Transportation Committee

July 21, 2016

NDDOT
North Dakota
Department of Transportation

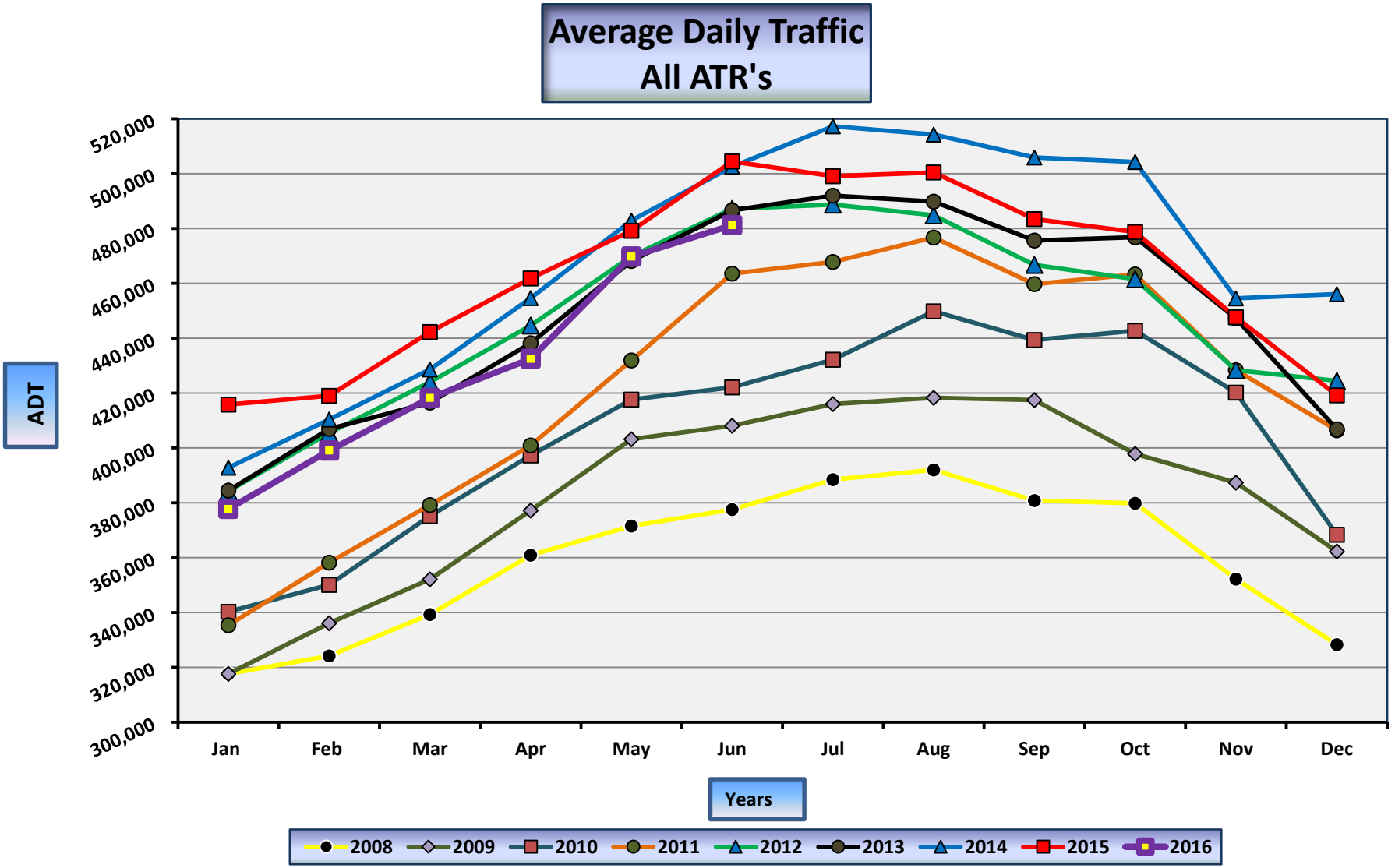
NDDOT Revenue Sources

- **State Funds** – an allocation of state funds are distributed to be spent on road projects, as well as allocations to county and transit programs. These funds consist of one-time General Funds and Strategic Investment and Improvement Funds.

