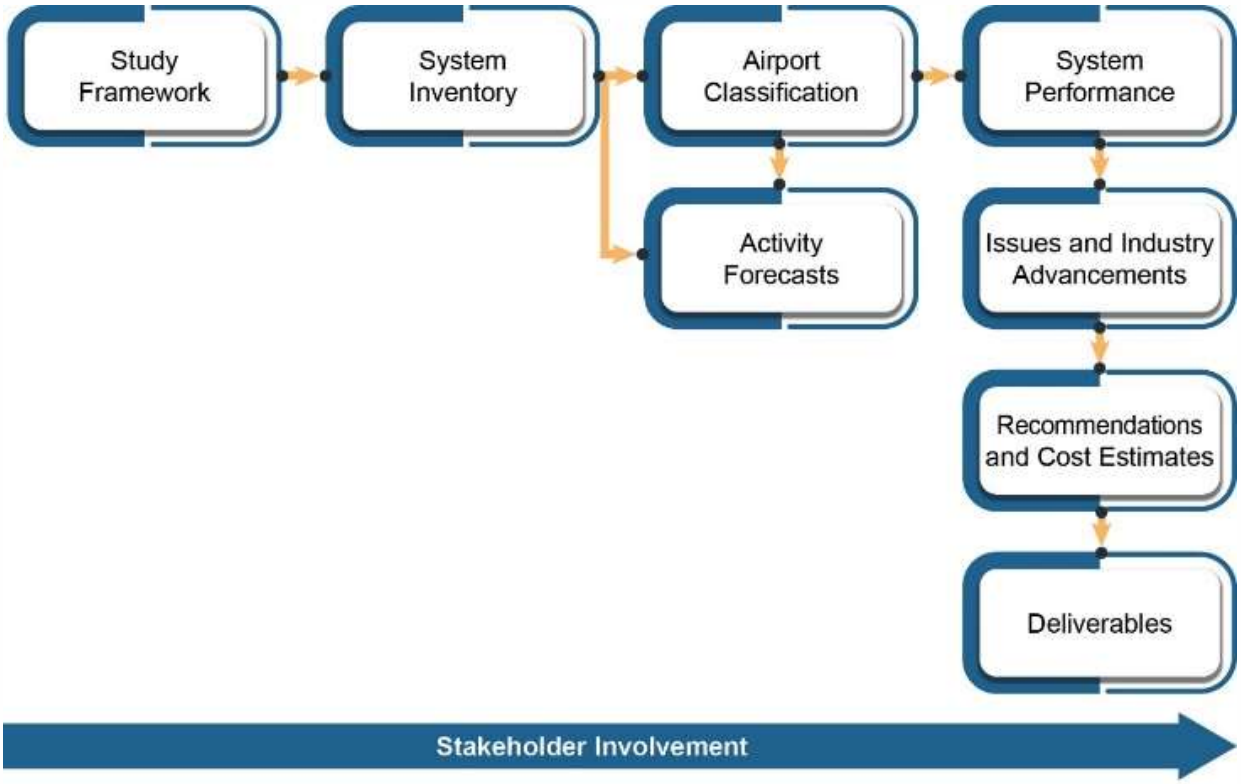
The FAA recommends that all states maintain an up-to-date state aviation system plan to address their statewide aviation needs and be eligible to receive federal dollars. FAA Advisory Circular (AC) 150/5070-7, *The Airport System Planning Process,* offers guidance on the development of and outlines the general content for a system plan. This AC was used in the development of the 2025 NDSASP. The information documented in the system plan is used by the FAA to help inform funding schedules and better understand aviation needs at a national and individual state level. The FAA also uses state system plans and individual airport master plans to inform the National Plan of Integrated Airport Systems (NPIAS), which is published bi-annually by the FAA. The NPIAS identifies the airports deemed essential to the national system and identifies the development costs "necessary to provide a safe, efficient, and integrated system of public-use airports."[1]

[1] FAA, National Plan of Integrated Airport Systems (NPIAS) for Fiscal Years (FY) 2025 to 2029.

