The New Williston Basin International Airport
Mason Short and Charlie Baker
The Mission we accepted in 2011

- Figure out how to fix Sloulin Field (ISN), or find a new location
- To provide an airport that meets FAA standards, and demands of the region for the next 50+ years
- Have this “problem” fixed by 2014...
So, how’d we tackle this mission?

- Williston growth and Bakken shale development
- Future community projections
- Sloulin Field constraints
- Concurrent Quad-Track Effort between 2011-2015
  - Feasibility and Site Selection Project
  - Environmental Assessment
  - Airport Master Plan
  - Airport Layout Plan
- Continual communication with State, FAA and Congressional Delegation
Airport Boardings at ISN in 2012

ISN Enplanements and TAF

Historical Enplanements 1976 to 2012

FAA 2011 TAF 2013 - 2032

FAA 2012 TAF 2013 - 2032
What was really driving activity

North Dakota Oil Production

Proven=7 BBO – Probable=10 BBO – Possible=14 BBO
(billion barrels of oil)
North Dakota Oil Industry Jobs Projection
Oil Production and Price

North Dakota Daily Oil Produced and Price

All-time high
1,402,741 barrels/day
December 2018

BOPD

ND Sweet $/BO


0 100,000 200,000 300,000 400,000 500,000 600,000 700,000 800,000 900,000 1,000,000 1,100,000 1,200,000 1,300,000 1,400,000 1,500,000

---$/BO

BOPD
Enplanement Forecasts

Master Plan Enplanement Forecast

- **Unconstrained Pax Forecast - Average**
- **Master Plan Forecast**
- **Forecast - High Range**
- **Forecast - Low Range**
- **Historical Enplanements - 5 yr. CAGR (25.2%)**
- **2013 FAA TAF (Accepted)**

Year:
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028
- 2029
- 2030
- 2031
- 2032

Enplanements:
- 0
- 50,000
- 100,000
- 150,000
- 200,000
- 250,000
- 300,000
- 350,000
- 400,000
Actual Enplanements Since 2009

- 2009: 11,229
- 2010: 15,897
- 2011: 27,860
- 2012: 37,359
- 2013: 94,459
- 2014: 119,069
- 2015: 106,945
- 2016: 68,021
- 2017: 68,685
- 2018: 73,795
- 2019 (Est): 88,235
- 2020 (Est): 109,000
Sloulin Field Constraints

- Surrounding Land Use – Golf Course
- Residential / Commercial
- Wildlife Hazards - Landfill & Wetlands
- Parking Demand
- Terminal Size
- Apron Space
- Runway Protection Zone
- Terrain Northwest of Airport
- Pavement Strength & Slope
Biggest Issue ... Terrain
Damage to Taxiway A in 2014
Additional pavement rutting had occurred since then
Typical Tuesday at ISN in 2012
Key Issues Driving Relocation

- Compliance with FAA Design Standards
  - #1 Issue – Complying with Runway Gradient for C/D-II aircraft
  - Fixing Sloulin Field was possible, but at similar cost and requires closure for 2+ years for construction.
  - FAA standards would be an issue as long as jets used ISN.
Determine if a potential alternative location could be found.

Site Selection Tool – GIS Based Spatial Model (2011 and 2012) based on publicly available ND GIS Hub data.

Evaluated factors with negative and positive impacts for airport siting.

Analyzed over 40 different factors.
GIS Roster Factors

- Proximity to:
  - Williston
  - Major Roads
  - Other Airports
- Terrain
- Known Historical Preservation Areas
- Federal and State Lands
- Wetland Easements
- Game Production Areas
- Wetland Density
- Major Rivers
- Landfills
- Other Wildlife Attractants
- Towers/Tall Objects
- Overhead Transmission Lines**
- Major Underground Transmission Lines**
- Railroads
- Water bodies, Lagoons, Wetlands, Major Rivers
Areas A, B & C were discarded due to:
- Aeronautical Obstructions
- Distance from city and road conditions
- Concentration of existing oil wells
- Terrain limitations
- Proximity to wildlife attractants

Compatibility Score:
- Red = 100%-95%
- Blue = 95%-90%
This Area D was determined to be the most compatible for airport development.

