North Dakota Association of County Engineers

January 22, 2015

Steve Salwei, NDDOT
The number of miles driven on State highways have increased. From 2010-2012 North Dakota saw a 22% increase in traffic statewide and a 53% increase in traffic in western North Dakota. Traffic growth remained at high levels in 2013 and 2014.
The State Legislature appropriated about $2.3 billion to rebuild and repair:

- State highways
- City, county and township roads
- Bypass routes
- Other infrastructure upgrades in every region of the state.
Delivered biggest construction program in North Dakota’s history
Two of the largest construction programs in state history

NDDOT Construction Program

- 2007: $249 M
- 2008: $275 M
- 2009: $319 M
- 2010: $410 M
- 2011: $590 M
- 2012: $550 M
- 2013: $800+ M
- 2014: $800+ M

North Dakota Department of Transportation
### State Funding (One-Time $$$)

**NDDOT Funding for 2013 – 2015 BIENNium (SB 2012, SB 2176, HB 1358)**

<table>
<thead>
<tr>
<th>Funding</th>
<th>West Region ($ Millions)</th>
<th>Central and East Regions ($ Millions)</th>
<th>Total ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Funds for State Highways - SB 2012/SB 2176</td>
<td>$1,161.6 M</td>
<td>---</td>
<td>$1,161.6 M</td>
</tr>
<tr>
<td>Federal Funds for STIP (2013 -2014) - SB 2012</td>
<td>$148.8 M</td>
<td>$450.0 M</td>
<td>$598.8 M</td>
</tr>
<tr>
<td>(Includes state and local match)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal ER Carryover (from 2011-2013 biennium) – SB 2012</td>
<td>$31.1 M</td>
<td>$77.0 M</td>
<td>$108.1 M</td>
</tr>
<tr>
<td>(Includes match)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Funds Non-Oil Producing counties, cities and townships - SB 2176</td>
<td></td>
<td>$100.0 M</td>
<td>$100.0 M</td>
</tr>
<tr>
<td>State Funds Non-Oil Producing Counties - HB 1358</td>
<td></td>
<td>$120.0 M</td>
<td>$120.0 M</td>
</tr>
<tr>
<td>State Funds Oil Producing Counties - HB 1358</td>
<td>$160.0 M</td>
<td>---</td>
<td>$160.0 M</td>
</tr>
<tr>
<td>State Funds Oil Impact Township Roads - HB 1358</td>
<td>$8.8 M</td>
<td>---</td>
<td>$8.8 M</td>
</tr>
<tr>
<td>Total 2013- 2015 Biennium</td>
<td>$1,510.3 M</td>
<td>$747.0 M</td>
<td>$2,257.3 M</td>
</tr>
</tbody>
</table>

**Approximately $581 Million = Federal Funds**
Accomplishments
2013-14 Projects
Accomplishments

Some of the projects completed this biennium:

- Watford City US 85 Southwest Bypass
- Watford City ND 23 Southeast Bypass
- Alexander Bypass
- New Town Truck Reliever Route
- US 85 Four Lane - Phase 1 & 2 from Watford City to County Road 16 north of Alexander
- Dickinson Interim Bypass
- US 2 between Berthold and Surrey
- I-29 from Buxton to south of ND Highway 15
- Washington Street in Grand Forks
- 25th Street reconstruction in Fargo
- ND 21 widening/paving Elgin to Junction ND 31
- Bismarck Divide Avenue construction
- US 83 paving from Washburn to Underwood
- I-94 paving from Bismarck to Sterling
- ND 200 widening/paving from ND 1806 to US 83
- Bridge replacement on ND 26 at Sibley
- US 281 paving from Ellendale to Edgeley
- Valley City Frontage Road construction from 7th Street to I-94 Business Loop

