The New Williston Basin International Airport

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KLJ

ENGINEERING, REIMAGINED

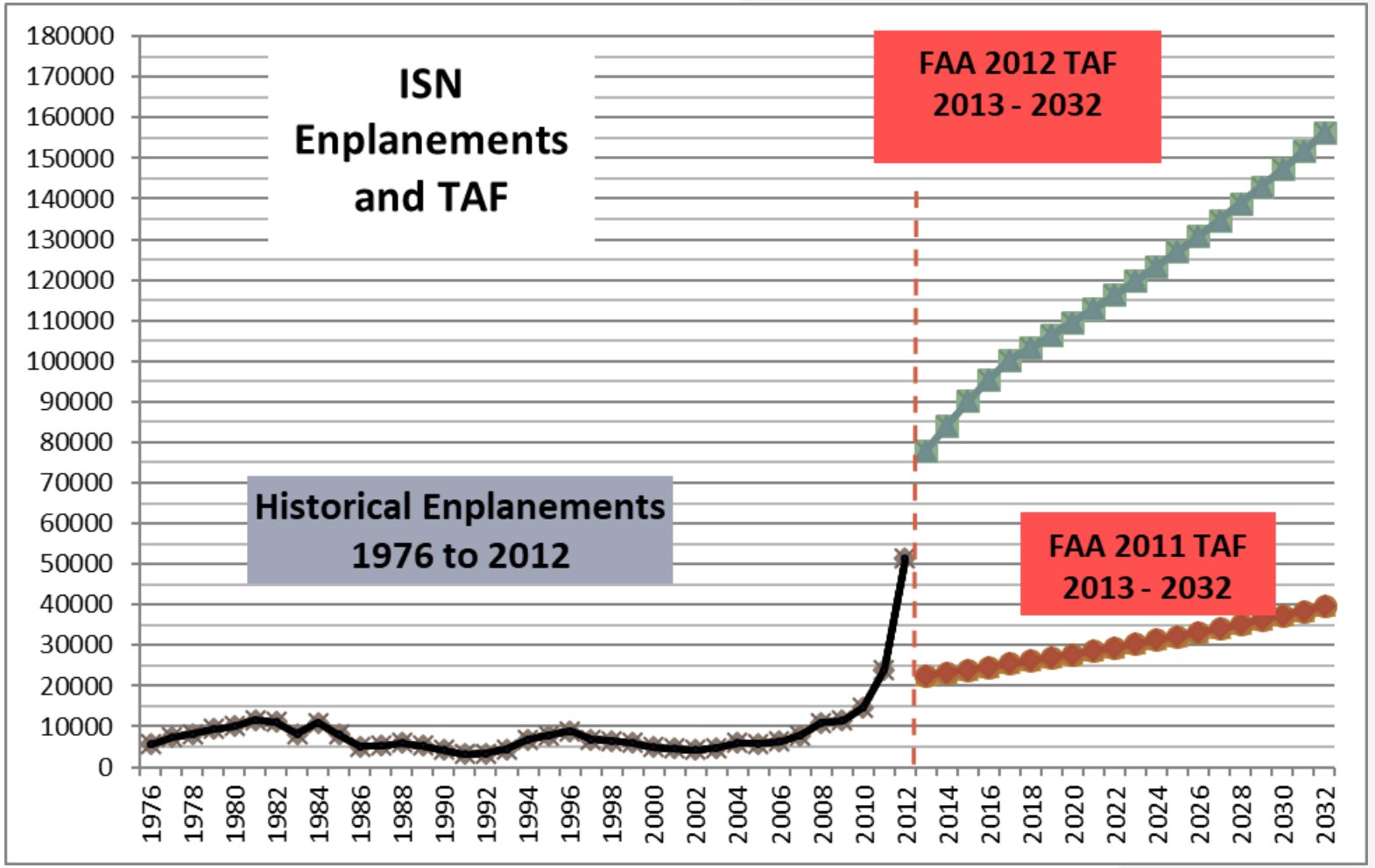
The Mission we accepted in 2011

- 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….

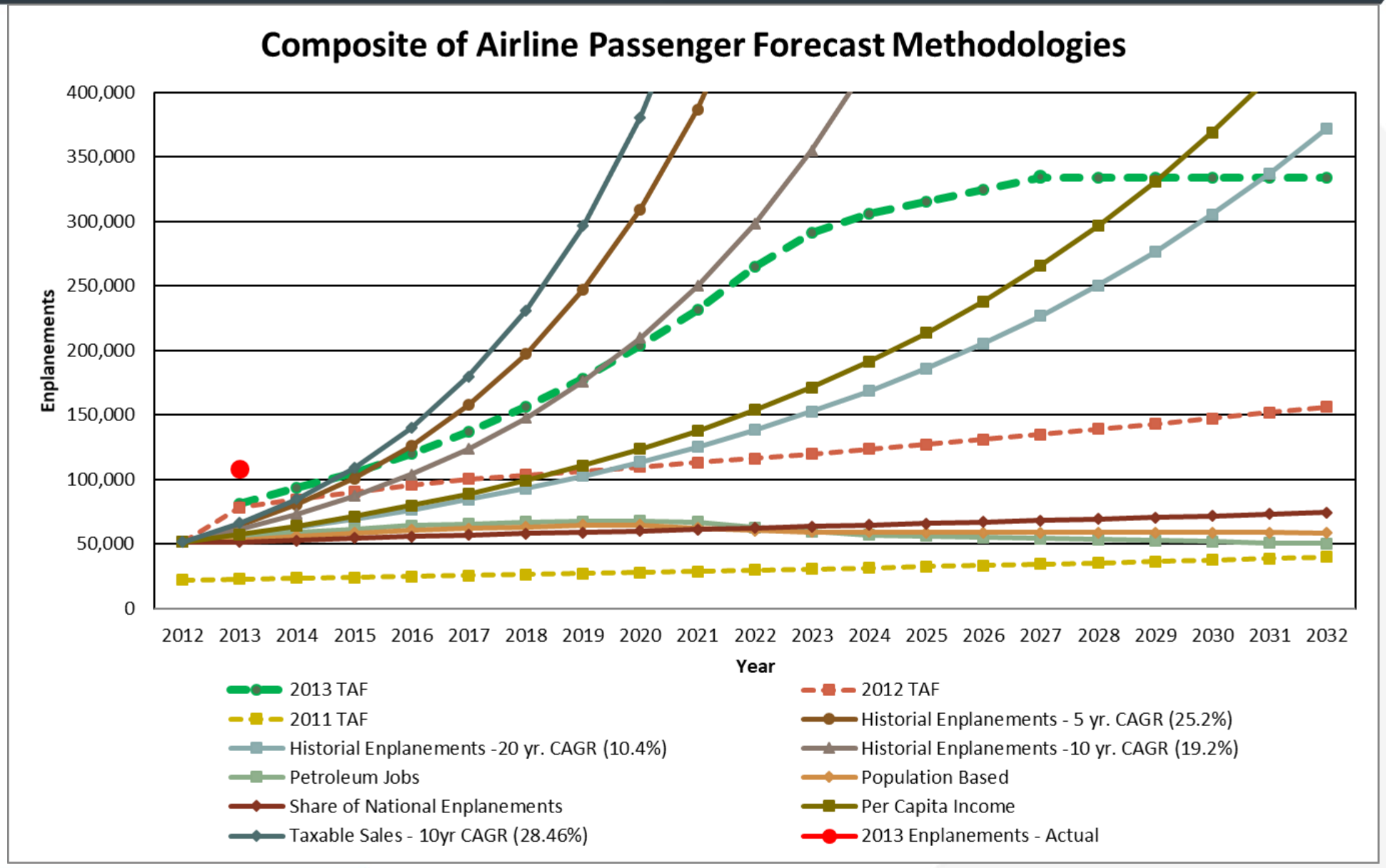
So, how'd we tackle this mission?

