How-To Webinar – Needs Study Survey

Local Road Infrastructure Needs Assessment Webinar – September 23, 2015, 9 AM to 10 AM CT

> The webinar will begin at 9 AM CT. Please use the chat box to provide input and ask questions.

Alan Dybing, Dale Heglund, Brad Wentz & Andrew Wrucke Upper Great Plains Transportation Institute

Today's Presentation:

- Review of local road/infrastructure 2015-2017 Needs Study (Dale Heglund)
- Review of the data collection survey for the Needs Study. Open format to ask questions, via chat box, for each survey data field (Alan Dybing)
- Update on the status of other data collection efforts (Brad Wentz & Andrew Wrucke)
- Questions



Local Roads Infrastructure 2015-2017 Needs Study Process

- Data Collection
 - Gravel costs and practices surveys
 - Traffic counts
 - Paved road condition assessment
 - Non-destructive pavement strength testing
- Data Verification
 - County Township Jurisdiction
- Traffic Modeling/Forecasting
- Pavement Analysis
- Bridge Analysis



Data Collected for 2013-15 Study

- Gravel costing surveys for 52 counties and 635 townships
- Jurisdictional data for 52 counties
- 1,000+ vehicle counts and classifications by NDDOT & UGPTI
- 5,600 miles of pavement video image, pavement distress and ride data
- 1,500 miles of pavement/subgrade strength and depth surveys
- NBIS data on 2,327 local bridges

Outlook for the 2015-2017 Study

- Legislative expectations for ever -improving data
 - Emphasis on uniformity of gravel costing submissions
 - Continued improvement to traffic data and forecasting
 - Updated costing and modeling concepts
 - Continued emphasis on maintaining system not providing for major upgrades.



Gravel Cost and Practices Surveys

- Survey of both counties and townships
- Responses reflective of actual improvement and maintenance activities is critical
- Comparison between neighboring counties
 - Cost
 - Regional average
- Status



pg. 6

Page | 1

County Road Needs Study

County:			
Contact:			
	Name	Phone	Email
Preparer: _		Date Prepared:	

Aggregate Description

To determine the type and quality of aggregate used in your county, please check all boxes that apply. For example, if your county uses crushed, spec gravel – select crushed material and specifications.

Gravel	
Scoria	
Pit Run	
Crushed Material	
Specifications	
Tested	
Other	



Placement Practices

When aggregate overlays are placed in your county, please select the typical practice that is used to apply an aggregate overlay.

Truck Drop and Blade	
Windrow/Equalize	
Water/Rolling/Compaction	
Other	



Operational Tasks

In this section, please provide a percentage of tasks that are done using county resources versus the percentage of work done by a contractor. For example, if your county owns the pit and does all of the crushing using county labor, 100% would be entered into the first column, and 0% in the second column.

	Performed by:		
Task	County	Contractor	
Crushing			
Hauling			
Placement			
Blading			
Dust Control			
Base Stabilization			



Gravel Road Costs

Please report costs for gravel for county roads in the table below. The table asks for unit costs for graveling, maintaining, and operating gravel roads. If you are quoting contractor prices, please circle "yes" in the right hand column.

Gravel/Scoria Cost		
 Average Gravel/Scoria Cost (crushing & royalties at the pit) 	Per cubic yd.	Is this Contractor Price? (yes/no)
- Trucking Cost from Gravel Origin	Per loaded mile/Cu. Yard	Is this Contractor Price? (yes/no)
 Average trucking distance for aggregate 	Miles	
- Placement Costs	Per mile	Is this Contractor Price? (yes/no)
- Blading Cost	Per mile	Is this Contractor Price? (yes/no)
 Dust Suppressant Costs 	Per mile	Is this Contractor Price? (yes/no)
- Base Stabilization Cost	Per mile	Is this Contractor Price? (yes/no)
- Snow Removal Cost	Per mile	Is this Contractor Price? (yes/no)

Page 3

Gravel Road Practices

This section asks for information regarding gravel road practices based upon differing traffic levels. Under the "Daily Traffic" row, please enter what you would consider low, medium and high traffic levels on gravel roads within your county. In the example below, low is categorized as less than 50 vehicles, medium 50-150 vehicles and high 150-350. This is expected to vary significantly from county to county, so please use your own estimates of traffic levels. Following the traffic entry, please enter the regraveling thickness, blading frequency, regraveling frequency, and whether dust suppressant or base stabilization are used at each of these traffic categories.