- I-94 eastbound paving near Valley City
- US 281 paving from Churchs Ferry to Cando
- US 2 westbound paving Devils Lake to Churchs Ferry
- Cando City section rehabilitation
- Bridge replacement north of New Rockford
- Devils Lake 5th Avenue paving
- ND 20 paving & culvert rehab Starkweather to Clyde
- ND 17 paving & culvert rehab Starkweather to Edmore
- Grand Forks 32nd Avenue rehabilitation
- Grand Forks Columbia Road reconstruction
- Grand Forks Gateway Drive rehabilitation
- US 2 eastbound from Niagara to near Larimore
- I-29 southbound paving from Drayton to Canada
- US 2 westbound paving from Niagara to near Arvilla
- ND 15 paving from near Northwood to Thompson
- ND 27 paving from Lisbon to junction ND 18
- ND 13 paving from Gwinner to junction ND 1
- Wyndmere rehabilitation
- West Fargo 13th Avenue Lighting
- I-94 rehabilitation in Fargo
- ND 46 widening and paving from west of Enderlin to near Sheldon
- ND 46 widening/paving from near Leonard to I-29
State Highway Performance Classification System (HPCS)

Approved by State Legislature in 2003
Energy Corridors

Western ND Highway
Energy Corridors

Major projects completed or bid
Over 78% of projects completed with this funding increased local road load carrying capacity to 105,500 pounds.

<table>
<thead>
<tr>
<th>Allocation</th>
<th>Total Available</th>
<th>Total Requested</th>
<th>Remaining</th>
<th>% Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Producing</td>
<td>$160,000,000</td>
<td>$151,802,724</td>
<td>$8,197,276</td>
<td>5.1%</td>
</tr>
<tr>
<td>Non-Oil Producing</td>
<td>$120,000,000*</td>
<td>$96,122,984</td>
<td>$23,877,016</td>
<td>19.9%</td>
</tr>
<tr>
<td>Total</td>
<td>$280,000,000</td>
<td>$247,925,707</td>
<td>$32,074,293</td>
<td>11.5%</td>
</tr>
</tbody>
</table>

* Funds were not available until February 2014.
Transit Services

- Thirty-four transit service providers received federal funding and state continued appropriation funds.
- $550,000 additional resources per year was provided this biennium.

Transit Ridership

*Based on state fiscal year (July through June)
Accomplishments

Planning Activities
- Freight Plan
- Working with counties in Western ND
## North Dakota Freight Plan

### Transportation Infrastructure System

<table>
<thead>
<tr>
<th>Freight Mode</th>
<th>Level One</th>
<th>Level Two</th>
<th>Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads</td>
<td>Critical Rural Freight Corridors</td>
<td>Regional/Intrastate</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>International/Interstate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interstate &amp; Interregional Highways</td>
<td>State Corridors</td>
<td>District Collectors</td>
</tr>
<tr>
<td></td>
<td>Congressional Designated High Priority Corridors</td>
<td>District Corridors</td>
<td>Other County, City, Township and Tribal Roads</td>
</tr>
<tr>
<td></td>
<td>STRAHNET</td>
<td>County Major Collectors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Truck Network</td>
<td>City Principal Arterials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energy/Agricultural Access Corridors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Truck Volume Segments Principal Arterials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>Commercial Airports</td>
<td>General Aviation Airports</td>
<td>Public Use Airports</td>
</tr>
<tr>
<td></td>
<td>Air Force Bases</td>
<td></td>
<td>Private Airports</td>
</tr>
<tr>
<td>Rail</td>
<td>Class 1 Mainlines</td>
<td>Class 1, Regional Railroad branchlines capable of carrying 286K cars</td>
<td>Class 1, Regional Railroad branchlines capable of carrying 268K cars</td>
</tr>
<tr>
<td></td>
<td>STRACNET</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline</td>
<td>Interstate Pipelines</td>
<td>Gathering Pipelines</td>
<td>Distribution Pipelines</td>
</tr>
</tbody>
</table>
We are working with the four largest oil producing counties to establish a system of integrated energy corridors.
The needs are based on the following objectives:

- **Paved Roads** – Maintain the existing levels of service for the projected increased traffic associated with agriculture, energy, and manufacturing. (This will involve reconstruction and widening of some roadways)
- **Gravel Roads** – Maintain and preserve the existing condition taking into consideration changing traffic patterns.
- **Bridges** – Replace all bridges that are functionally obsolete on the county major collector system in the next 20 years.
## UGPTI Study for County, Township and Tribal Infrastructure Needs