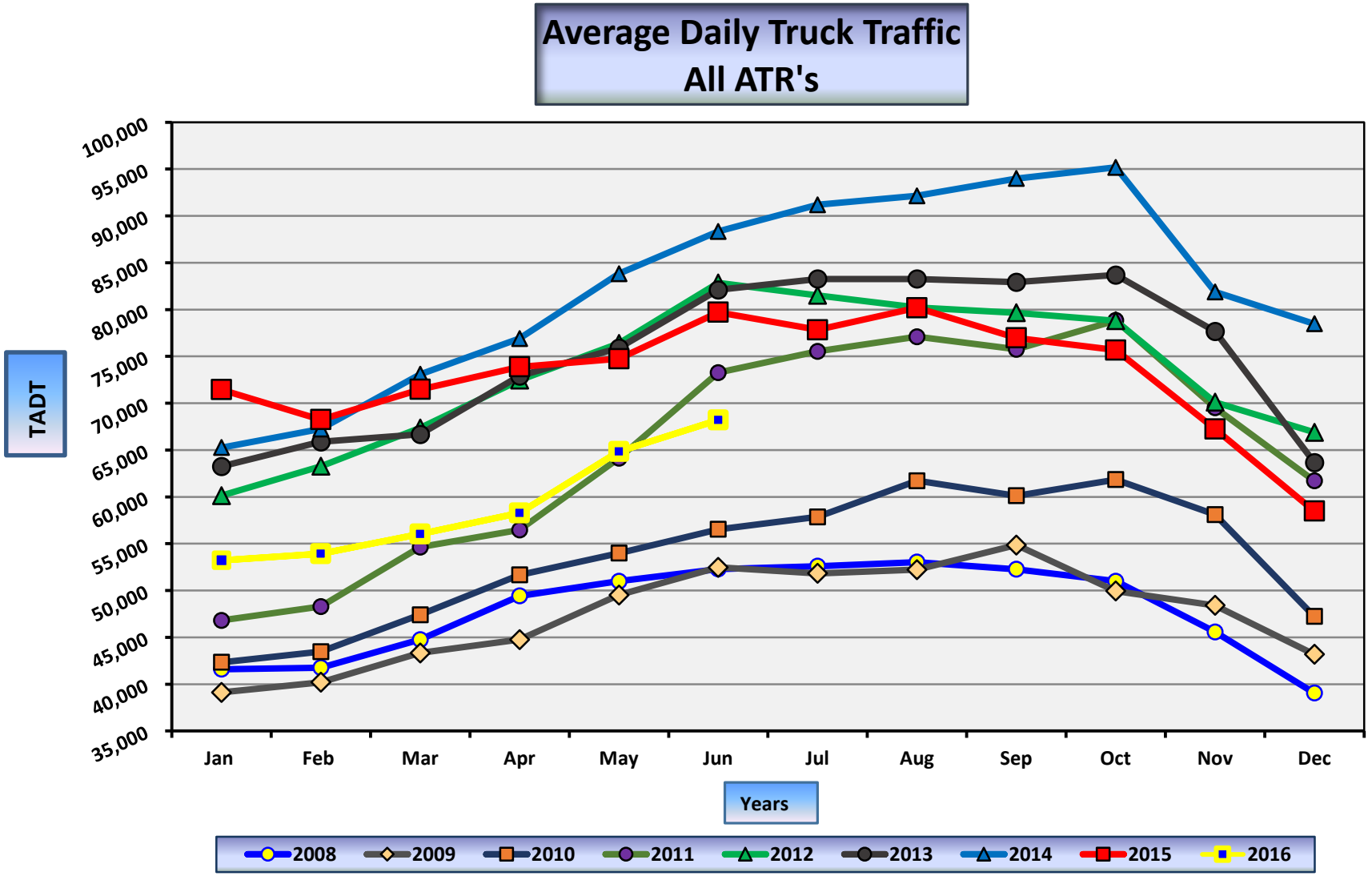
- **Federal Funds** – this federal funding is utilized for federal road projects, transit and safety initiatives.

- **State Transportation User Revenues** – include a portion of the state's fuel taxes and motor vehicle registrations as well as state truck regulatory fees. This is primarily used for Department operations including motor vehicle, driver's license, maintenance work, salaries and state match for federal projects.

Average Daily Traffic 2008-2016



Truck Traffic 2008-2016



NOTE: The lines for 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015 were adjusted upward to compensate for the addition of 5 new stations at the start of 2016.

Motor Fuels Tax changes

- The annual amount generated from a one-cent gas tax has dropped from $8.7 million per year in 2015 to $7.6 million per year in 2016.

- We are projecting an annual amount of $7.4 million per year in the next biennium.

State Transportation User Revenues

NDDOT Transportation User Revenue Changes for 2015-2017 Biennium			
Revenue Source	2015-17 Enrolled	2015-17 Revised	Difference
NDDOT Share of State Highway Tax Distribution Fund	$ 382.4 M	$ 332.8 M	$ 49.6 M
Other State Highway Fund Revenues	$ 154.8 M	$ 135.2 M	$ 19.6 M
TOTAL	$ 537.2 M	$ 468.0 M	$ 69.2 M