1.3. Study Process

The 2025 NDSASP study process involves several distinct but interrelated tasks, as shown in **Figure 1-7**. The first task establishes the framework that guides the development of the study and includes identifying system plan goals and metrics, which are used to measure performance and inform recommendations. This is a critical component of the study as the framework serves as a roadmap that drives the study forward.

Figure 1-7. 2025 NDSASP Study Process



Source: Kimley-Horn, 2025; NDAC,2025.

The next task involves establishing a detailed inventory of the system and includes collecting a comprehensive dataset from each facility. Data collected comprises information on airport activity levels, navigational aids and equipment, facility conditions, and more. Following this data collection effort, subsequent tasks identify airport classifications and estimated airport activity forecasts. The classification and forecast information, as well as information identified in the system inventory task are used for the analyses of the system's performance.

With system performance evaluated, the next step is reviewing the impacts of topical issues and industry advancements that may impact system airports in the future. The results of the system performance analyses and findings from the issues and industry advancement review help to inform the recommendations and cost estimates effort. The recommendations and cost

estimates task is the last task in the study process before the final deliverables are developed. The stakeholder involvement task and the 2025 NDAEIS are shown as running throughout the 2025 NDSASP process. Stakeholder involvement efforts include establishing and consulting a Technical Advisory Committee (TAC) that provide feedback on draft deliverables throughout the project and maintaining a project website where project updates are posted, and members of the public may provide comment or subscribe to project updates. As previously noted, the process and results of the 2025 NDAEIS can be found in **Chapter X. 2025 North Dakota Aviation Economic Impact Study**.

1.4. Study Airports

There are 268 airstrips in North Dakota, however 179 of these are privately-owned airstrips reserved for private use only and are not recognized as part of North Dakota's state aviation system. The remaining 89 airports make up the state's aviation system and are all considered public-use airports. Of the 89 system airports, 53 are recognized as serving a critical role at the national level and are therefore included in the FAA's NPIAS. The remaining 36 system airports do not currently meet NPIAS eligibility requirements and are referred to as non-NPIAS airports. While these airports may not be recognized by the FAA as serving an essential role in the national aviation system, they are recognized by the NDAC as serving a critical role in the state's aviation system and therefore are included in the state's system. These non-NPIAS airports do not receive federal funding, however, they are eligible to receive state funding support in addition to local sources needed to maintain the airports.

Of the 89 system airports, eight offer scheduled air passenger service and are referred to as commercial service airports. These commercial service airports connect the state's population of over 780,000 to destinations across the U.S. and international locations and play an important role in connecting the state to national and global markets. All the study airports, including the commercial service airports, support a range of critical GA activity, which may include aerial application, flight training, air medical operations, aerial photography, business and corporate travel, and more. The activities that GA airports support is essential for the continued connectivity between North Dakota residents and the state's economy. For example, aerial agricultural application plays an important role in preventing crop losses due to pests, diseases, and trampled crops, which is of particular value to the state as approximately 25 percent of North Dakota's workforce is employed by agriculture related businesses and 90 percent of the state's land is used to support the industry.[2]

Table 1-1 lists the 89 system airports included in the 2025 NDSASP and **Figure 1-8** depicts the location of these study airports.

[2] North Dakota Department of Agriculture, 2023 North Dakota Agriculture Brochure, August 2023, https://www.ndda.nd.gov/sites/www/files/documents/files/2023%20ND%20Ag%20brochure.pdf.