<table>
<thead>
<tr>
<th>Period</th>
<th>Unpaved (in millions)</th>
<th>Paved (in millions)</th>
<th>Bridges (in millions)</th>
<th>Final Total (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-16</td>
<td>$633</td>
<td>$453</td>
<td>$86</td>
<td>$1,172</td>
</tr>
<tr>
<td>2017-18</td>
<td>$574</td>
<td>$366</td>
<td>$86</td>
<td>$1,026</td>
</tr>
<tr>
<td>2019-20</td>
<td>$573</td>
<td>$322</td>
<td>$86</td>
<td>$981</td>
</tr>
<tr>
<td>2021-22</td>
<td>$571</td>
<td>$297</td>
<td>$86</td>
<td>$954</td>
</tr>
<tr>
<td>2023-24</td>
<td>$567</td>
<td>$143</td>
<td>$86</td>
<td>$796</td>
</tr>
</tbody>
</table>
Pavement Management

Projected Average Network Ride Quality
Federal Funding Only

IRI (in/mi) Ride Quality

Graph showing the projected average network ride quality with federal funding only.
In addition to the County, Township and Tribal Transportation studies requested by the Legislature, the DOT worked with Upper Great Plains Transportation Institute on a traffic modeling program, several needs studies and surveys which include:

- State Needs
- Transit Needs
- Short Line Railroad Needs
- City Surveys
The State Needs Study identified resources necessary to take state highways up to HPCS guidelines. These guidelines allow continued seasonal load restrictions.

<table>
<thead>
<tr>
<th>UGPTI State Highway &amp; Bridge Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Frame</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>2015-2016</td>
</tr>
<tr>
<td>2017-2018</td>
</tr>
<tr>
<td>2019-2020</td>
</tr>
<tr>
<td>2021-2022</td>
</tr>
<tr>
<td>2023-2024</td>
</tr>
</tbody>
</table>
Transit Needs Study

» The needs are based on the following objectives:
  > Operational and capital costs to maintain existing transit service levels.
  > Costs associated with providing an increase in service trips per week to meet national averages for transit systems serving similar geographical regions.

<table>
<thead>
<tr>
<th>Public Transit Needs Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biennium</td>
</tr>
<tr>
<td>Transit Funding Program</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
The needs are based on the following objective:

+ Capital infusion costs to build up a 1,210 mile rail system that would allow railroads to increase the load capacity.

### Track Rehabilitation Needs*

<table>
<thead>
<tr>
<th>Option</th>
<th>Minimum Rail Standard</th>
<th>Rehabilitation Mileage</th>
<th>Net Cost (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>90 lbs/yd</td>
<td>730</td>
<td>$386</td>
</tr>
<tr>
<td>Option 2</td>
<td>100 lbs/yd</td>
<td>896</td>
<td>$471</td>
</tr>
</tbody>
</table>

*Any improvements proposed in the study will upgrade the rail to 115 lbs/yds.

According to information provided to UGPTI during a recent study of regional rail infrastructure, the current program funding level, terms and short-line balance sheets will support roughly four miles of rail rehabilitation, annually, on an approximately 1,210-mile system.
City Surveys

» Surveyed all cities.

<table>
<thead>
<tr>
<th></th>
<th>Annual Maintenance</th>
<th>Annual Non-maintenance</th>
<th>Annual Total</th>
<th>Biennium Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cities</td>
<td>$96.24 M</td>
<td>$186.5 M</td>
<td>$282.74 M</td>
<td>$565.48 M</td>
</tr>
</tbody>
</table>
Agricultural Growth

1950 = 17.1 Billion Pounds*

2010 = 89.4 Billion Pounds*

422% Increase

2013 = 81.8 Billion Pounds*

378% Increase

* Approximate numbers
In 1950, the state had 1,025 grain elevators with a total licensed storage capacity of 60,791,000 bushels. By 2013, the number of elevators had dropped to 394 but licensed storage capacity had increased to 418,775,265 bushels; up nearly a 680%.