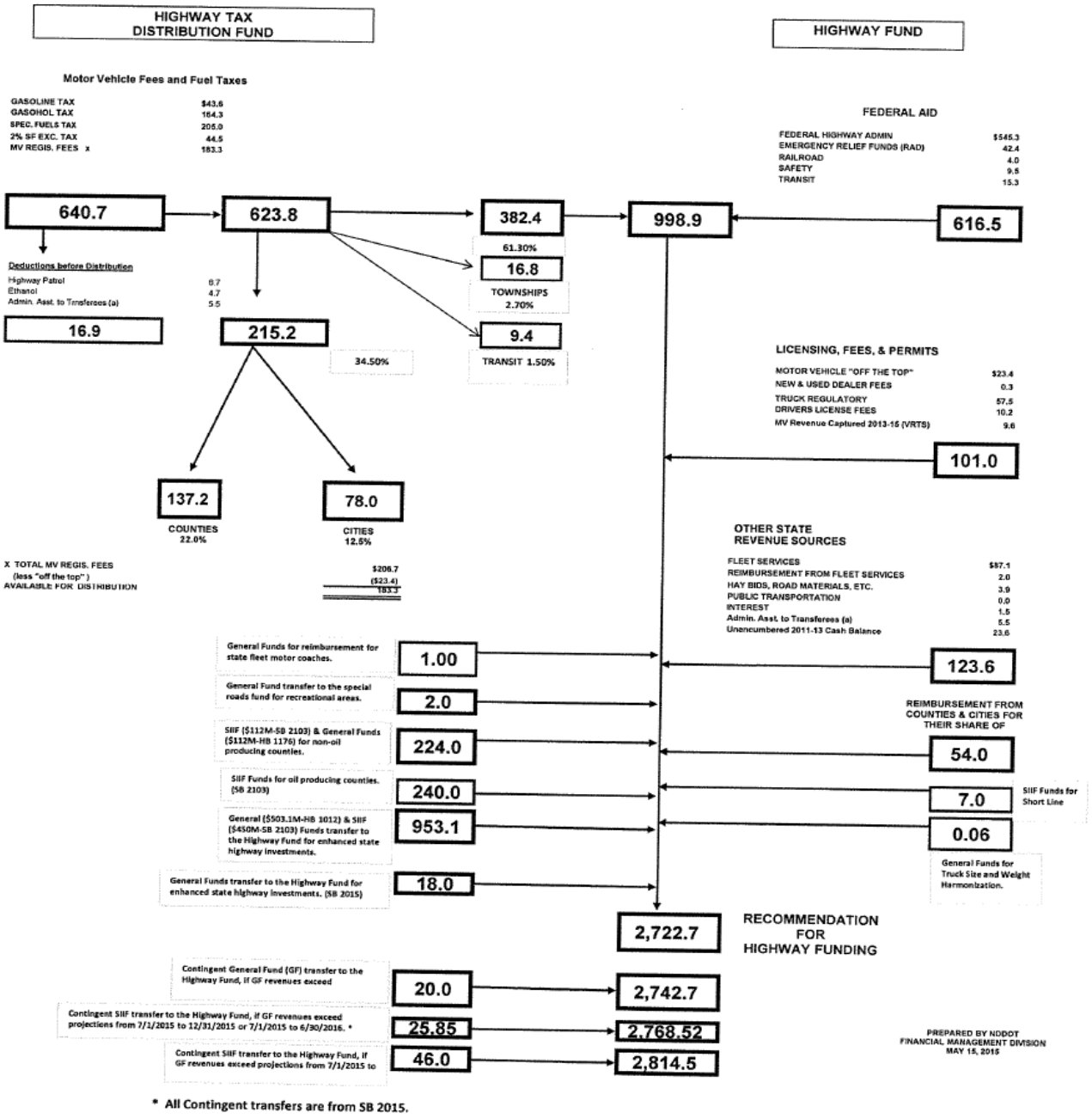
State Transportation User Revenues

State Highway Tax Distribution Fund Non-State Agency Comparison			
	Enrolled 15-17	Revised 15-17	Difference
County	$137.2 M	$119.4 M	$17.8 M
City	$78 M	$67.9 M	$10.1 M
Township	$16.8 M	$14.7 M	$2.1 M
Transit	$9.4 M	$8.1 M	$1.3 M