- 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

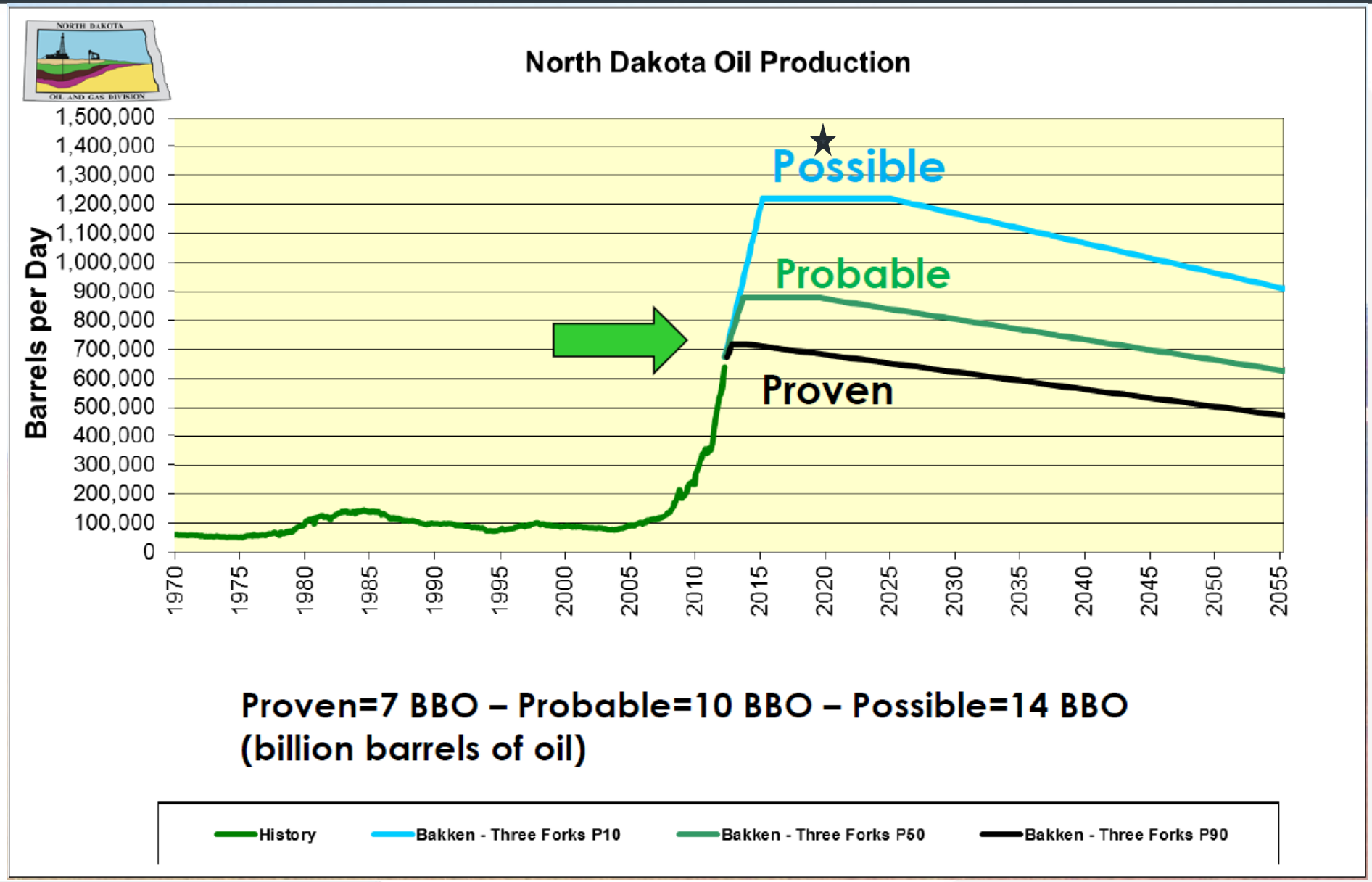
Airport Boardings at ISN in 2012



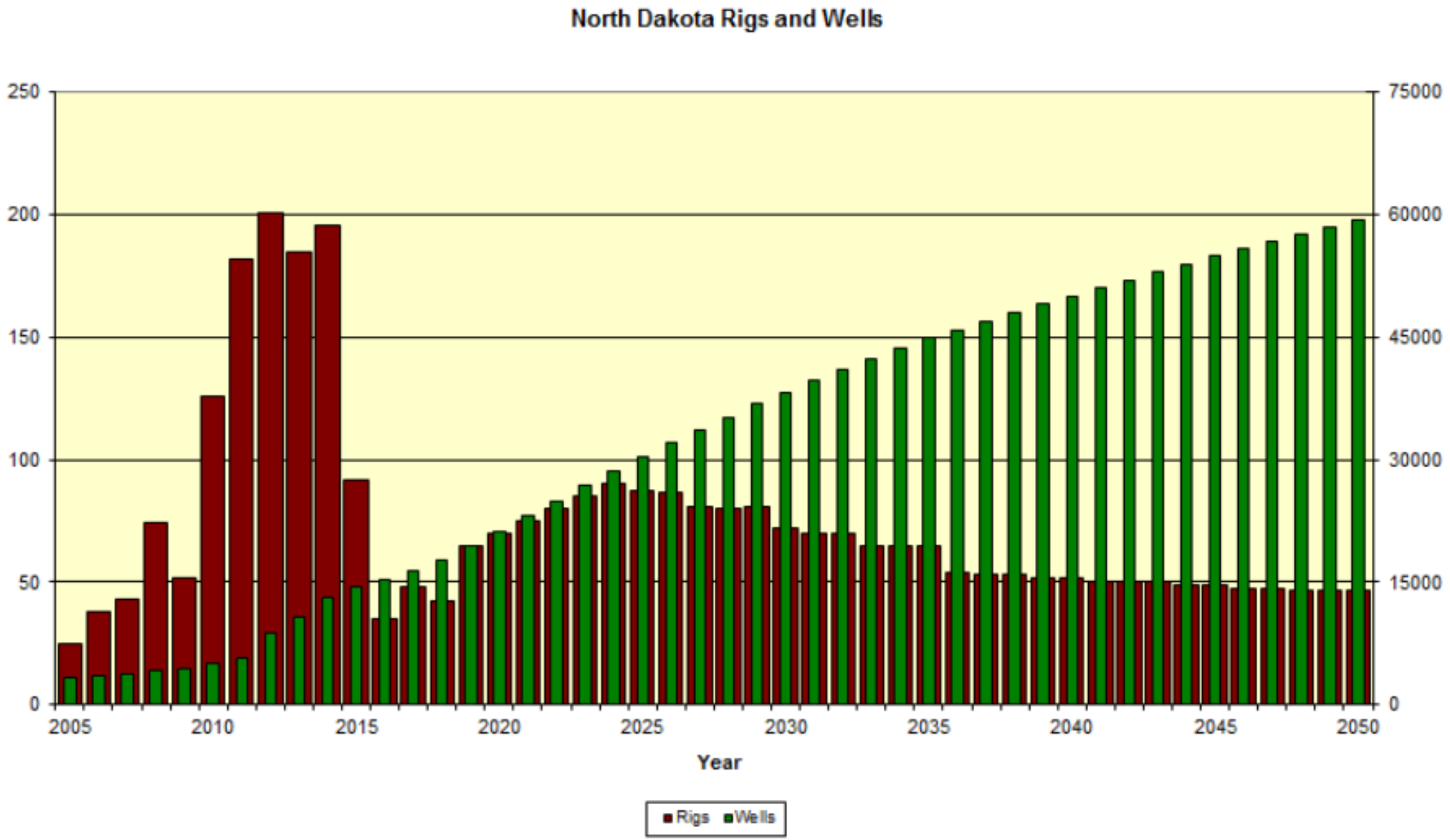
Challenges of Traditional Forecasting