Table 1-1. 2025 NDSASP Airports

Associated City	Airport Name	FAA ID	NPIAS Status	Service Type
Arthur	Arthur	1A2	Non-NPIAS	General Aviation
Ashley	Ashley Municipal	ASY	NPIAS	General Aviation
Beach	Beach	20U	NPIAS	General Aviation
Beulah	Beulah Municipal	95D	Non-NPIAS	General Aviation
Bismarck	Bismarck Municipal	BIS	NPIAS	Commercial Service
Bottineau	Bottineau Municipal	D09	NPIAS	General Aviation
Bowbells	Bowbells Municipal	5B4	Non-NPIAS	General Aviation
Bowman	Bowman Regional	BWW	NPIAS	General Aviation
Cando	Cando Municipal	9D7	NPIAS	General Aviation
Carrington	Carrington Municipal	46D	NPIAS	General Aviation
Casselton	Casselton Robert Miller Regional	5N8	NPIAS	General Aviation
Cavalier	Cavalier Municipal	2C8	NPIAS	General Aviation
Columbus	Columbus Municipal	D49	Non-NPIAS	General Aviation
Cooperstown	Cooperstown Municipal	S32	NPIAS	General Aviation
Crosby	Crosby Municipal	D50	NPIAS	General Aviation
Devils Lake	Devils Lake Regional	DVL	NPIAS	Commercial Service
Dickinson	Dickinson - Roosevelt Regional	DIK	NPIAS	Commercial Service
Drayton	Drayton Municipal	D29	Non-NPIAS	General Aviation
Dunseith	International Peace Garden	S28	NPIAS	General Aviation
Edgeley	Edgeley Municipal	51D	NPIAS	General Aviation

Associated City	Airport Name	FAA ID	NPIAS Status	Service Type
Elgin	Elgin Municipal	Y71	Non-NPIAS	General Aviation
Ellendale	Ellendale Municipal	4E7	NPIAS	General Aviation
Enderlin	Sky Haven	5N4	Non-NPIAS	General Aviation
Fargo	West Fargo Municipal	D54	Non-NPIAS	General Aviation
Fargo	Hector International	FAR	NPIAS	Commercial Service
Fessenden	Fessenden - Streibel Municipal	D24	Non-NPIAS	General Aviation
Fort Yates	Standing Rock	Y27	NPIAS	General Aviation
Gackle	Gackle Municipal	9G9	Non-NPIAS	General Aviation
Garrison	Garrison Municipal	D05	NPIAS	General Aviation
Glen Ullin	Glen Ullin Regional	D57	NPIAS	General Aviation
Grafton	Hutson Field	GAF	NPIAS	General Aviation
Grand Forks	Grand Forks International	GFK	NPIAS	Commercial Service
Gwinner	Gwinner - Roger Melroe Field	GWR	NPIAS	General Aviation
Harvey	Harvey Municipal	5H4	NPIAS	General Aviation
Hazelton	Hazelton Municipal	6H8	Non-NPIAS	General Aviation
Hazen	Mercer County Regional	HZE	NPIAS	General Aviation
Hettinger	JB Lindquist Regional	HEI	NPIAS	General Aviation
Hillsboro	Hillsboro Municipal	3H4	NPIAS	General Aviation
Jamestown	Jamestown Regional	JMS	NPIAS	Commercial Service
Kenmare	Kenmare Municipal	7K5	NPIAS	General Aviation
Killdeer	Dunn County - Weydahl Field	9Y1	Non-NPIAS	General Aviation