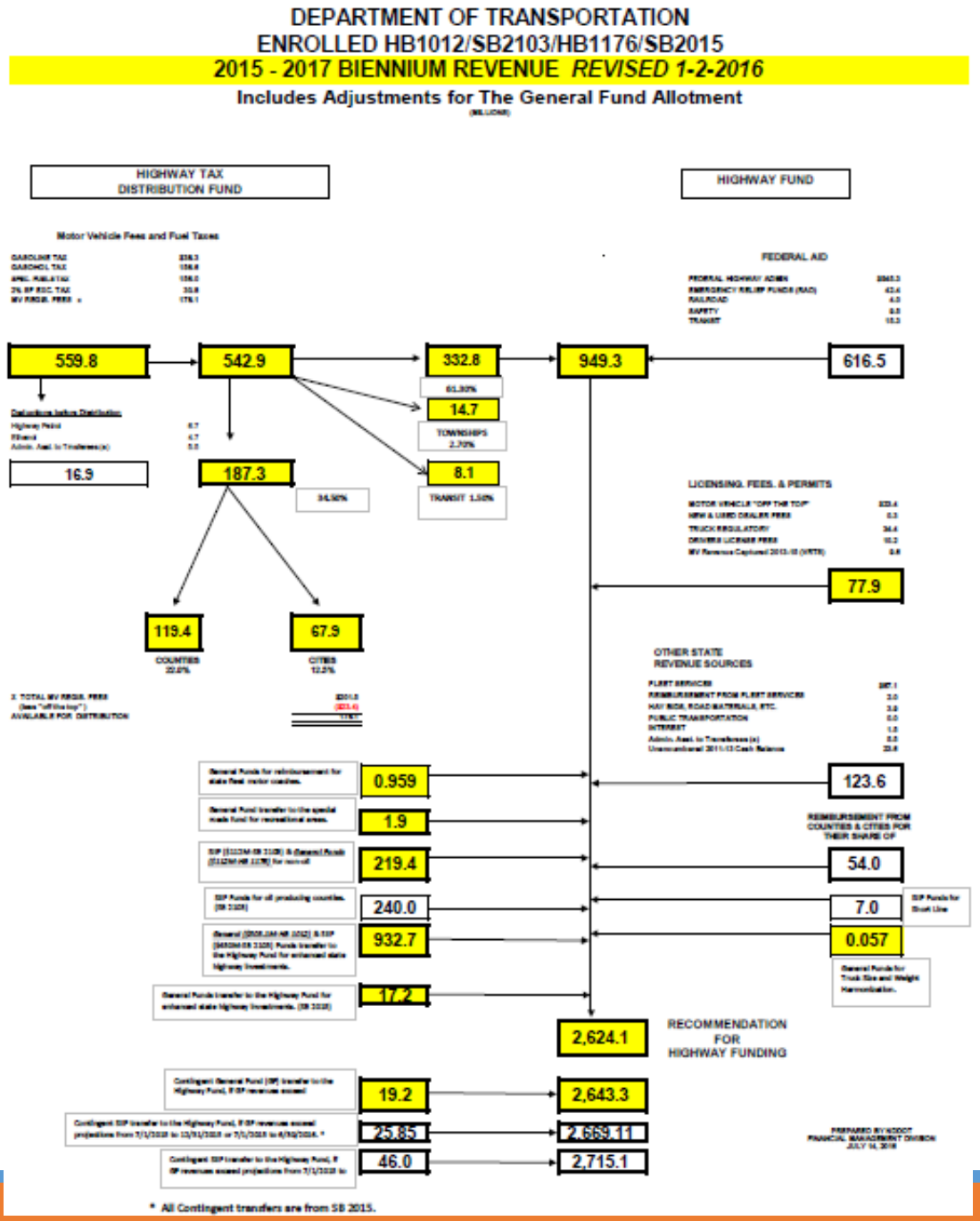
4.05% General Fund Allotment

The 4.05% reduction required adjusting General Fund expenditures on road construction projects, and allocations to counties and transit providers by $26.6 million.

NDDOT Enrolled 2015-17 Revenue



NDDOT Revised 2015-17 Revenue



Highway Tax Distribution Funding Distributed to Counties & Cities

Due to the drop in revenues, the amount of Highway Tax Distribution funding to counties and cities is also declining.

County Allocation
FY 2015 = $70,346,925
FY 2016 = $60,078,985

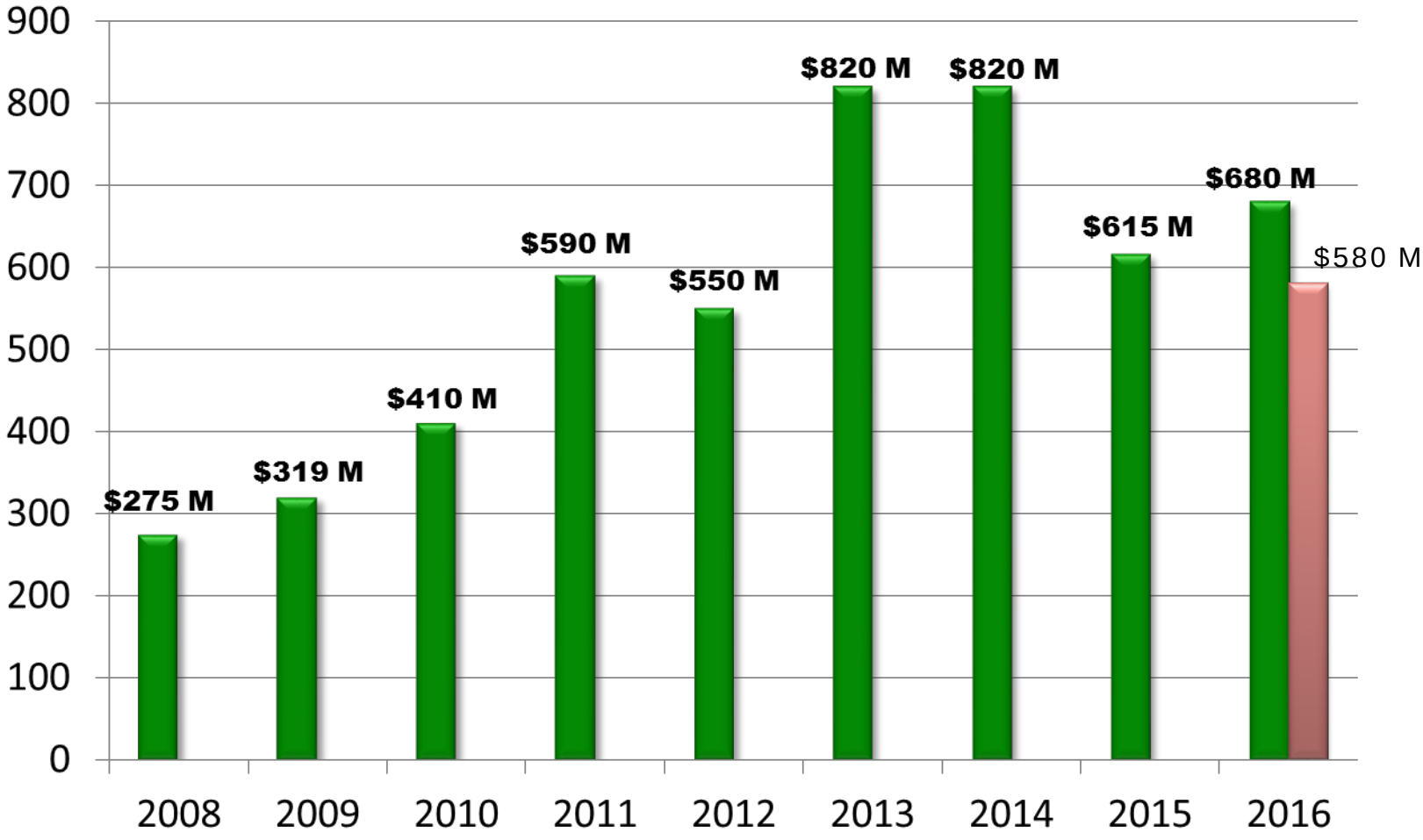
City Allocation
FY 2015 = $39,903,023
FY 2016 = $33,986,069

