

CASE STUDY / **WILLISTON BASIN INTERNATIONAL AIRPORT**

A GROUND-UP AIRPORT DELIVERED ON A CHALLENGING TIMELINE

Replacing Sloulin Field, the Williston Basin International Airport is a rare example of ground-up airport construction — and it's also the fastest built commercial airport since World War II. Accomplishing the monumental effort required effective collaboration and communication within a large team.



SEAMLESS COORDINATION MAKES A QUICK BUILD POSSIBLE

New airport supports continuous growth and prosperity in western North Dakota.

PROJECT STATS

CLIENT

City of Williston

LOCATION

Williston, North Dakota

\$272M

TOTAL CONSTRUCTION COST

22%

AIRPORT TRAFFIC INCREASE

33%

FASTER THAN TYPICAL AIRPORT SCHEDULE

CHALLENGE

In recent years, the North Dakota oil boom generated a dramatic and continuing population explosion in Williston, North Dakota. According to the U.S. census, population increased from 14,716 in 2010 to 27,096 in 2018. Williams County — for which Williston is the county seat — was the fastest growing county in the U.S. in 2017 and 2018.

The community's existing airport, Sloulin Field, couldn't accommodate this expansive growth. Its runway was designed for smaller airplanes weighing less than 25,000 pounds and carrying fewer than 30 passengers. From pavement strength to runway slope, the airfield had challenges keeping up with the Federal Aviation Administration (FAA) design standards for many aircraft that desired to use the airport.

With maintenance needs constantly increasing to provide safety and surrounding development limiting expansion efforts, studies demonstrated building a new greenfield airport would be more timely and cost-effective than renovation.

SOLUTION

Design and construction of a new airport requires years of planning, dozens of contractors and hundreds of stakeholders. Completing the

process on an aggressive timeline demands efficient communication, strong relationships and considerable commitment.

Our team provided design, engineering and construction administration services on several project elements for the new Williston Basin International Airport, including:

- **Airfield electrical vault:**

The vault is a critical piece of infrastructure serving as the power epicenter for all airfield/NAVAID lighting systems.

- **General aviation (GA) apron and Runway 4-22:**

The 50,000-square-yard GA apron serves as the main location for private flights. Runway 4-22 will serve smaller aircraft unable to use the main runway in unfavorable wind conditions.

- **Perimeter fence and roads:**

Perimeter fencing deters wildlife from entering the airfield, while roads offer safe access to airport assets. Four access gates — each powered, cantilevered and rolling — and multiple pedestrian manual gates remain fully functional even in the most extreme winter conditions.

- **Quick turnaround facility and parking lots:**

The facility and surrounding lots serve four rental car vendors. The



facility also includes four single-occupant bays designed for light cleaning and car washing services.

- **Runway lighting support**

structures: The Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights (MALSR), a visual aid that directs planes onto the runway, includes six support structures that raise the lights to the design elevation from a location 1,000 feet from the runway end to the remaining Runway Alignment Indicator Lights (RAIL).

Effective project management overcame one of the biggest technical challenges of this ground-up airport construction: more than 30 contractors completing projects in the same vicinity. Closely coordinated work schedules and material deliveries

helped avoid delays and conflicts. Weather conditions presented additional challenges, with outdoor construction only occurring between mid-April and September. Strategically phasing various project elements made the most of good weather days.

Close coordination with the city, FAA and local tribal council groups proved vital in keeping the project on schedule. Responsiveness and availability — coupled with on-site engineers who knew the plans inside and out — allowed for quick, proactive decision-making and problem-solving to anticipate and react to issues before they could become problems.

RESULTS

Despite challenges, including weather-related work delays and material shortages, Williston Basin International Airport opened on

time and on budget. The more than 140,000 people who will pass through the airport each year will benefit from modern amenities and efficiencies, including passenger boarding bridges so travelers can avoid walking outside when boarding. A larger area for bag checking and expanded checkpoint space for Transportation Security Administration (TSA) operations eases the security process. Rental car operations are now on-site, as are operational support facilities including firefighting and snow-removal facilities.

The new airport dramatically increases Williston's ability to compete for air service with surrounding regions, and boosts the economic activity and potential new development resulting from increased air traffic. The airport's layout offers the capability for significant expansion should demand continue to rise.



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