

Status of 2015-16 County and Township Road and Bridge Investment Needs

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Upper Great Plains Transportation Institute

Today's Presentation

- Status of local road/infrastructure needs studies
- Review of most recent infrastructure study and proposed study improvements
- General methodology for 2015-17 study
- General concepts and status for advancing legislative initiative for road and bridge asset management inventory toolkit development

Local Roads Infrastructure Needs Study Process

2007: NDDOT

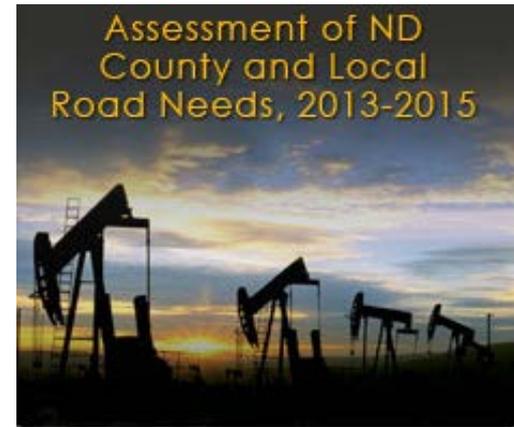
2009: NDDOT Level of Service Study

2010: ND Assoc. of Oil and Gas Producing Counties/ND Dept. of Commerce

2011-13: North Dakota Legislature

2013-15: North Dakota Legislature

2015-17: North Dakota Legislature



2013-15 Study

Data Collected

- Jurisdictional data for 52 counties
- 1,000+ vehicle counts and classifications by NDDOT & UGPTI
- 5,600 miles - pavement video image, pavement distress and ride data.
- 1,500 miles - pavement/subgrade strength and depth surveys
- Gravel costing surveys for all 53 counties
- NBIS data - 2,327 local bridges

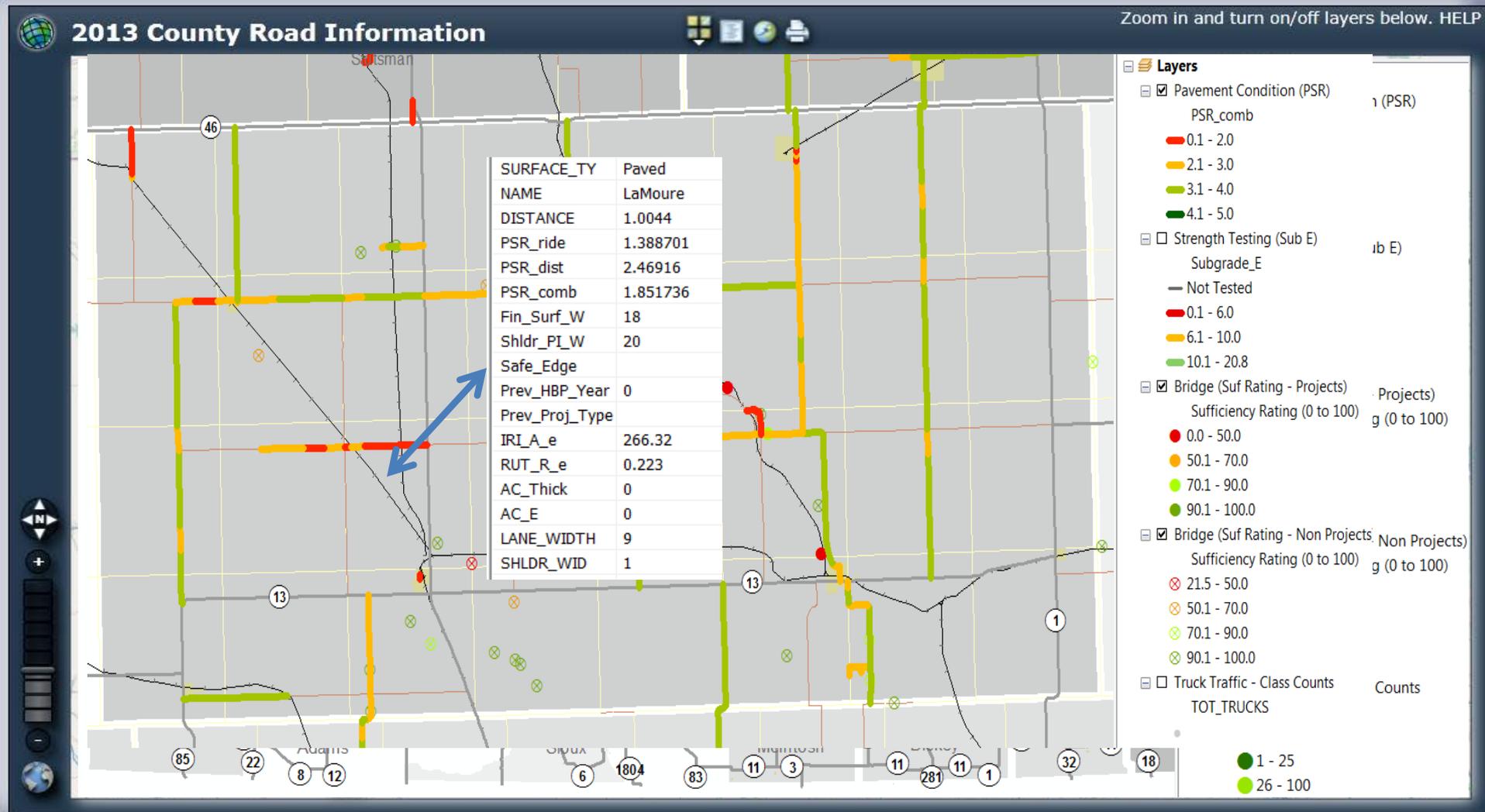
- Created a statewide truck traffic flow model
- Created AASHTO-93 Pavement Deterioration Model to predict pavement needs and remaining life
- Created Bridge deterioration and improvement model
 - Included study of bridges located on minimum maintenance roads; approximately 400 bridges excluded from analysis