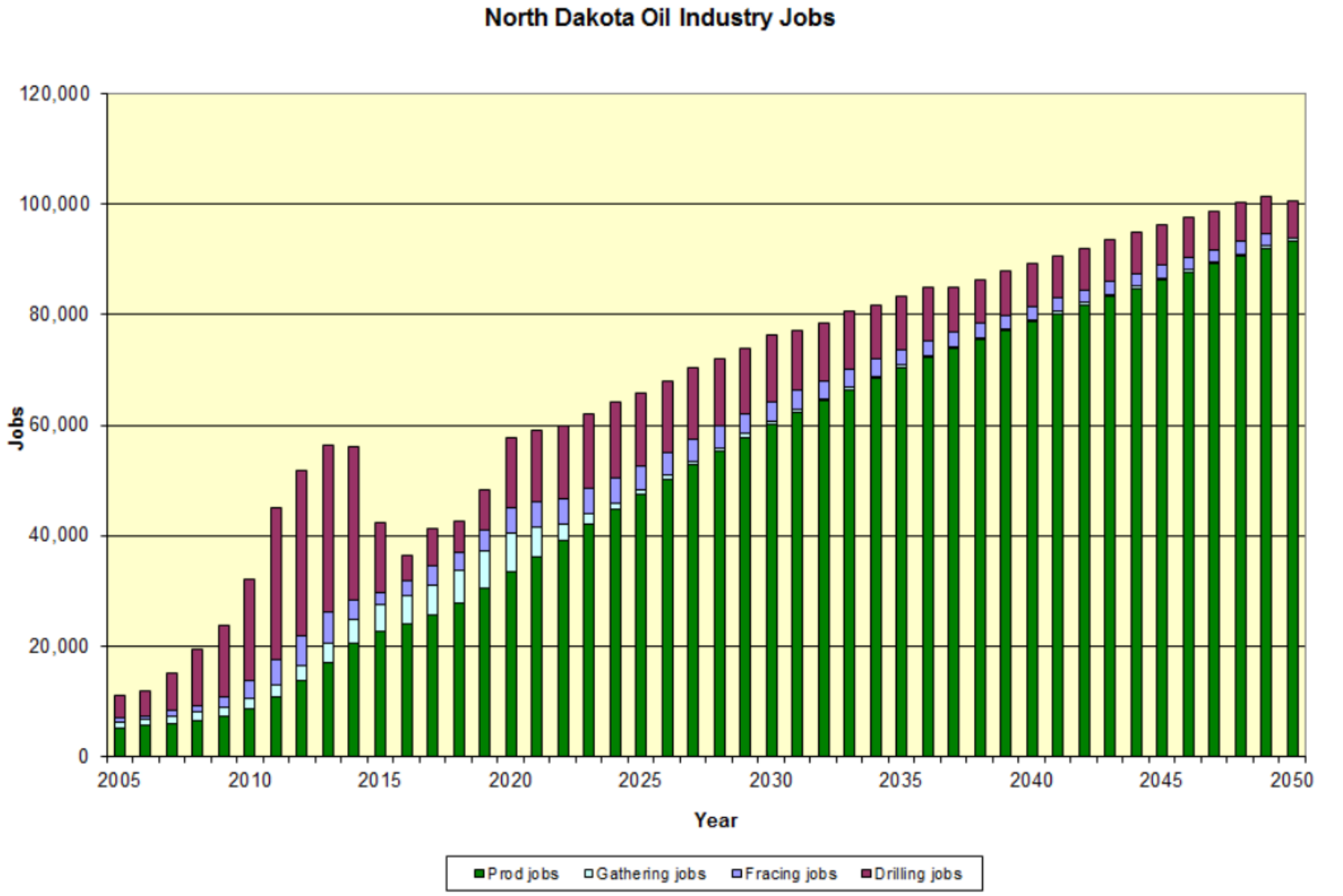
What was really driving activity



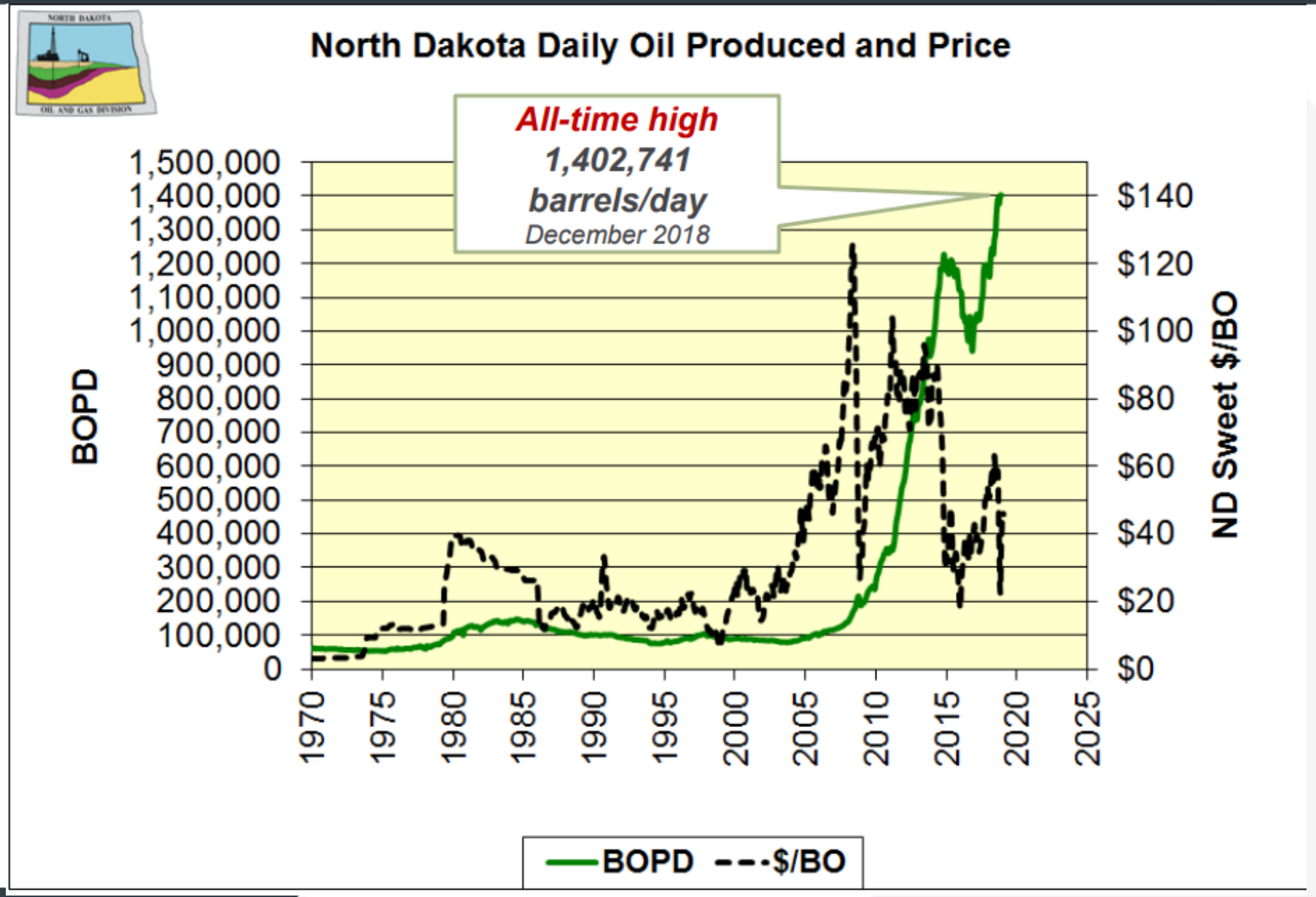
North Dakota Rigs and Wells Projection



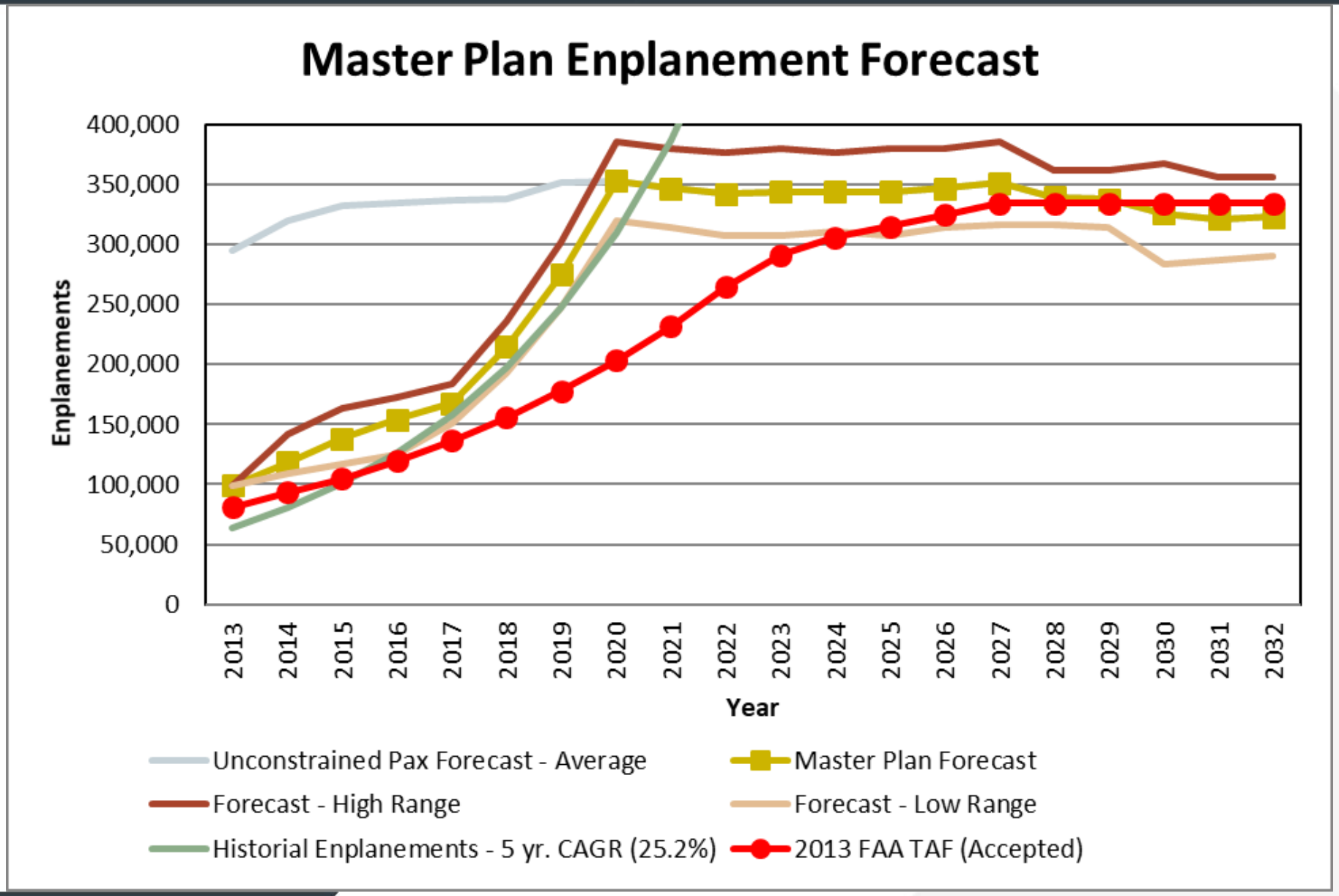
North Dakota Oil Industry Jobs Projection



