

Study of County and Local Roadway Needs: 2011-2013



Upper Great Plains Transportation Institute, North Dakota State University, Fargo • 701.231.7767 • www.ugpti.org

Introduction

In 2010-2011 UGPTI conducted two concurrent studies of county road needs in North Dakota: Additional Road Investments Needed to Support Oil and Gas Production and Distribution in North Dakota and Rural Road Investment Needs to Support Agricultural Logistics and Economic Development in North Dakota. The focus of the first study was estimation of the incremental needs for county roads in western North Dakota due to oil development. The second focused on identifying key agricultural haul roads and estimating the needs to support existing and future road infrastructure.

In the 2011 Legislative Session, an appropriation was made in SB 2325 to the Upper Great Plains Transportation Institute "for the purpose of updating and maintaining reports for transportation infrastructure needs for all county and township roads in the state, for the biennium beginning July 1, 2011, and ending June 30, 2013." The emphasis being on infrastructure needs for all county and township roads. In essence, this study is an update of the 2010-2011 studies in one combined analysis.

Updates and Enhancements

Data Collection

Due to the short timeframe for the 2010-2011 studies, data collection efforts relied on surveys of industry and county representatives. In the 2012-2013 study, independent data collection is a priority to ensure objectivity.

- **Truck Weights** – The North Dakota Highway Patrol allowed UGPTI to collect data on truck configurations and weights at the Williston weigh station. This data will enable us to accurately calculate equivalent single axle loads (ESALs) generated by agricultural and oil related truck movements.
- **Roadway Conditions** – More than 1,000 miles of county major collector roads were independently scored using the NDDOT pavement distress guidelines.
- **Traffic Counts** – 107 traffic classification counts were conducted in western North Dakota to quantify the distribution, volume and classification of truck trips generated in the oil patch.
- **Local Input** – Meetings were held with 8 oil impacted counties to discuss draft traffic model results as well as to obtain information on the latest roadway maintenance practices being implemented on high volume county roads.

Update

The 2012-2013 study will use the most current projections of oil development in western North Dakota as provided by the Oil & Gas Division of the North Dakota Industrial Council. In addition, survey results from the North Dakota Department of Commerce regarding truck trip generation from manufacturing activity in North Dakota will be included when available (January 2012). The latest crop production data was obtained from the National Agricultural Statistics Service, including county level production statistics and the crop data layer which will enable researchers to estimate acreages and production at the township level. In addition to production and volume data, roadway condition data will be collected to provide the most up to-date assessment of county and township roadway data in the state.

Long Range Scope

All forecasts obtained are long range in nature, which reflects the long-range planning required to design, build and maintain roadway infrastructure. The analysis period for this study is 20 years, reflecting continued development in the oil patch as well as long-term agricultural production activities.

Timeline

- Meetings/data collection with Department of Commerce and Department of Mineral Resources, Oil & Gas Division – August 2011
- Williston weigh station data collection – August 2011
- Traffic classification count collection – September 2011
- Independent verification of roadway condition on CMC Routes – October 2011
- Collection of agricultural statistics from USDA and ND Public Service Commission – October 2011
- Network design and construction – November 2011
- Oil network route forecasting – January 2012
- Agricultural network route forecasting – January 2012
- Future development route forecasting – February 2012
- Meetings with county road supervisors to discuss route forecasts – January 2012
- Survey of component costs and county practices – March 2012
- Roadway deterioration and needs estimation – April 2012
- Draft document and results – June 2012
- Final document and results – September 2012

For more information on:

Additional Road Investments Needed to Support Oil and Gas Production and Distribution in North Dakota, December 2010 – <http://www.ugpti.org/resources/reports/details.php?id=o6>

Rural Road Investment Needs to Support Agricultural Logistics and Economic Development in North Dakota, January 2011 – <http://www.ugpti.org/resources/reports/details.php?id=o7>

Upper Great Plains Transportation Institute • Denver Tolliver – denver.tolliver@ndsu.edu – 701.231.7190 O
Alan Dybing – alan.dybing@ndsu.edu – 701.231.5988 O

NDSU

North Dakota State University does not discriminate on the basis of age, color, disability, gender expression/identity, genetic information, marital status, national origin, public assistance status, sex, sexual orientation, status as a U.S. veteran, race or religion. Direct inquiries to the Vice President for Equity, Diversity and Global Outreach, 205 Old Main, (701)231-7708.

2.15.2012