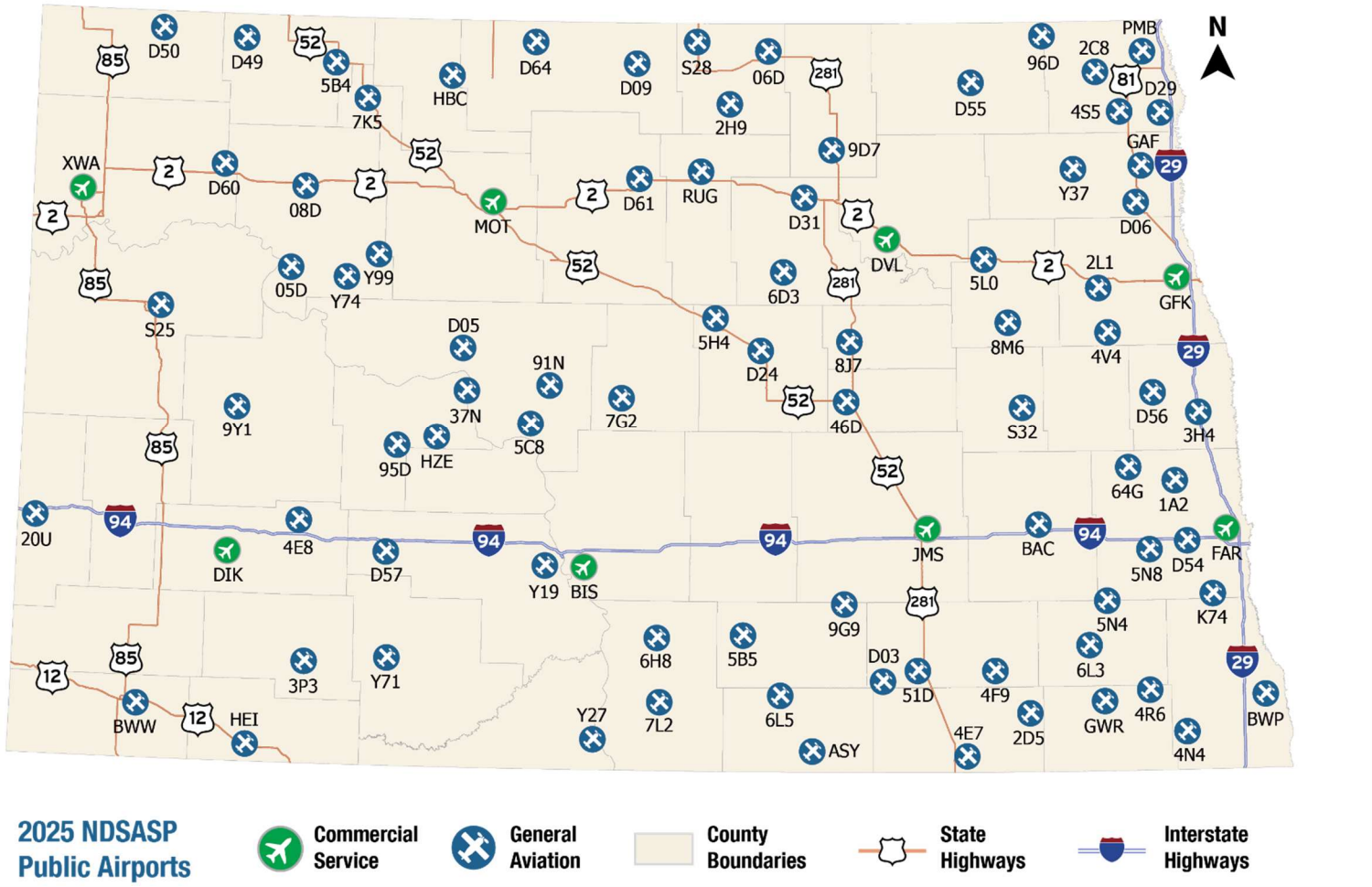
Associated City	Airport Name	FAA ID	NPIAS Status	Service Type
Kindred	Robert Odegaard Field	K74	NPIAS	General Aviation
Kulm	Kulm Municipal	D03	Non-NPIAS	General Aviation
La Moure	La Moure Rott Municipal	4F9	NPIAS	General Aviation
Lakota	Lakota Municipal	5L0	NPIAS	General Aviation
Langdon	Robertson Field	D55	NPIAS	General Aviation
Larimore	Larimore Municipal	2L1	Non-NPIAS	General Aviation
Leeds	Leeds Municipal	D31	Non-NPIAS	General Aviation
Lidgerwood	Lidgerwood Municipal	4N4	Non-NPIAS	General Aviation
Linton	Linton Municipal	7L2	NPIAS	General Aviation
Lisbon	Lisbon Municipal	6L3	NPIAS	General Aviation
Maddock	Maddock Municipal	6D3	Non-NPIAS	General Aviation
Mandan	Mandan Regional - Lawler Field	Y19	NPIAS	General Aviation
Mayville	Mayville Municipal	D56	Non-NPIAS	General Aviation
McClusky	McClusky Municipal	7G2	Non-NPIAS	General Aviation
McVille	McVille Municipal	8M6	Non-NPIAS	General Aviation
Milnor	Milnor Municipal	4R6	Non-NPIAS	General Aviation
Minot	Minot International	MOT	NPIAS	Commercial Service
Minto	Minto Municipal	D06	Non-NPIAS	General Aviation
Mohall	Mohall Municipal	HBC	NPIAS	General Aviation
Mott	Mott Municipal	3P3	NPIAS	General Aviation
Napoleon	Napoleon Municipal	5B5	Non-NPIAS	General Aviation