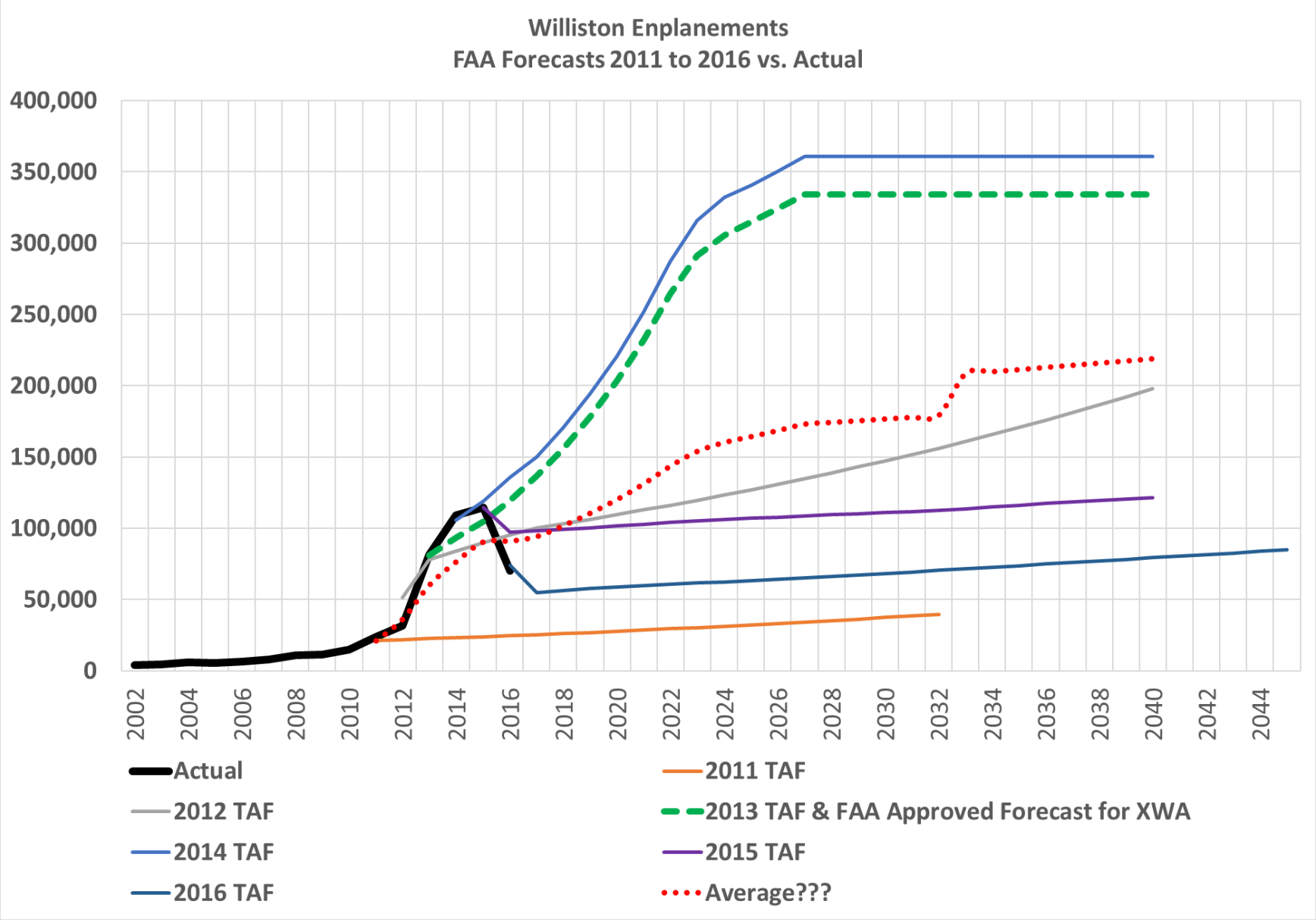
Oil Production and Price



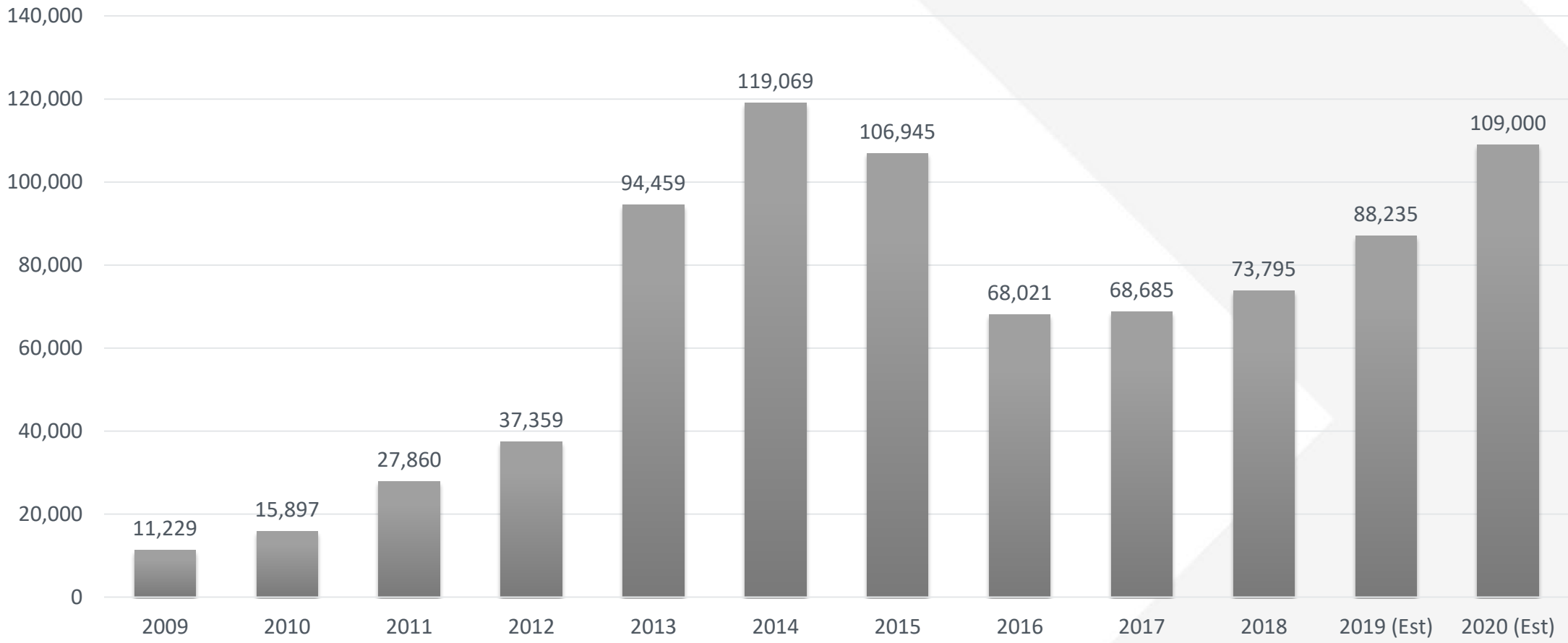
Enplanement Forecasts



FAA Terminal Area Forecasts (TAF)

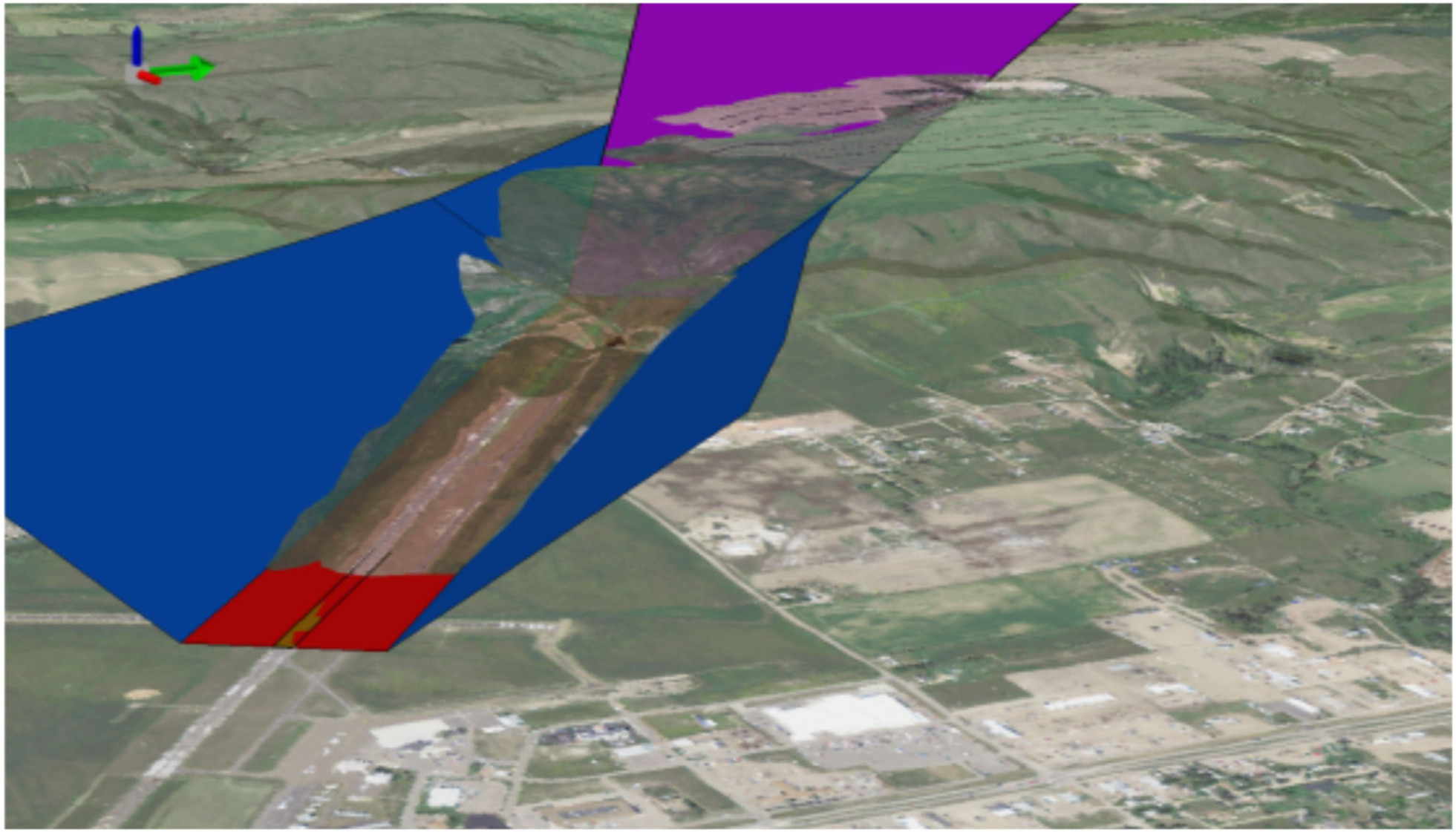


Actual Enplanements Since 2009



Sloulin Field Constraints

Biggest Issue … Terrain



View from the LOC Shelter

Deterioration of Sloulin Field

- Damage to Taxiway A in 2014
- Additional pavement rutting had occurred since then

Parking Expansion

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.