Of the 394 licensed elevators in 2013, 52 are considered shuttle facilities capable of loading 75 to 110 car unit grain trains. It takes approximately 475 truckloads of grain to fill a 110 car unit.

Also since 1980, 1,751 miles of rail line in North Dakota has been abandoned.
Truck Traffic Vehicle Miles

- Measured
- Projected 100 Rigs*
- Projected 250 Rigs*
- Historical Baseline Growth

Truck Vehicle Miles traveled (Millions of VMT)

- 2004
- 2009
- 2014
- 2019
Federal Funding Update

- NDDOT’s Executive Budget recommendation assumes approximately $616.5 million in federal funding will be received.

- Congress recently passed legislation that appropriated funding for the 2015 federal fiscal year. Unfortunately, the current transportation funding program MAP-21 was extended to only May 31, 2015. This is a short-term extension of the program and as a result 2015 funding is still uncertain.
If no new revenues are found, federal highway obligations will fall by almost 100% in FY 2016.

* Assumes Congress will fully fund MAP21 proposed expenditures in 2015.
# 2015-17 Road and Bridge Funding

<table>
<thead>
<tr>
<th>FUNDING 2015-2017 BIENNium</th>
<th>WEST REGION ($ Millions)</th>
<th>CENTRAL &amp; EAST REGIONS ($ Millions)</th>
<th>TOTAL ($ Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced State Highway Investments (Rural, city and state highways) (1)</td>
<td>TOTAL $1,354.0</td>
<td>TOTAL $0.0</td>
<td>TOTAL $1,354.0</td>
</tr>
<tr>
<td>STIP (2015 - 2016) (2) (3) (4) (5) (6) (Federal funds with state and local matches)</td>
<td>State $46.6</td>
<td>State $449.6</td>
<td>State $496.1</td>
</tr>
<tr>
<td></td>
<td>Urban $21.5</td>
<td>Urban $87.4</td>
<td>Urban $108.9</td>
</tr>
<tr>
<td></td>
<td>County $45.4</td>
<td>County $29.1</td>
<td>County $74.4</td>
</tr>
<tr>
<td></td>
<td>TOTAL $113.4</td>
<td>TOTAL $566.0</td>
<td>TOTAL $679.4</td>
</tr>
<tr>
<td>Emergency Relief (ER) (2)</td>
<td>State $22.8</td>
<td>State $2.7</td>
<td>State $25.5</td>
</tr>
<tr>
<td></td>
<td>Urban $0.0</td>
<td>Urban $0.0</td>
<td>Urban $0.0</td>
</tr>
<tr>
<td></td>
<td>County $0.0</td>
<td>County $7.2</td>
<td>County $7.2</td>
</tr>
<tr>
<td></td>
<td>TOTAL $22.8</td>
<td>TOTAL $9.8</td>
<td>TOTAL $32.7</td>
</tr>
<tr>
<td>State Funds Non-Oil Producing Counties, Cities, &amp; Townships (7)</td>
<td>$0.0</td>
<td>$100.0</td>
<td>$100.0</td>
</tr>
<tr>
<td><strong>TOTAL 2015 - 2017 BIENNium</strong></td>
<td><strong>$1,490.2</strong></td>
<td><strong>$675.8</strong></td>
<td><strong>$2,166.1</strong></td>
</tr>
</tbody>
</table>

(1) Total costs (Construction, Engineering, ROW & Utilities)

(2) Construction & CE costs only on roadway projects

(3) Includes Rural, Urban, County, Bridge, Safety, TAP, ROM, & PEP

(4) County includes ROM; Urban & County include TAP

(5) No state funds included (H, PM, MDF)

(6) Dollars amounts from Schedules A, B & C with the % breakout per Regions based on the 2015-2018 Final STIP

(7) Includes $52 M for Counties, $28 M for Cities, & $20 M for Townships
Proposed Construction 2015-2017

» Aggressive construction program planned.
Major Projects in Central and Eastern areas for 2015-17 Biennium