Compatibility Score:
- Red = 100%-95%
- Blue = 95%-90%
Discovery:
- 13 of 16 Tribes that had standing on this participated in extensive site inspections
- Multiple cultural features on unbroken prairie (80+)

Impacts to 2014 Plan:
- Minor realignment of runways
- Moved terminal

Impacts to Cultural Features – None
Tribal Survey
Changes to Layout

2014 Draft ALP

2015 Final ALP
“Oh crap” moments

- First public meeting for EA, we were told we would be shot if we came near one of the potential sites.
- Discovery that Enbridge had 2 Interstate Pipelines that would be impacted.
- Concern from FAA Headquarters about the street that had to be relocated.
“Street” to be relocated.....
Estimated Cost during Planning - $265M

- Airfield = $165M
  - Land, Runways, Taxiways, Aprons, and NAVAIDs
- Structures = $70M
  - Terminal and ARFF/SRE
- Other Projects = $30M
  - Roads, Parking Lots, Utilities, etc.
City of Williston
- $62M for local share
- From the sale of Sloulin Field, PFC, CFC, net income

State of North Dakota
- $58M in Energy Impact Funds
- Committed by ND Legislature

FAA
- $145M in AIP Funding
Who was Involved

- City of Williston
  - City Commission
  - Community
- FAA
  - ADO
  - Region
  - Headquarters
- Local, State and Federal Representatives
- North Dakota Aeronautics
Airport’s Team

- City of Williston
- Owner’s Representative
- Program Manager
- Site Safety and Security
- Various Consultants
- Contractors
- Utilities
## Planned Airfield Requirements

<table>
<thead>
<tr>
<th>Item</th>
<th>Existing</th>
<th>Proposed</th>
<th>Ultimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airport Design Category</strong></td>
<td>B-II</td>
<td>D-III</td>
<td>D-IV</td>
</tr>
<tr>
<td><strong>Critical Aircraft</strong></td>
<td>EMB-120</td>
<td>MD-83</td>
<td>757-200</td>
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<tr>
<td><strong>RDC (Runway Design Code)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Runway</td>
<td>B-II</td>
<td>D-III</td>
<td>D-IV</td>
</tr>
<tr>
<td>Crosswind Runway</td>
<td>B-I Exclusively Small</td>
<td>B-II</td>
<td>B-II</td>
</tr>
<tr>
<td><strong>Runway Dimensions (length x width)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Runway</td>
<td>6,650 feet x 100 feet</td>
<td>7,500 feet x 150 feet</td>
<td>8,500 feet x 150 feet</td>
</tr>
<tr>
<td>Crosswind Runway</td>
<td>3,453 feet x 60 feet</td>
<td>4,500 feet x 75 feet</td>
<td>4,500 feet x 75 feet</td>
</tr>
<tr>
<td><strong>Apron</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal</td>
<td>11,650 square yards</td>
<td>32,000 square yards</td>
<td>45,000 square yards</td>
</tr>
<tr>
<td>General Aviation</td>
<td>34,650 square yards</td>
<td>44,000 square yards</td>
<td>65,000 square yards</td>
</tr>
<tr>
<td>Cargo</td>
<td>4,300 square yards</td>
<td>8,000 square yards</td>
<td>39,000 square yards</td>
</tr>
<tr>
<td><strong>Terminal</strong></td>
<td></td>
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</tr>
<tr>
<td>Building Size Estimate</td>
<td>9,600 square feet</td>
<td>108,000 square feet</td>
<td>108,000 square feet</td>
</tr>
<tr>
<td>Terminal Parking Stalls</td>
<td>~450 (including gravel)</td>
<td>900</td>
<td>1,584</td>
</tr>
<tr>
<td>Passenger Peak Hour</td>
<td>30 passenger peak hour</td>
<td>300 passenger peak hour</td>
<td>300 passenger peak hour</td>
</tr>
</tbody>
</table>
Final ALP
First meetings held to discuss major airport development / relocation – January 2011
United and Delta started service – November 2012
Feasibility / Site Selection Study – June 2014
Environmental Assessment and FONSI/ROD signed by FAA – September 22, 2015
ALP signed by FAA – September 23, 2015
Master Plan – April 2016
Land Acquisition completed – November 2016
Construction began – May 2017
Open for first flight – October 10, 2019
Manpower
- Averaged 350 people per day from June to October 2019
- High was around 450 people per day in 2019
- In excess of 35 different construction contracts
Concrete Thickness