Site Selection Process

- 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

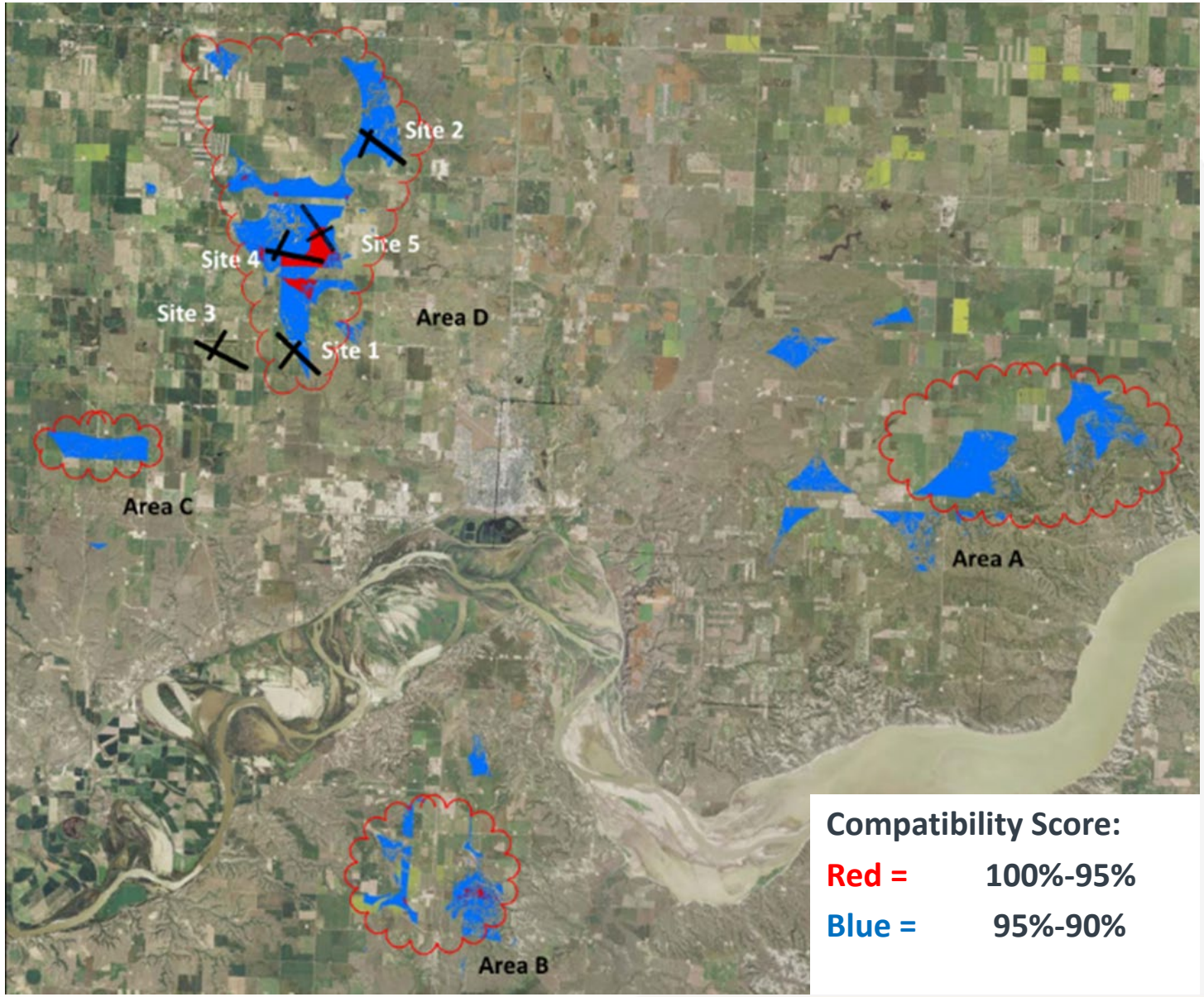
GIS Roster Factors

- 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

GIS Model Results

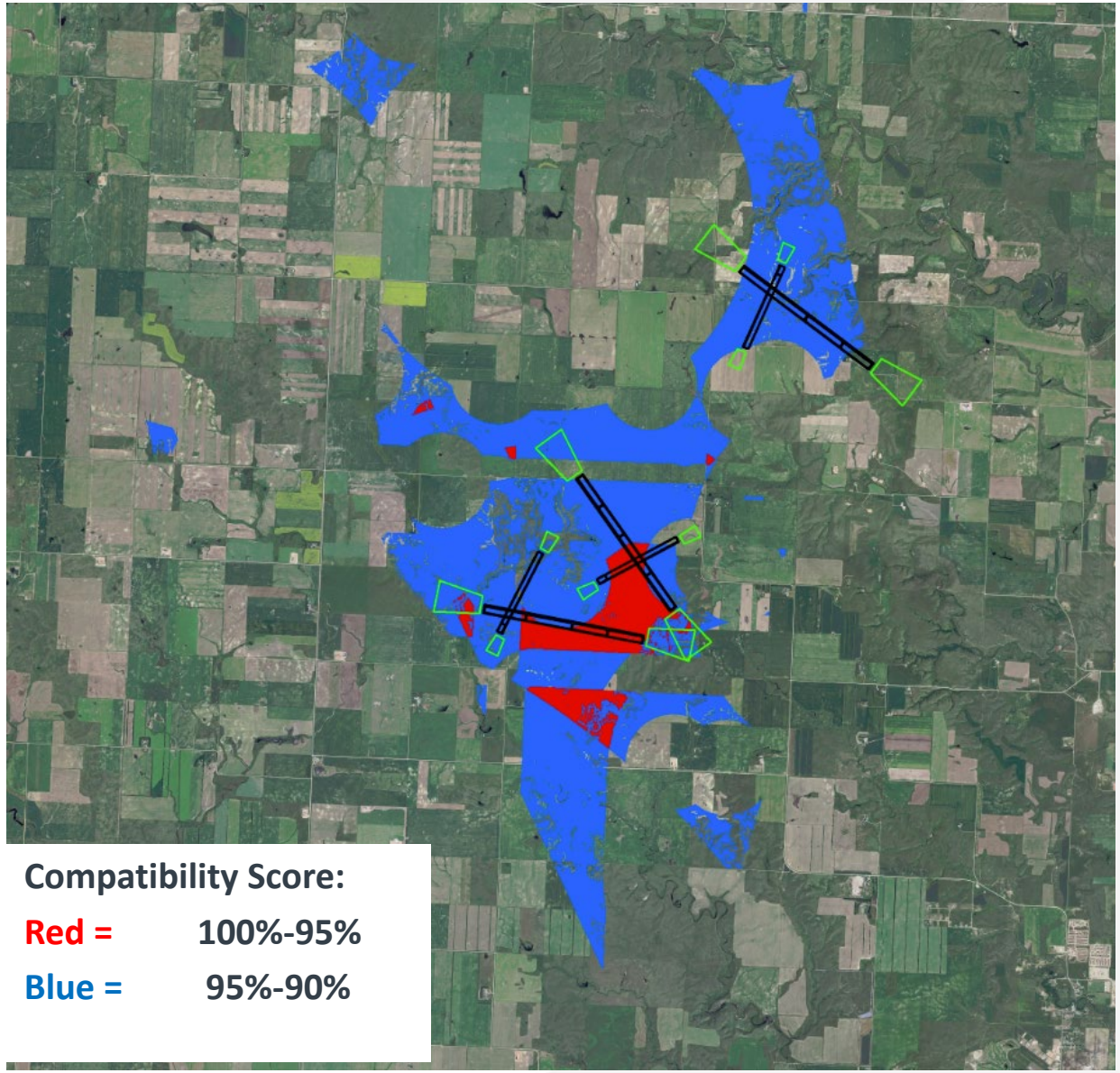
Areas A, B & C were discarded due to:

- Aeronautical Obstructions
- Distance from city and road conditions
- Concentration of existing oil wells
- Terrain limitations
- Proximity to wildlife attractants



3 sites for EA

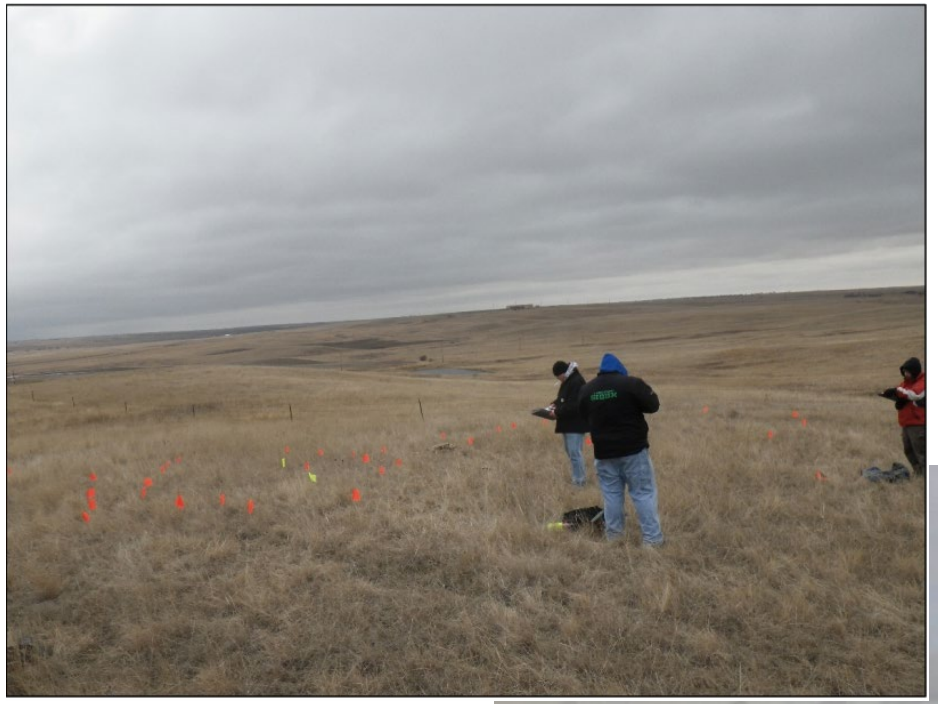
This Area D was determined to be the most compatible for airport development.

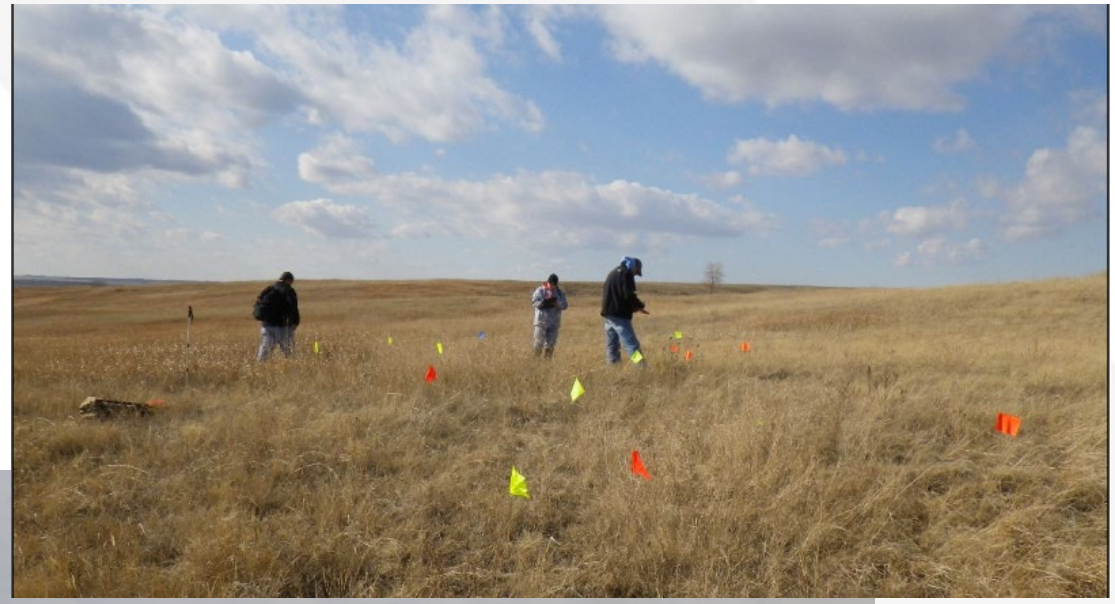


Environmental Hurdle – Tribal Features

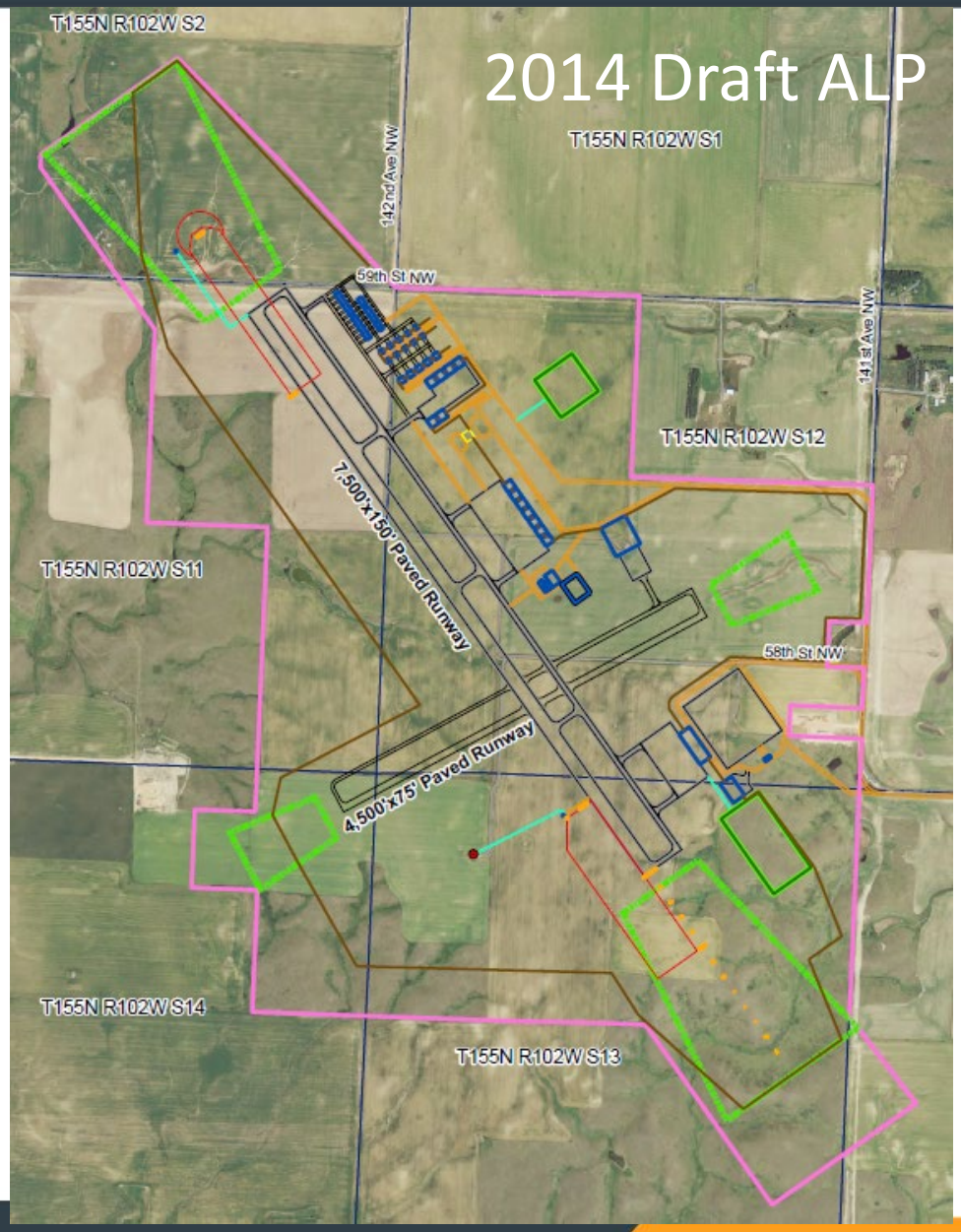
- Discovery:
  - 13 of 16 Tribes that had standing on this participated in extensive site inspections
  - Multiple cultural features on unbroken prairie (80+)
- Impacts to 2014 Plan:
  - Minor realignment of runways
  - Moved terminal
- Impacts to Cultural Features – None