- Devils Lake Railroad Underpass
- I-94 Concrete Overlay (Valley City Area)
- Bismarck North Washington Street
- West Fargo Main
- I-29 (Fargo Area)
- Grand Forks Kennedy Bridge
- Pembina Border Crossing
- Fargo 12th Avenue North
- Grand Forks Columbia Road
- I-94 Paving from Sterling to County Line
- ND 3 widening and paving from junction ND 34 to Dawson
- ND 49 widening and paving from Glen Ullin to County Line

- US 52 paving from Jamestown to Buchanan
- ND 20 paving and widening from Jamestown to Junction ND 9
- US 52 from west junction ND 200 to Carrington
- US 2 paving from Devils Lake to Crary
- US 281 paving from Cando north to the west junction of ND 66
- Grand Forks Sorlie Bridge Project
- US 2 reconstruction and CPR from Lakota to Michigan
- Grand Forks Demers Avenue rehabilitation
- I-29 Reconstruction Argusville to Hunter
- ND 46 paving east junction ND 18 to I-29
- ND 27 paving from junction ND 1 to Lisbon
## Proposed Expenditures in Western North Dakota

$1.354 Billion for Enhanced State Highway Investments

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restore Pavement Infrastructure</td>
<td>$332,538,246</td>
</tr>
<tr>
<td>Bypass Construction Work</td>
<td>$192,269,229</td>
</tr>
<tr>
<td>Rebuilding Roads within Communities</td>
<td>$363,891,601</td>
</tr>
<tr>
<td>Enhanced Load Carrying and Roadway Capacity</td>
<td>$465,416,482</td>
</tr>
<tr>
<td>(includes Environmental for US 85 from I-94 to Watford City)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,354,115,558</strong></td>
</tr>
</tbody>
</table>
SB 2126 Early Funding

$450 million – State Highways in Western North Dakota

$100 million – Non-oil producing counties
  • $52 million – Counties
  • $28 million – Cities
  • $20 million – Townships

$300 million – To cities in 10 largest oil producing counties
  • $75 million – Williston
  • $50 million – Dickinson
  • $50 million – Watford City
  • $50 million – Minot
  • $75 million – Remaining cities
SB 2103 Early Funding

$0 – State Highways
$300 million – Oil producing counties
$140 million – Oil impacted cities
$8.75 million – Oil impacted townships
$140.8 million – Non-oil counties
$19.2 million – Non-oil townships
$21.25 million – Cities above 50 (excluding hub cities)
$215 million – Hub cities
Transit Funding

The Executive Budget includes appropriations for Transit Services:

- $15.3 Million Federal Funding
- $9.3 Million State Funding (Continued Appropriation)
Special Road Fund

Executive Budget Proposal includes $5 million to be used on roads leading to recreational areas.

- Special Road Fund (SRF) program is to help finance highway projects identified by city, county or other state agencies that provide access to and within recreational, tourist and historical areas.

- The maximum award per project is $250,000.

- Depending upon the proposed project’s location, the application must be sponsored by either a county, a city with a population more than 5,000 or a state agency.
Short Line Railroad Program

NDDOT administers a Short Line Rail Loan Program.

The Executive Budget includes $10 million in the State Industrial Commission’s Budget Bill HB 1014 for a Short Line Rail Loan Program to be administered by the Bank of North Dakota.
Project Requests

- NDDOT receives many requests throughout the year that we are unable to fund. Examples of some requested projects include:
  - Interchanges
  - Railroad overpasses
  - Load restriction changes
  - Passing lanes
  - Four-lane roadways
Safety

- Number of traffic related deaths in state declined from 148 in 2013 to 136 in 2014.

- Primary contributing factors to fatal crashes:
  - Alcohol,
  - Not using seatbelts,
  - Speed

![Traffic Fatalities](chart.png)

<table>
<thead>
<tr>
<th>Year</th>
<th>Traffic Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>148</td>
</tr>
<tr>
<td>2012</td>
<td>170</td>
</tr>
<tr>
<td>2013</td>
<td>148</td>
</tr>
<tr>
<td>2014</td>
<td>136</td>
</tr>
</tbody>
</table>
Questions?

THANK YOU