On-line Interactive Map – Pavement Condition



On-line Interactive Map – Pavement Condition



Feedback from Counties and Legislators

- Most liked the interactive map
- First time many had objective pavement ratings available to them
- Study provided basis for investing in transportation infrastructure

Concerns from Counties and Legislators

- Pavement condition scores may not reflect age of lower layers of pavement
 - More accurate shoulder width and pavement thickness
- Counties not uniformly reporting gravel costs
- No costs for minor structures
- Some counties unaware of data requests

2015-17 Study

- Emphasis on uniformity of gravel costing submissions (revised survey instrument)
- Additional improvements to county pavement condition data
- Continued improvement to traffic data and forecasting
- Updated costing and modeling concepts
- Capture more accurate data history from counties – asset inventory too
- Continued emphasis on maintaining system – not providing for major upgrades

2015-17 Study Process/Major Steps

- Data Collection
 - Gravel costs and practices surveys - underway
 - Traffic counts - completed
 - Paved road condition assessment – completed jointly by NDDOT & UGPTI
 - Non-destructive pavement strength testing – to be collected in September-October 2015
- Data Verification
 - County Township Jurisdiction
- Traffic Modeling/Forecasting
- Pavement Analysis
- Bridge Analysis

Gravel Cost and Practices Surveys

- Survey of both counties and townships
 - 2013-14 study: 52
 - 2 county responses, 635 township responses
- Responses reflective of actual improvement and maintenance activities is critical
- Comparison between neighboring counties
 - Cost
 - Overlay frequencies
 - Regional average

- Aggregate (gravel) cost at pit
- Placement cost
- Transportation cost from pit to roads
- Dust suppressant usage/cost
- Stabilization usage/cost
- Intermediate practices
 - Stabilization/armor coat
 - Double chip seal/armor coat



Bridge Analysis

- NBI: county and local bridges
- Open bridges (other than culverts): Not considered: recently replaced or minimum maintenance roads
- Improvements considered: replacement or rehabilitation
- Maintenance Costs
- Develop minor structure process

Local Roads Asset Inventory Toolkit

- Focus: provide tools for local governments to preserve and maintain roads and bridges
- Initial Steps:
 - Establish an Advisory Group of County Representatives (Partner with NDAoC; 10 counties identified)
 - Focus on building data inventory important to county road managers: links on-line mapping tools built for past study

Road Asset Management Steering Team

- Sharon Lipsh - Walsh County
- Shirley Murray - Sheridan County
- Dana Larsen - Ward County
- Ken Miller - Mercer County
- Todd Miller - Stark County
- Tom Soucy - Cass County
- Jana Heberlie – Mountrail County
- Kevin Fieldsend - Ramsey County
- Dan Schriock - Burleigh County
- Tyler Michel - Stutsman County