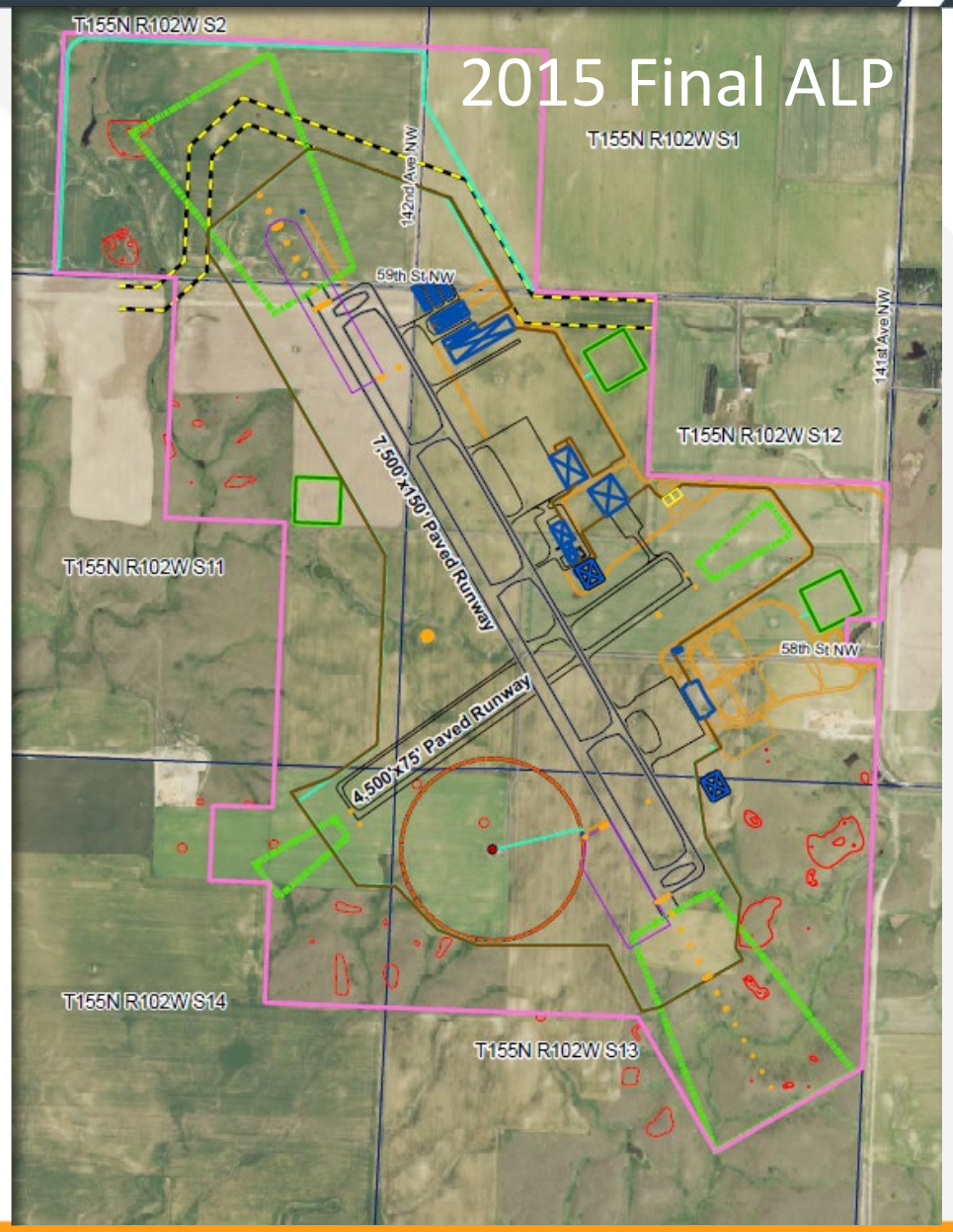
Tribal Survey





Changes to Layout



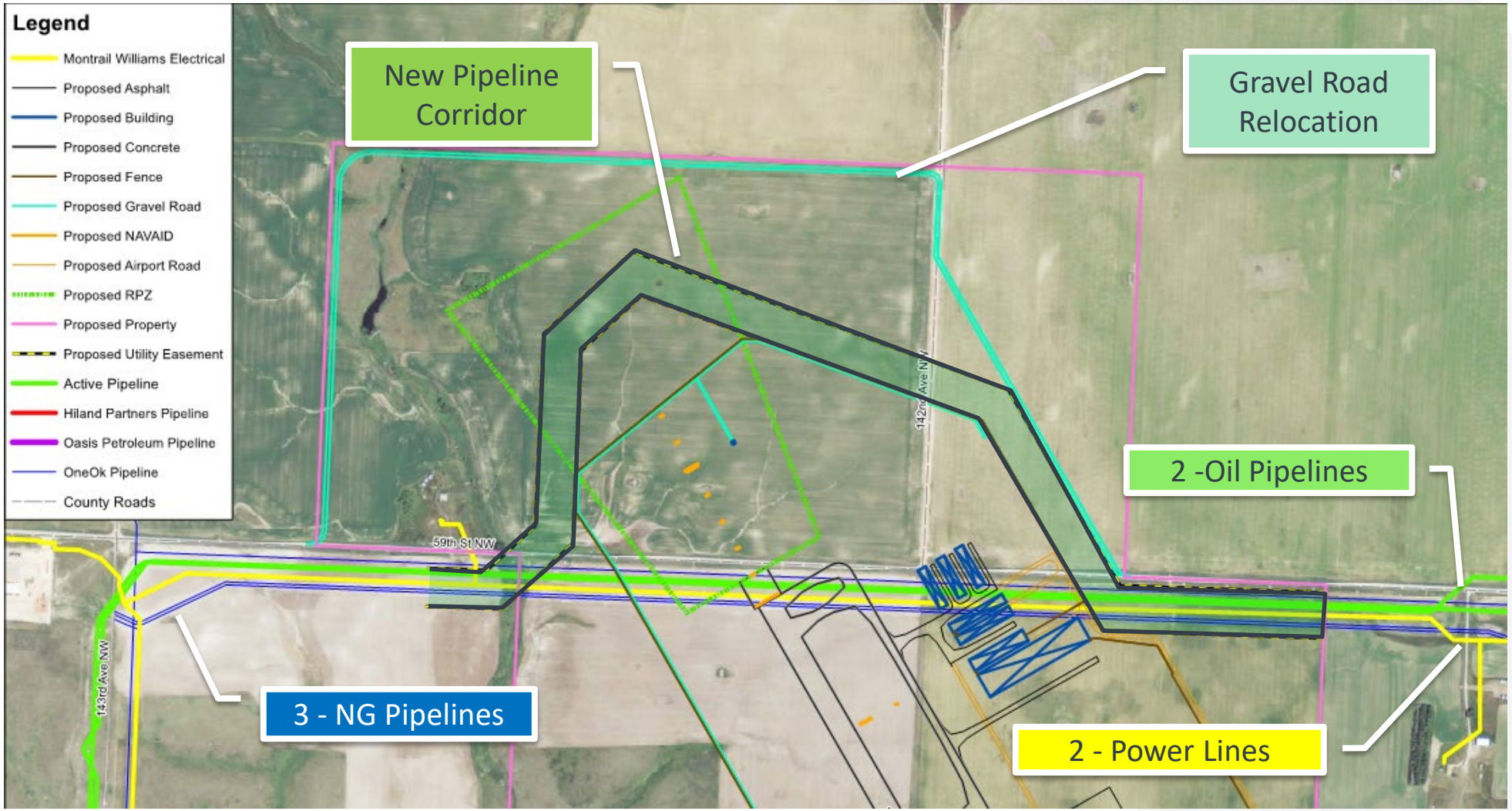


“Oh crap” moments

- 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…..

North End Concept



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.

