

State Performance Report

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

4/9/2018

Background:

Title 23 U.S.C. 150(e) requires the North Dakota Department of Transportation (NDDOT) to report on the condition of the National Highway System (NHS), the state performance targets for the NHS, and the progress the state has made toward its targets. This report is due to Federal Highway Administration (FHWA) not later than October 1, 2016. Final federal performance rules are under development and will not be completed prior to October 1, 2016, but in the interim FHWA has provided guidance for this initial performance report. As a result of FHWA Guidance, the following report is submitted to satisfy the requirements of Title 23 U.S.C. 150(e).

Condition and Performance of the National Highway System in North Dakota:

The NDDOT is required to report asset condition information for pavements and bridges on the National Highway System (NHS). FHWA guidance states that this requirement is fulfilled if the State DOT has already submitted the required National Bridge Inventory (NBI) and Highway Performance Monitoring System (HPMS) data due in 2016. NBIS data was submitted in time for the April 1, 2016 report and HPMS data was submitted in time for the June 16, 2016 deadline.

Effectiveness of the Investment Strategy Document in the State Asset Management plan for the NHS:

The NDDOT developed and adopted a Transportation Asset Management Plan (TAMP) in May of 2015. The plan does not include a list of projects. The plan is programmatic and guides the development and improvement of the NDDOT's Asset Management Program. The following relevant goals were outcomes of the TAMP.

I. Implement the most recent system-level performance measures and targets for pavements, bridges, and safety. This project is underway

II. Investigate off the shelf cross asset analysis programs. The NDDOT developed a Tradeoff Hub tool for cross asset analysis. Cross asset optimization is also being investigated through both NCHRP and commercial off the shelf software avenues. A decision science software test is also under development.

III. Update the bridge-management processes and system to incorporate bridge management data in

cross-asset analysis. The NDDOT has developed a Bridge Health index and has upgraded to the most recent version of PONTIS. As a result, the NDDOT now has the ability to model system level bridge condition.

IV. Develop a tool for trade-off analysis of facility and maintenance equipment management data to assist state funded investment strategy. This task has been deferred. A preliminary model was developed and when funding becomes available a commercial off the shelf (COTS) solution may be pursued.

V. Procure maintenance-management software to aid in the tracking and optimization of work orders and material usage. The data would be linked to the pavement-management tools in order to refine pavement-preservation recommendations. A project to procure a COTS solution was underway. State revenue shortfalls required this project to be postponed.

VI. Research and develop pavement-management systems that utilize new distress scoring, facilitating implementation of distress-based modeling. A new distress scoring method is under development.

VII. Refine asset management systems for new performance measures. Current tools are compatible with federal performance measures.

VIII. Update the TAMP in order to meet new federal requirements. This is underway.

IX. Develop investment classes aligned with major budget categories for inclusion in the trade-off analysis. The NDDOT developed 11 major budget categories for inclusion in its tradeoff hub. The eleven investment classes are:

- 1) Pavement Management
- 2) Bridge Management
- 3) Safety
- 4) Freight and Personal Mobility
- 5) Operating Road and Bridge Maintenance
- 6) Snow and Ice Control
- 7) Bicycle and Pedestrian
- 8) Transit
- 9) Rail
- 10) Motor Vehicle
- 11) Drivers License

The eleven classes cover all of the major budget categories of the NDDOT, with the exception of administration. An administration investment class service indicator is currently being investigated.

Description of NDDOT's Progress in Achieving Performance Targets:

The NDDOT is in the process of establishing targets for the federal performance measures. Upon finalization of the rules the NDDOT will coordinate target setting through the long range transportation plan process which will include not only MPO's but multiple stakeholders and customers statewide.

The NDDOT will ensure federal performance measures are supported and considered when developing the Department's STIP.

Description of the ways in which the NDDOT is addressing congestion at freight bottlenecks:

The NDDOT publishes a freight constraints map at the following url:

<http://www.dot.nd.gov/divisions/planning/freight/>

The most recent version of the map is attached.

The decision whether to address a freight bottleneck, is made through the project programming or development process. Solutions such as widening, additional pavement thickness or reconstruction are potential solutions to freight bottlenecks.

North Dakota State Highway Freight Constraints, 2016