EXAMPLE	Traffic Levels		
	Low	Medium	High
Daily Traffic	>50	50-150	150-350
Average Regraveling Thickness	3 in	4 in	5 in
Blading Frequency (# per year)	8	12	16
Regraveling Frequency (years	7	5	3
between overlay)			
Dust Suppressant (yes/no)	no	no	Yes
Base Stabilization (yes/no)	no	no	Yes

pg. 11

County Entry	Traffic Levels		
	Low	Medium	High
Daily Traffic			
Average Regraveling Thickness			
Blading Frequency (# per month)			
Regraveling Frequency (years			
between overlay)			
Dust Suppressant (yes/no)			
Base Stabilization (yes/no)			

If you answered yes for Dust Suppressant - which type do you use?

If you answered yes for Base Stabilization - which type do you use?

How would you classify the average gravel road condition in your county? Very Good Good Fair Poor



pg. 12

Comments or Suggestions (please attach additional sheets if needed):

Please return this survey in the enclosed envelope by **October 15, 2015**. Please direct any questions to Alan Dybing at 701.231.5988 or <u>alan.dybing@ndsu.edu</u>.

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Unpaved Improvement Types

• Traffic Category Improvement

- Low: low volume average
- Baseline: county average
- Elevated: county average increased by 50%
- Moderate: county average increased by 100%
- High: county average increased by 150%, dust suppressant
- Very high: county average increased by 200%, dust suppressant

Jurisdiction and Maintenance Survey

- o Township
- Township owned, but maintained by the county
- Minimum maintenance roads
- o Private
- IRR maintained by the tribes
- IRR maintained by counties

- o Municipal
- Forest Service
- o Air Force
- o Other Federal Roads
- o Scenic Routes
- Wildlife/Conservation
 Routes

Data Collection Status/Schedule

- Pavement Condition
- Traffic Counts
- Pavement Strength NDT
- Data Reporting

Pavement Data Collection

- Condition data collection
 - Collected data with NDDOT Pathway van
 - Approx. 5,000 miles of paved county roads
 - Did not collect short segments
 - Van provides consistent pavement distress and ride information
- Status
 - Data collection completed August 2015
 - Data Processing to be completed by December 2015
 - Data Available on web map February 2016



Traffic Data Collection

- Data collection
 - Joint collection with NDDOT staff and NDSU students
 - NDDOT 14'-15' counts cover approx 2500 cnty loc
 - 500 additional counts were taken across state.
 - Will supplement with other local counts
- Status
 - Data collection complete October 2015
 - Data processing complete December 2015
 - Data available on web approx February 2016





Pavement Data Collection

- Non-destructive testing
 - Purpose: Expand the number of sample sections collected
 - Falling weight deflectometer (FWD) and ground penetrating radar (GPR)
 - Should complete county paved section NDT
- Status
 - GPR Started 9/16, to be completed by end of month
 - FWD Started 9/21, to be completed by end of October







pg. 20







UGPTI

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Assessment of ND County and Local Road Needs, 2015-2017

This effort responds to the North Dakota Legislature's request for a study of the transportation infrastructure needs of all county, township, and tribal roads and bridges in the state. For this study, infrastructure needs are estimated using the most current crop and oil production forecasts, traffic estimates, and roadway condition data. Agricultural and oil-related traffic is

Related Links

- Introduction
- <u>Physical Road</u> Testing

modeled in detail at the sub-county level. Oil-related traffic is predicted for individual spacing units, whereas agricultural production is estimate the township level.

Downloads

- Statewide Interactive Map
 - Note that the map will be updated with new data as it becomes available
 - <u>Navigating the Interactive Map</u> (PDF, 188K)
- Presentation to the Interim Transportation Committee of the ND Legislature on August 20, 2015: <u>Status of 2015-16 County and Township Road and Bridge</u> <u>Investment Needs</u>

2013-2015 Project Files

- Final Report: Study of County and Local Roadway Needs: 2013-2015
- <u>View Supplemental Information</u>



pg. 21

Created for the 2013-15 Study

 An on-line interactive map showing images and data collected for the study so that it was available to the counties.





On-Line Interactive Map



pg. 23

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Upcoming Study Process/Major Steps

- Gather additional pavement data to improve pavement modeling thru Asset Inventory Tool
 - Roadway Width, Pavement Thickness, Pavement Age, etc.
- Review Jurisdiction Data ownership and maintenance
 - Review past results with Counties through LTAP
- Model Traffic, Road Costs & Assess Needs
- Present Data via on-line map
 - Enhanced version of 2014 version



Questions about the Needs Study?

UGPTI Needs Study Contacts

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