Proposed Funding Sources during Planning

- 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

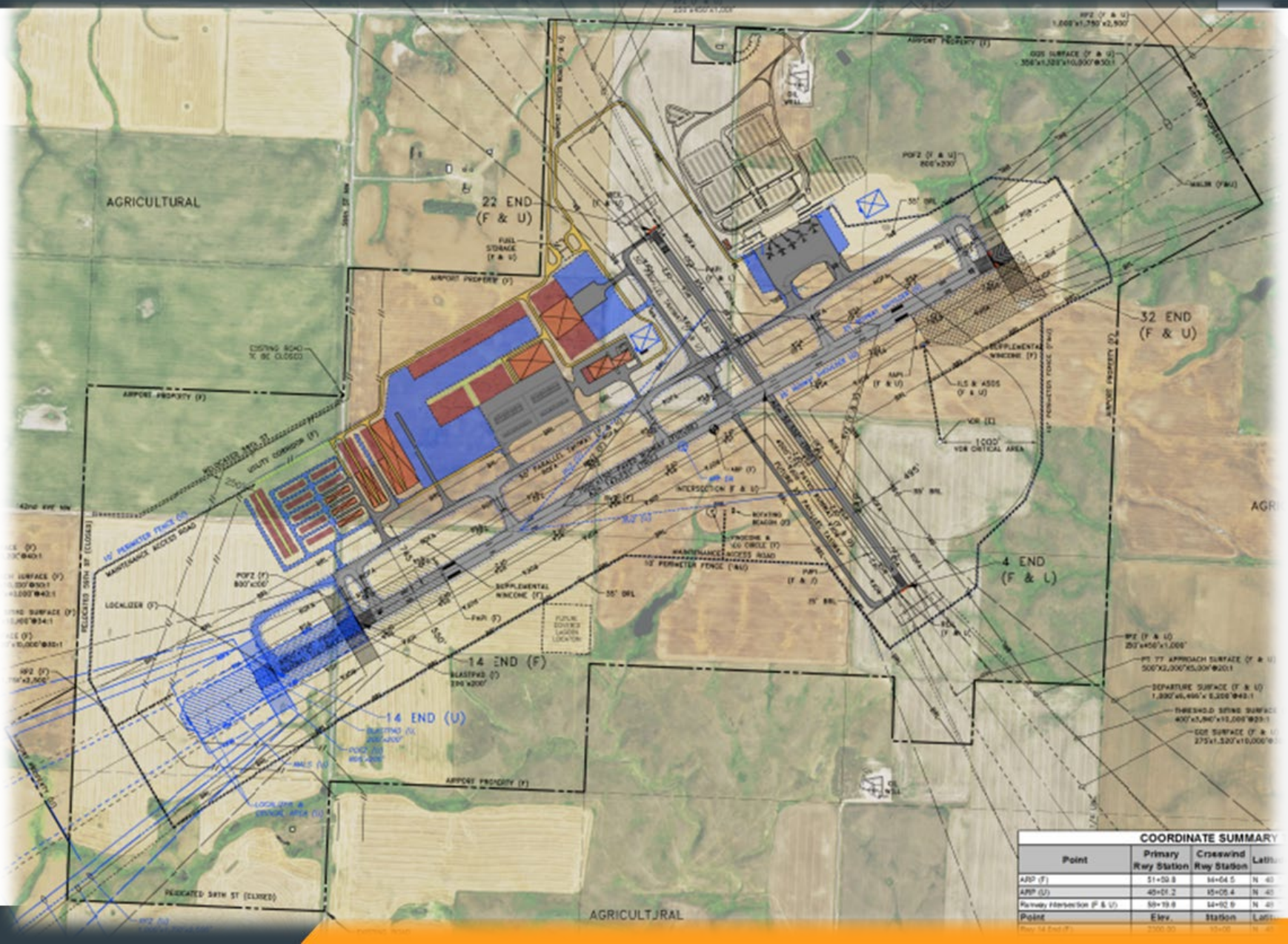
Airport’s Team

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

Planned Airfield Requirements

Item	Existing	Proposed	Ultimate
Airport Design Category	B-II	D-III	D-IV
Critical Aircraft	EMB-120	MD-83	757-200
RDC (Runway Design Code)			
Primary Runway	B-II	D-III	D-IV
Crosswind Runway	B-I Exclusively Small	B-II	B-II
Runway Dimensions (length x width)			
Primary Runway	6,650 feet x 100 feet	7,500 feet x 150 feet	8,500 feet x 150 feet
Crosswind Runway	3,453 feet x 60 feet	4,500 feet x 75 feet	4,500 feet x 75 feet
Apron			
Terminal	11,650 square yards	32,000 square yards	45,000 square yards
General Aviation	34,650 square yards	44,000 square yards	65,000 square yards
Cargo	4,300 square yards	8,000 square yards	39,000 square yards
Terminal			
Building Size Estimate	9,600 square feet	108,000 square feet	108,000 square feet
	30 passenger peak hour	300 passenger peak hour	300 passenger peak hour
Terminal Parking Stalls	~450 (including gravel)	900	1,584

Final ALP


AGRICULTURAL
22 END
(F & U)
32 END
(F & U)
4 END
(F & U)
14 END (F)
14 END (U)
AGRICULTURAL
COORDINATE SUMMARY
Point
Primary Rwy Station
Crosswind Rwy Station
Point
Elev.
Station

Initial Airport Layout Concept

Williston Basin International Airport - 2019

Schedule

- 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

Construction Statistics

- 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

Construction Statistics

- 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

Construction Statistics

- 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

Construction

- 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

Construction

- 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

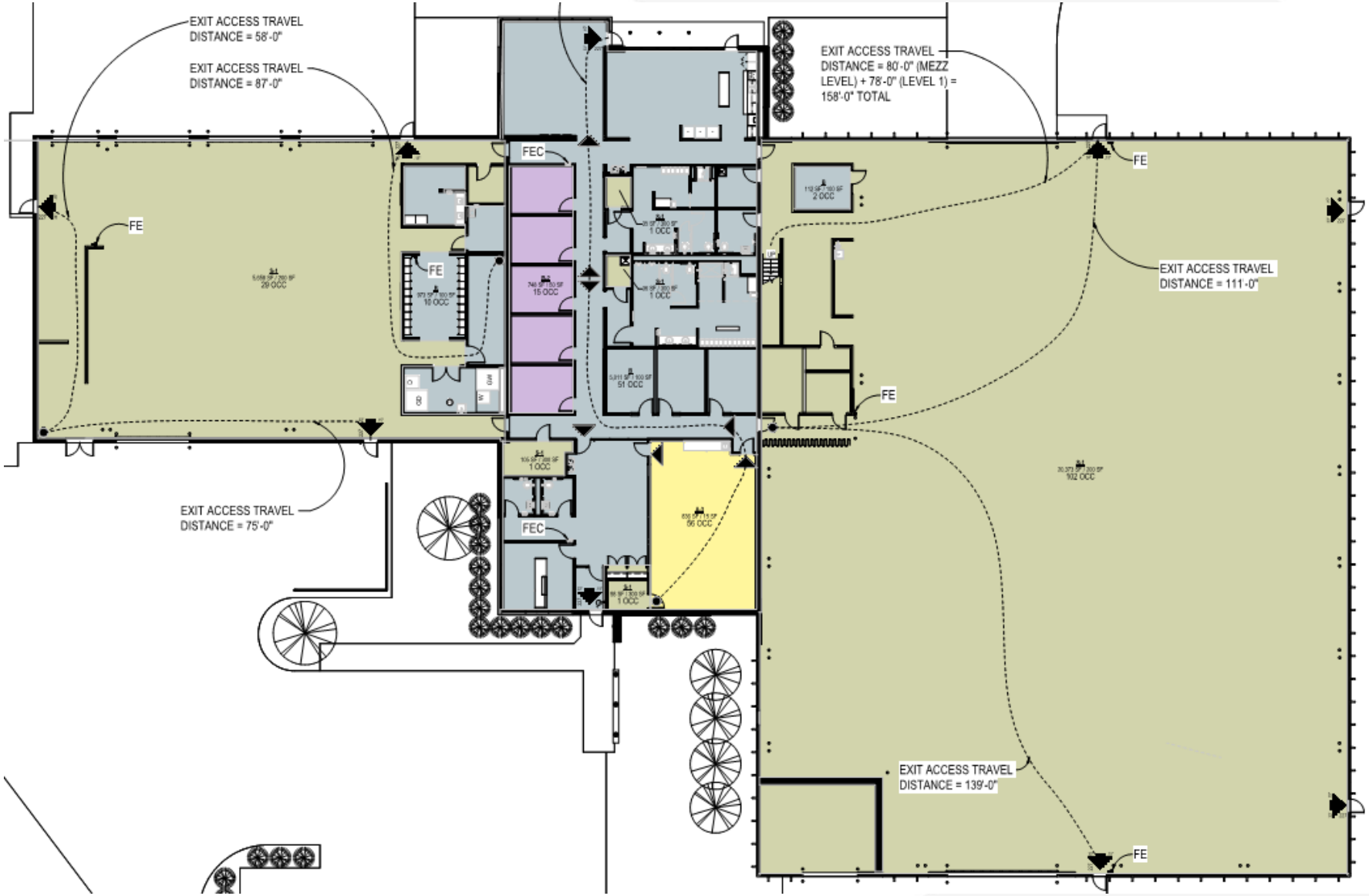
- FAA Funding (Entitlement & Discretionary)
  - **TOTAL - $112.4M or 43%**
- State of North Dakota Grant Allocations
  - 2013-2015 biennium: $20 million from airport oil impact funds
  - 2017-2019 biennium: $35 million from airport oil impact funds
  - **TOTAL - $55M or 19%**
- City Funding
  - Bank 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