Distribution Of Highway Revenue By State Treasurer To NDDOT

Month	Total Fees and Taxes Distributed		Revenue Projection	
	FY 2015	FY 2016	FY 2015	FY 2016 *
JULY	$17,225,812.77	$16,085,223.18	$16,808,702.74	$16,085,223.18
AUG	14,129,925.65	9,881,392.19	12,903,111.49	9,881,392.19
SEPT	15,274,750.88	14,627,521.12	14,839,250.40	14,627,521.12
OCT	17,055,533.27	15,221,279.85	16,218,188.76	15,221,279.85
NOV	15,899,284.89	13,546,365.22	14,432,112.49	13,546,365.22
DEC	18,957,471.03	17,414,106.15	17,639,209.58	15,119,418.60
JAN	23,200,387.69	19,646,765.86	21,030,522.18	17,516,892.96
FEB	15,805,590.15	13,058,284.72	15,151,427.16	13,061,545.86
MAR	14,269,923.95	11,312,820.13	12,034,969.34	10,692,352.36
APR	15,931,143.61	13,657,450.14	16,710,886.76	14,935,801.68
MAY	14,803,061.78	12,296,479.66	14,420,014.92	12,649,986.14
JUNE	13,340,500.23	10,388,190.63	14,749,251.08	11,976,392.53
TOTAL	195,893,385.90	167,135,878.85	186,937,646.90	165,314,171.67

* FY2016 Revenue Projections revised 1-2-2016

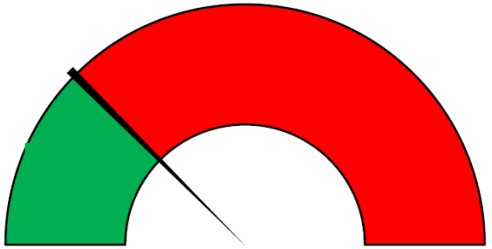
NDDOT Construction Programs



Road Construction Projects - 2016

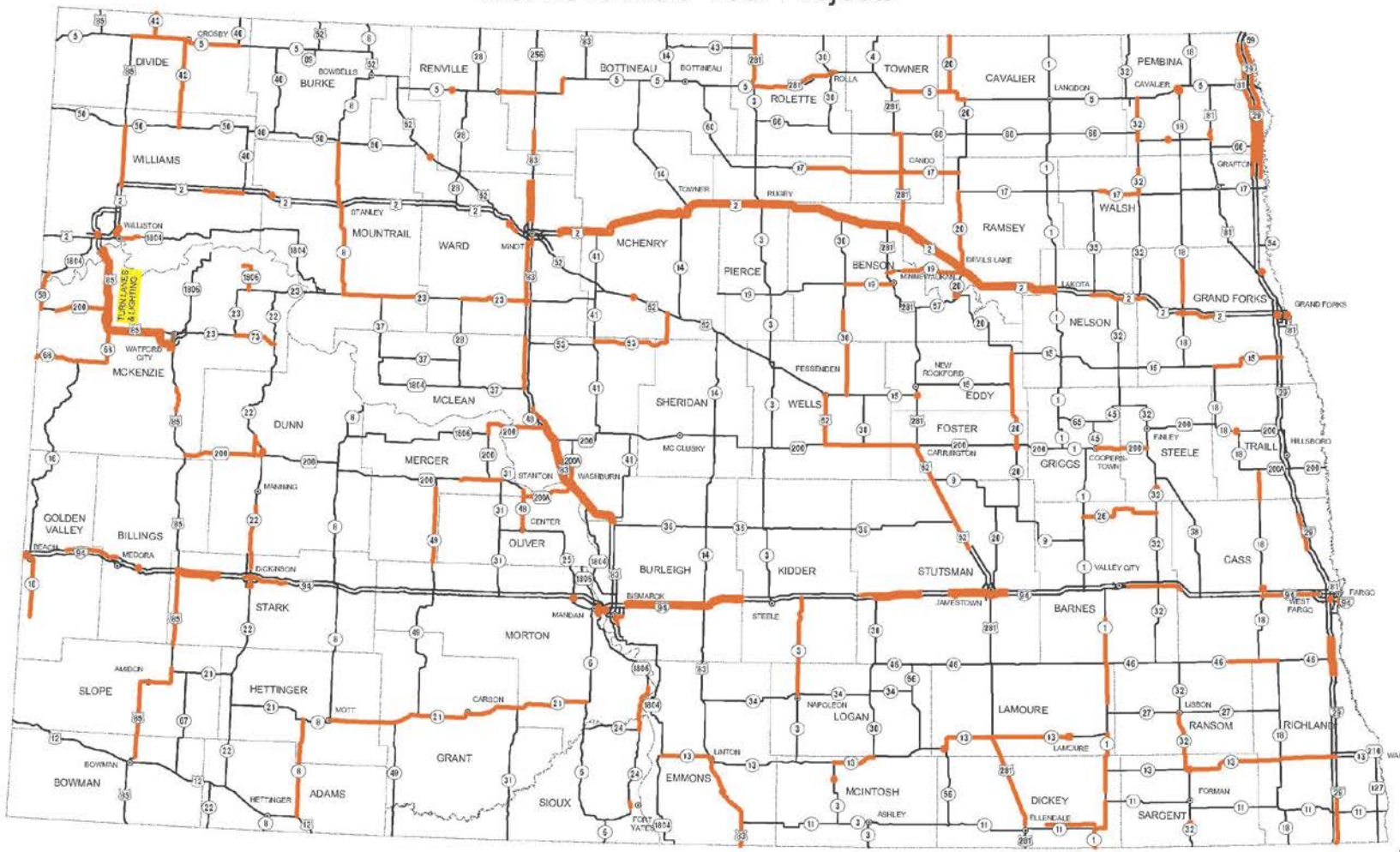
- The bidding process for construction projects is going well as competition is good and bids are coming in lower than expected. To date, we have seen a savings of approximately 18% as most of the bids have come in under the engineer's original estimates.