- 12-inch concrete
  - Boeing 717-200 (122,000 lbs)

- 13-inch concrete
  - Airbus A319-100 (150,796 lbs) and A321-100 (183,866 lbs)

- 1-inch of concrete is an additional $1,057,450 out of $18,126,400 total cost for the associated airfield projects
  - Runway 14-32
  - Taxiway A
  - Commercial Apron
Concrete

Runway 14-32
- 125,000 S.Y. of 13-inch concrete
- 8,889 S.Y. of 9-inch concrete (blast pads)
- 6,873 S.Y. of 6-inch concrete (Runway 4-22 intersection)

Taxiway A
- 48,640 S.Y. of 13-inch concrete

Commercial Apron
- 43,755 S.Y. of 13-inch concrete
Construction Statistics

- Terminal = 7,000 C.Y. of Concrete
- 32,000 S.F. of Terrazzo
- Basement walls 2’ 4” thick and 18’ tall
- 400 tons of rebar
- 100 tons of steel structure
- 85 miles of wire/cable
- 1,500 KW diesel generator
Site grading in 2017
Runway 14-32 in 2018/2019
Taxiway A in 2018/2019
Commercial apron in 2018/2019
De-icing containment
NAVAIDs in 2019
Terminal in 2017 through 2019
ARFF/SRE in 2018/2019
Utilities
  › Communication
  › Power
  › Electrical
  › Natural Gas
  › Pipeline Relocations
  › Water
  › Wastewater

Fencing in 2019

Commercial Parking Lot in 2018/2019
Construction

- Paid parking vendor
- Security camera system
- Quick Turn Around (QTA) car wash
- Rental parking lot
- Road to the airport
- GA apron
- GA parking
- GA hangar taxiways
Construction

- FBO Hangar
- FBO Parking
- National Weather Service
- AWOS
- Fuel System
  - 100LL
  - Jet A
  - Diesel
  - Unleaded
Actual Construction Costs

- FAA Funding (Entitlement & Discretionary)
  - TOTAL - $112.4M or 43%
- State of North Dakota Grant Allocations
  - 2013-2015 biennium: $20 million from airport oil impact funds
  - 2017-2019 biennium: $35 million from airport oil impact funds
  - TOTAL - $55M or 19%
- City Funding
  - Bank of North Dakota
  - Energy Impact Funding
    - Oil impact funding earmarked for fire, schools, and community development
  - Sales Tax
  - Total - $105M or 39%
- Total: ~$273M
Construction Challenges

- DBE Bid Protests in 2017
- Taxiway Contractor Termination in 2018
- Extended cold winter in 2018/2019
- Record rainfall in 2019
- Cement Supply Shortage in 2019
- “Boiling” Concrete
- Paving Runway 4-22 at the wrong width
- Contractor Prompt Payment to Subcontractors and Suppliers
“Boiling” Concrete
ARFF/SRE Building
ARFF/SRE Building
ARFF/SRE Building
Terminal
Terminal
Terminal
Terminal

➢ XWA Terminal Aerial Video
First Commercial Flight – October 10, 2019

- Captain Elliott Monson
- First solo flight from Sloulin Field in 2006
Airport decommissioned
Facilities are being removed
Land is being sold and redeveloped
911 Dispatch Center
Hockey Arena
Sloulin Field Redevelopment
Sloulin Field Redevelopment

1. CIVIC CENTER/HOTEL
2. EXISTING TERMINAL/FUTURE MUSEUM
3. ICE RIBBON/SKATE RINK
4. AMPHITHEATRE
5. RETAIL PROMENADE
6. GATEWAY
7. RESTAURANT/FOOD SERVICE
8. COMMERCIAL/RETAIL
9. REGIONAL PARK
10. SMALL PERFORMANCE SPACE/SLED HILL
11. SPORTS FIELDS
12. SCHOOL
13. EXISTING AIRPORT HANGAR
14. INNOVATION CENTER CAMPUS
15. BUSINESS EXPANSION/COMMERCIAL AREA
16. NEIGHBORHOOD PARK/STORMWATER MANAGEMENT
Questions