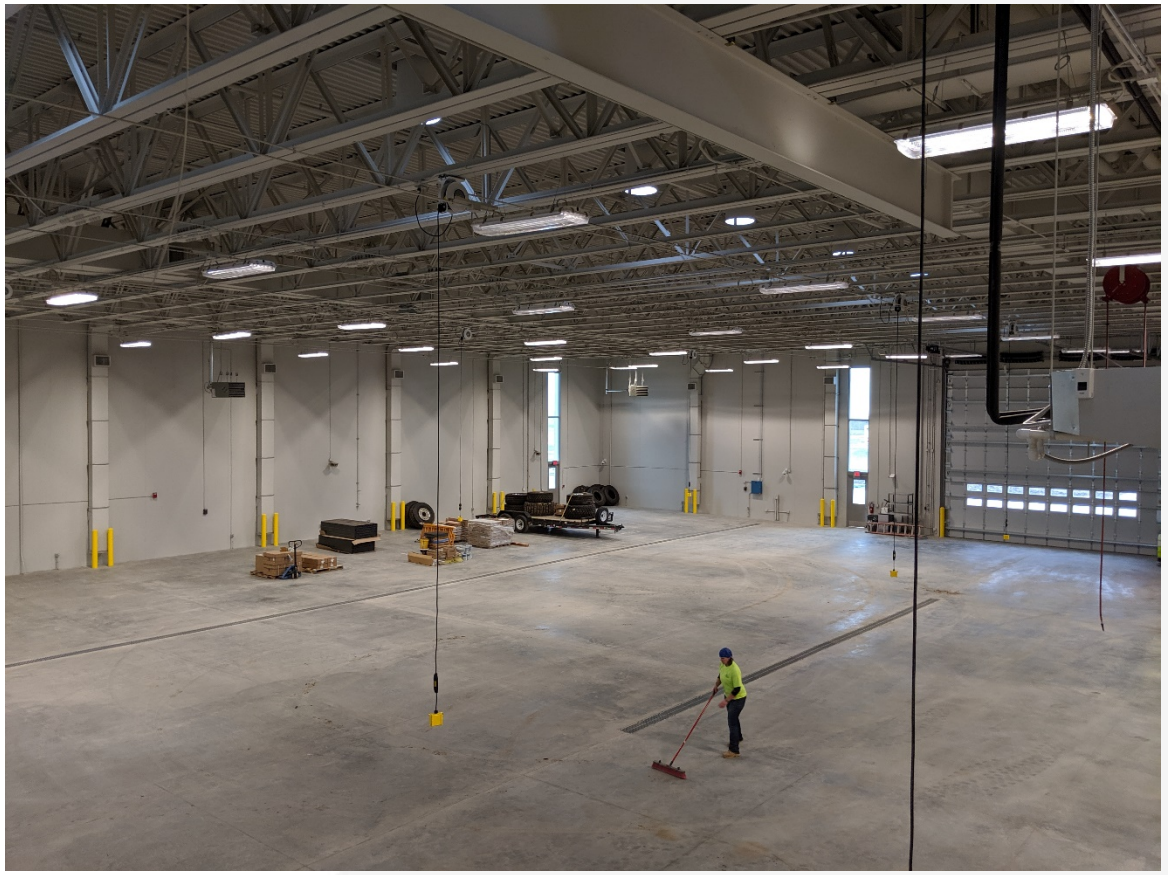
“Boiling” Concrete

ARFF/SRE Building



ARFF/SRE Building

ARFF/SRE Building

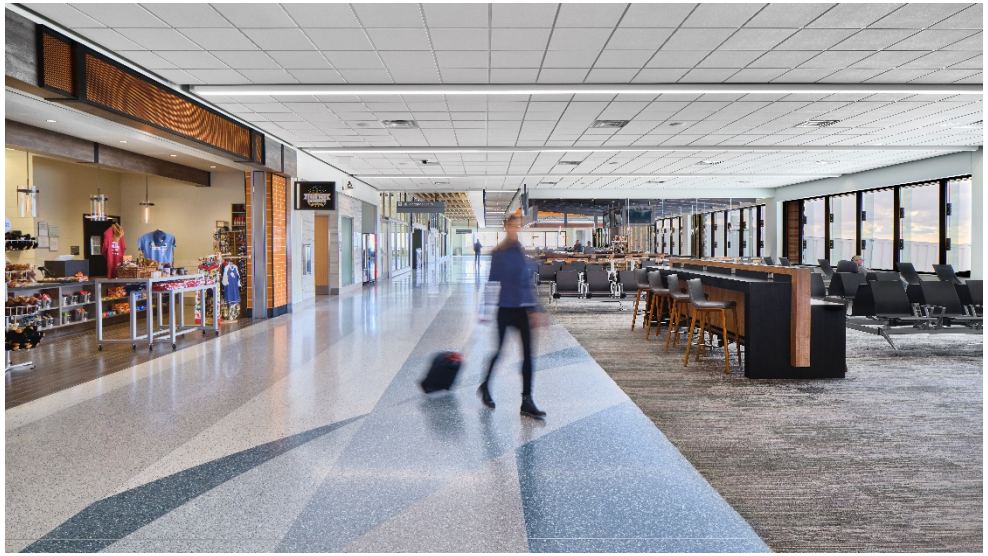


ARFF/SRE Building

Terminal

Terminal

Terminal



Terminal

- XWA Terminal Aerial Video

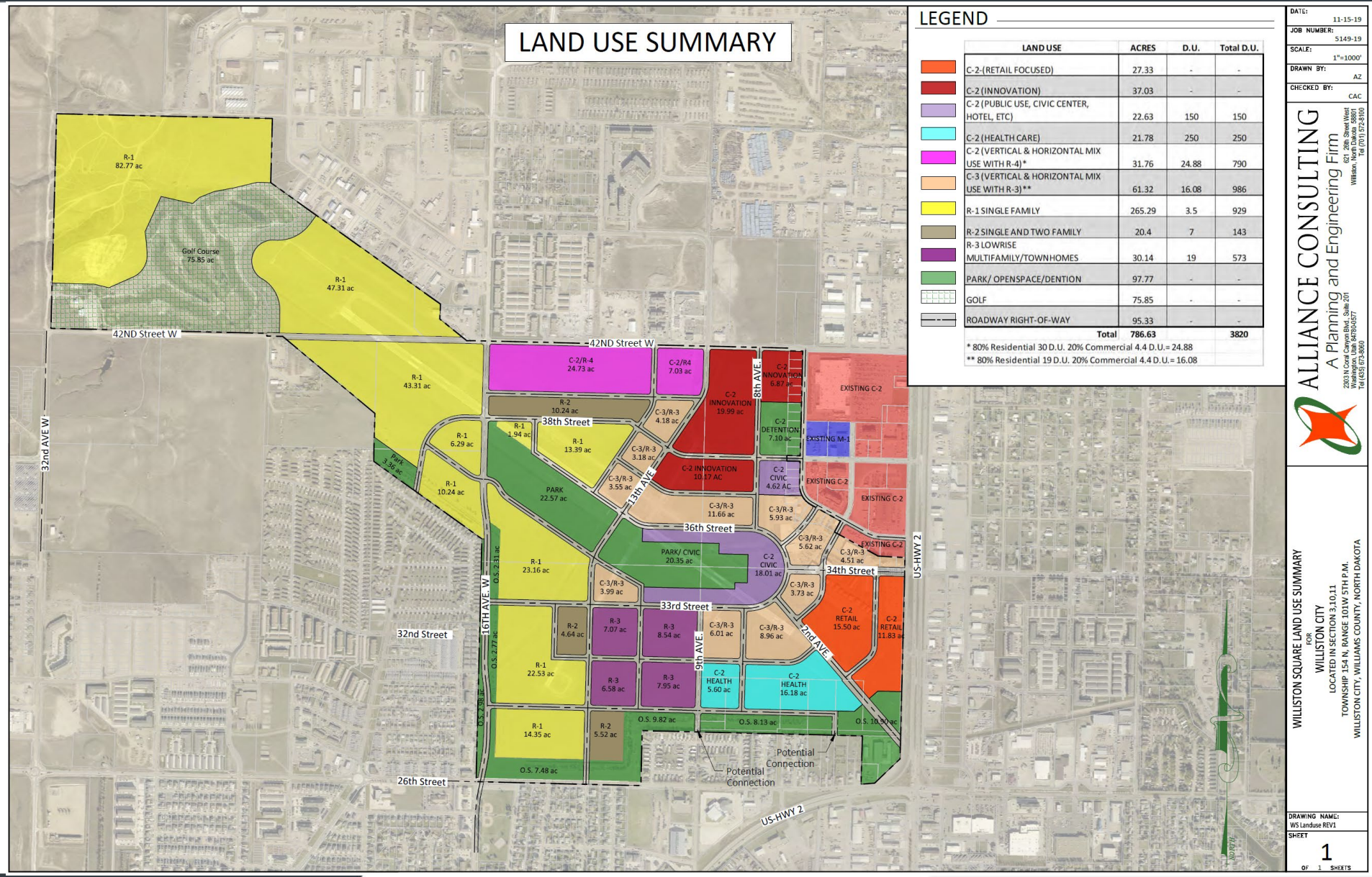
First Commercial Flight – October 10, 2019

- Captain Elliott Monson
  - First solo flight from Sloulin Field in 2006

What Happens to Sloulin Field

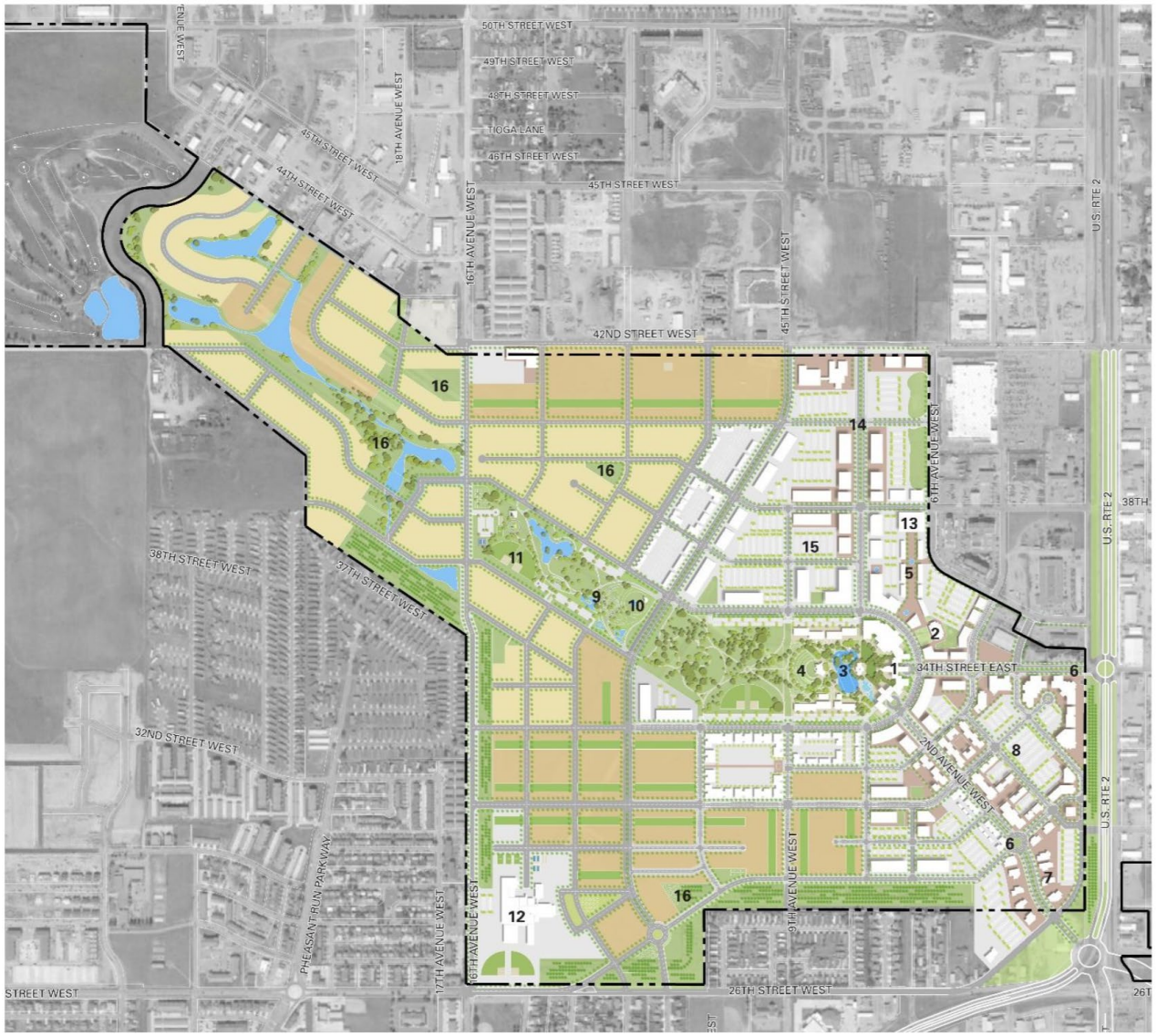
- Airport de-commissioned
- Facilities are being removed
- Land is being sold and redeveloped
  - 911 Dispatch Center
  - Hockey Arena

Sloulin Field Redevelopment



LAND USE	ACRES	D.U.	Total D.U.
C-2-(RETAIL FOCUSED)	27.33	-	-
C-2 (INNOVATION)	37.03	-	-
C-2 (PUBLIC USE, CIVIC CENTER, HOTEL, ETC)	22.63	150	150
C-2 (HEALTH CARE)	21.78	250	250
C-2 (VERTICAL & HORIZONTAL MIX USE WITH R-4)*	31.76	24.88	790
C-3 (VERTICAL & HORIZONTAL MIX USE WITH R-3)**	61.32	16.08	986
R-1 SINGLE FAMILY	265.29	3.5	929
R-2 SINGLE AND TWO FAMILY	20.4	7	143
R-3 LOWRISE MULTIFAMILY/TOWNHOMES	30.14	19	573
PARK/ OPENSPACE/DENTION	97.77	-	-
GOLF	75.85	-	-
ROADWAY RIGHT-OF-WAY	95.33	-	-
Total	786.63		3820

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