	Current	One Year Ago	Two Years Ago
Report Date	6/30/16	6/30/15	6/30/14
# of Contracts	188	163	205
% Complete	25%	14%	16%



25% complete

2016 CONSTRUCTION PROJECTS
with 2015 Multi-Year Projects



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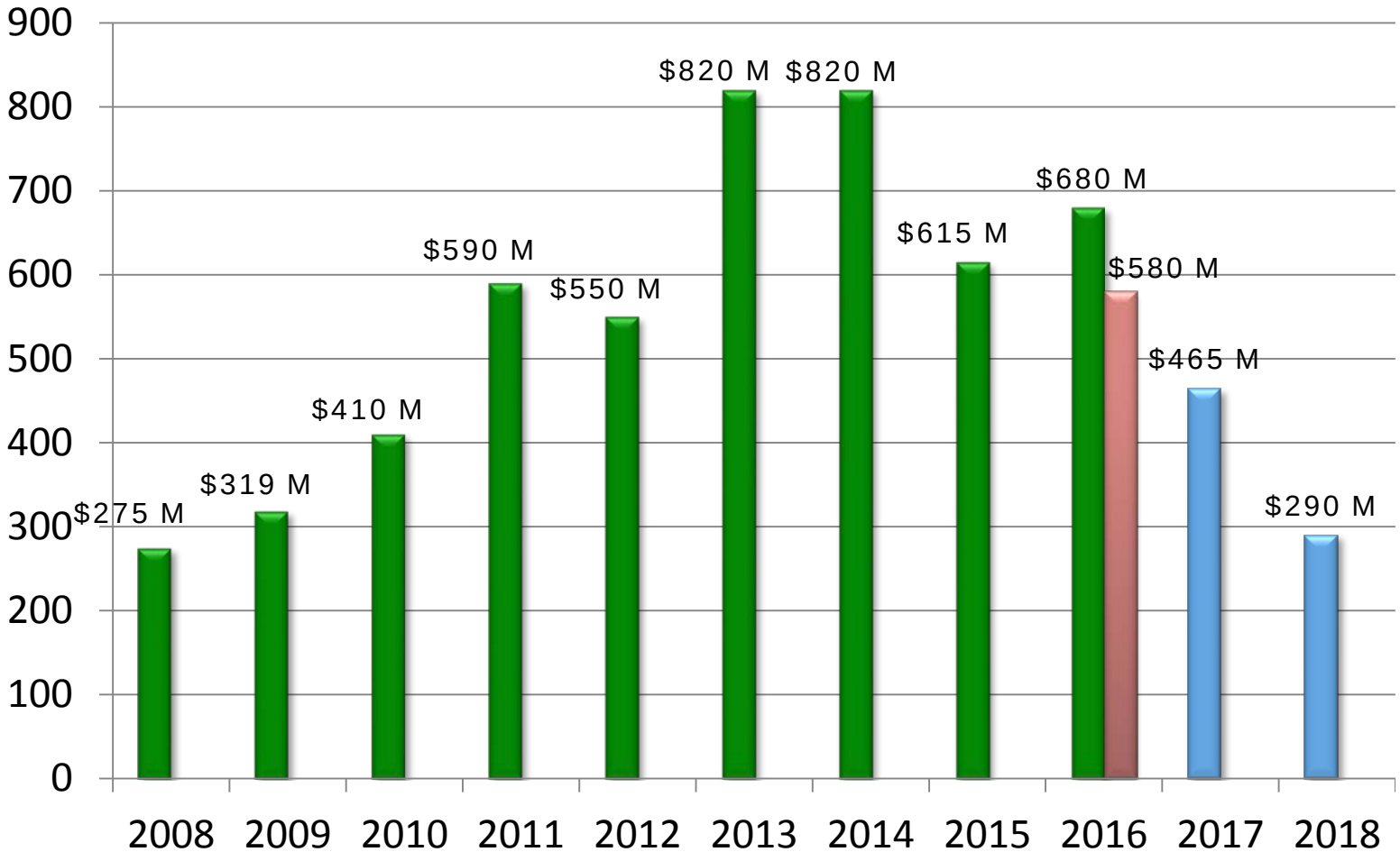
Federal Funding Update
FAST Act

Apportionment Funding	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
North Dakota	$251.83 M	$257.03 M	$262.59 M	$268.51 M	$274.94 M

Obligational Authority	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
North Dakota	$239 M	$?	$?	$?	$?