Associated City	Airport Name	FAA ID	NPIAS Status	Service Type
New Rockford	Tomlinson Field	8J7	Non-NPIAS	General Aviation
New Town	New Town Municipal	05D	Non-NPIAS	General Aviation
Northwood	Northwood Muni - Vince Field	4V4	NPIAS	General Aviation
Oakes	Oakes Municipal	2D5	NPIAS	General Aviation
Page	Page Regional	64G	Non-NPIAS	General Aviation
Park River	Park River - W C Skjerven Field	Y37	NPIAS	General Aviation
Parshall	Parshall - Hankins	Y74	NPIAS	General Aviation
Pembina	Pembina Municipal	PMB	NPIAS	General Aviation
Plaza	Trulson Field	Y99	Non-NPIAS	General Aviation
Richardton	Richardton Municipal	4E8	Non-NPIAS	General Aviation
Riverdale	Garrison Dam Recreational Airpark	37N	Non-NPIAS	General Aviation
Rolette	Rolette	2H9	Non-NPIAS	General Aviation
Rolla	Rolla Municipal	06D	NPIAS	General Aviation
Rugby	Rugby Municipal	RUG	NPIAS	General Aviation
St Thomas	St. Thomas Municipal	4S5	Non-NPIAS	General Aviation
Stanley	Stanley Municipal	08D	NPIAS	General Aviation
Tioga	Tioga Municipal	D60	NPIAS	General Aviation
Towner	Towner Municipal	D61	Non-NPIAS	General Aviation
Turtle Lake	Turtle Lake Municipal	91N	Non-NPIAS	General Aviation
Valley City	Barnes County Municipal	BAC	NPIAS	General Aviation
Wahpeton	Harry Stern	BWP	NPIAS	General Aviation

Associated City	Airport Name	FAA ID	NPIAS Status	Service Type
Walhalla	Walhalla Municipal	96D	NPIAS	General Aviation
Washburn	Washburn Municipal	5C8	NPIAS	General Aviation
Watford City	Watford City Municipal	S25	NPIAS	General Aviation
Westhope	Westhope Municipal	D64	Non-NPIAS	General Aviation
Williston	Williston Basin International	XWA	NPIAS	Commercial Service
Wishek	Wishek Municipal	6L5	Non-NPIAS	General Aviation

Sources: FAA, National Plan of Integrated Airport Systems (NPIAS) for Fiscal Years (FY) 2025 to 2029, Kimley-Horn, 2025.

Figure 1-8. 2025 NDSASP Airports



Sources: FAA, National Plan of Integrated Airport Systems (NPIAS) for Fiscal Years (FY) 2025 to 2029.Kimley-Horn, 2025