Construction Program



Truck Size and Weight Study

NDDOT Budget Bill – HB 1012

Directs: Department of Transportation to collaborate with the Upper Great Plains Transportation Institute

- Study the impacts in this state of harmonizing truck size and weight regulations with states in the western states transportation alliance regarding standard commercial truck envelope limits of 129,000 pounds gross vehicle combination weight or 100 foot cargo carrying length and potential implications.

- Report to 65th Legislative Assembly

- Steering Committee:
  - Paul Mathiason, ND Ag Coalition
  - Dick Johnsen, ND Motor Carrier
  - Capt. Eldon Mehrer, ND Highway Patrol
  - Jackie Darr, ND Highway Patrol
  - Larry Syverson, ND Township Officers Association
  - Jason Benson, ND Association of Counties
  - Mark Berg, ND League of Cities
  - Terry Weckerly, ND Grain Growers Association
  - Alexis Brinkman-Baxley, ND Petroleum Council
  - Kevin Sonsalla, ND Dept. of Commerce
  - Russ Hermasten, Doosan Bobcat
  - Denver Tolliver, UGPTI
  - Timothy Horner, UGPTI

NDDOT Truck Harmonization Study – Process & Draft Findings

Interim Transportation Committee

July 21, 2016

North Dakota Capitol- Rough Rider Room

Tim Horner – Program Director

Upper Great Plains Transportation Institute

Agenda – Items to be Covered

- Primary Components of the Study
- Key Findings of the Study to Date

Truck Harmonization Study

- Primary Components of the Study
  - 27+ Tasks in NDDOT/UGPTI Study Process
  - 10 Generalized Areas/Tasks
    - Literature Search of past relevant studies
    - Multi-state regulatory analysis
    - Identification of Key Trucks to Analyze – 8 selected
    - Data mining and costing analysis of key trucks
    - Outreach to Various Entities
    - Local Road Intersection (accessibility analysis)
    - Safety Analysis
    - Economic Benefits Analysis
    - Pavement Analysis
    - Bridge Analysis

Literature Review – Relevant National and State Studies

- Idaho DOT 129,000 pound pilot study
- FHWA Comprehensive Truck S/W Study -2015
  - **Key Study Areas**
  - Modal Shift Analysis
  - Crash Comparative Safety Analysis
  - Compliance Comparative Analysis
  - Bridge Analysis
  - Pavement Analysis
- Western Uniformity Scenario Analysis – 2004
  - North Dakota Included in Study Area

Multi-state Regulatory Analysis

- Studied Truck Regulations of:
  - South Dakota
  - Montana
  - Minnesota
  - Canada
- Reviewed:
  - Allowable GVW with Respect to Highway System
  - Allowable Length Issues
  - National Truck Networks

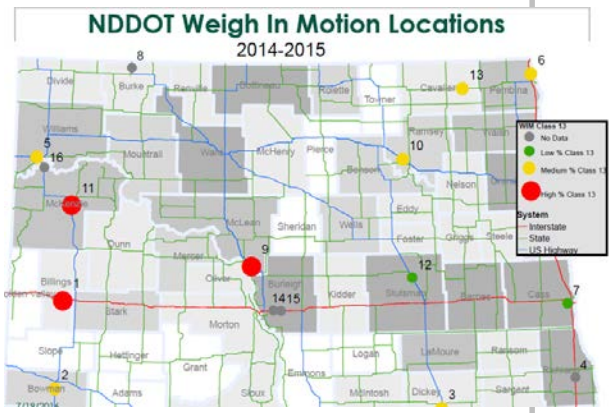
Identification of Key Trucks to Analyze – 8 selected

- Identified Two Categories of Trucks for Study
  - Trucks that might lose GVW with Full Harmonization
  - Trucks that might gain GVW with Full Harmonization

Truck Configurations Identified as Important to Study

Additional Study Steps

- Data Mining to Determine Current Mix of Long Combination Vehicles



- Outreach to Various Entities
  - Shippers
    - Survey Distributed Covering:
      - » Commodity, Trucks Currently Used and Likelihood of Investing in Heavier Configurations
  - Recipients of Long Combination Vehicle Permits
  - Producer Groups
  - Cities, Counties, Townships
  - Agencies
  - Other Advocacy Groups

Additional Study Steps

- Local Road Intersection Analysis
  - Premise is that county/township Intersections may not be able to accommodate turning radius of longer trucks
  - Reviewed truck turning radii
  - Discussed existing intersections with counties/townships
  - Sampled townships for likely agricultural shipping points
  - Developed costs for various improvements

Additional Study Steps

- Studied data and methods to project changes in crash safety
- Calculated economic benefits to shippers and state
- Calculated state infrastructure impacts
  - Pavements and bridges
- Met with agencies that might be Impacted

Key Findings of the Study to Date

- Changing from ND's existing exterior bridge formula to the interior/exterior bridge formula would:
  - Reduce the allowable legal loads on a triple axle up to 4500 pounds on non-interstate
  - Increase law enforcement time required to verify a vehicles legal weight
  - Use of the interior/exterior bridge formula would reduce confusion and improve efficiency of interstate trucking.

Key Findings of the Study to Date

- Stakeholder outreach indicated :
  - commercial shippers would upgrade their fleets to take advantage of increases in allowable truck size and weights.
  - Agricultural producers may be slower to upgrade their fleets for various reasons
  - Townships expressed concerns about costs to local roads and bridges.
  - Cities and counties expressed similar concerns

Key Findings of the Study to Date

- Regulatory Analysis – General

  - Interstate system GVW
    - ND – 80,000/105,500 with permit, MT- 80000/131,060, SD – 80,000/129,000, MN 80,000/88,000
  - State system GVW
    - ND- 105,500, MT – 131,060, SD – No Limit, MN – 80,000
  - Local roads GVW:
    - ND - 80,000, MT – 131,000, SD – No Limit, MN – 80,000
  - Unique issues:
    - Triple axle group in ND (non-interstate) is 48,000
      - MT, SD and MN = 42,000 to 43,000
    - Quad axle group in ND is 48,000
      - MT, SD and MN = 50,500 to 51,500

Key Findings of the Study to Date

- Regulatory Analysis – North Dakota
  - State highways: 105,500 pounds GVW
  - Local roads: 80,000 pounds GVW
  - Interstate system: 80,000 pounds GVW
    - (up to 105,500 lbs. GVW w/permit)
  - Federal bridge formula
    - State/Local roadways: Exterior bridge length
    - Triple axle group: 48,000 pounds
  - Interstate system: interior/exterior bridge length
    - Triple axle group: 42,000 to 43,500 pounds
  - Legal overall length limits
    - National Network (primary state highways/interstate): 110 feet
    - State designated highways: 95 feet
    - State and local roads: 75 feet

Key Findings of the Study to Date

Regulatory Analysis – Montana

- State/Local Roads: 131,060 pounds GVW
- Interstate system: 80,000 pounds GVW
  - up to 131,060 lbs. (increase vehicle reg.)
- Federal bridge formula
  - Interior and exterior bridge length: All roads
  - Triple Axle: 42,000 to 43,500 pounds
- Overall length: 95 feet w/permit
  - Interstate: 100 feet with permit

Key Findings of the Study to Date

Regulatory Analysis – South Dakota

- State/Local Roads: No GVW limit
- National Network: 129,000 pounds GVW
  - Longer combination vehicle
- Interstate system: 80,000 pounds
  - With permit (LCV) up to 129,000 pounds
- Federal bridge formula
  - Interior and exterior bridge length: All roads
  - Triple Axle: 42,000 to 43,500 pounds
- National Network: 110 feet w/permit

Key Findings of the Study to Date

Regulatory Analysis – Minnesota

- State/Local Roads: 80,000 pounds GVW
- Interstate system: 80,000 pounds
  - With permit up to 88,000 pounds
- Federal bridge formula
  - Interior and exterior bridge length: All roads
  - Triple Axle: 42,000 to 43,500 pounds
- Overall Length – 75 feet: All roads

Key Findings of the Study to Date

Regulatory Analysis: Manitoba & Saskatchewan

- Primary Roadway System (RTAC):
  - 137,788 pounds GVW

- Designated primary roads:
  - 139,992 pounds GVW
- Do not use the Federal bridge formula
  - Triple Axle: up to 52,910 pounds

Key Findings of the Study to Date

- Agency and Association impacts:
  - Updating software, websites, printed materials.
  - Impacts estimated at $102,000 to $165,000 for software changes.
  - If the long combination vehicle permit was eliminated, it would reduce revenue by about $6,200 per year.
  - Staffing impacts were difficult to predict.
  - Entities contacted: NDDOT, NDHP, & NDAOGPC – Uniform County Permit System & UGPTI for truck weight calculator

Key Findings of the Study to Date

- Local Road/Street Connectivity Issues
  - Inadequate roadway intersection geometry to accommodate longer trucks that require larger turning radii
    - County and township road intersection geometric needs analysis yielded from $130 million to $306 million of impacts statewide
  - Increased traffic delay in urban areas and signalized intersections

Key Findings of the Study to Date

- Crash projections are difficult to Quantify due to lack of data – Similar findings by FHWA study.
- Seasonal trip generation also difficult to quantify due to lack of data
- Shipper costs would be reduced:
  - Annual estimated savings range from $140 to $285 million/year
- Truck VMT projected to reduce 31 to 36% for divisible loads currently carried on semis or long combination vehicles.
- Pavement impacts are negligible.

Key Findings of the Study to Date

- Quantifying of bridge impacts is complicated and is still being reviewed
  - Issues:
    - Corridor specific analysis
    - Method of calculating Inventory and Operating Ratings
    - Use of AASHTO-VIRTIS Software for state corridors
      - Possible for state system but more difficult for county network

Questions??

NDDOT next steps

- Steering committee to review final draft of UGPTI analysis.
- UGPTI puts study out for public comment.
- DOT and Steering Committee will discuss findings and results of study to prepare to share findings with 65th Legislative Assembly.

Questions?

NDDOT
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