

# Oklahoma Long Range TRANSPORTATION PLAN



Moving Oklahoma  
**FORWARD**

Technical Memorandum

## Performance Measures

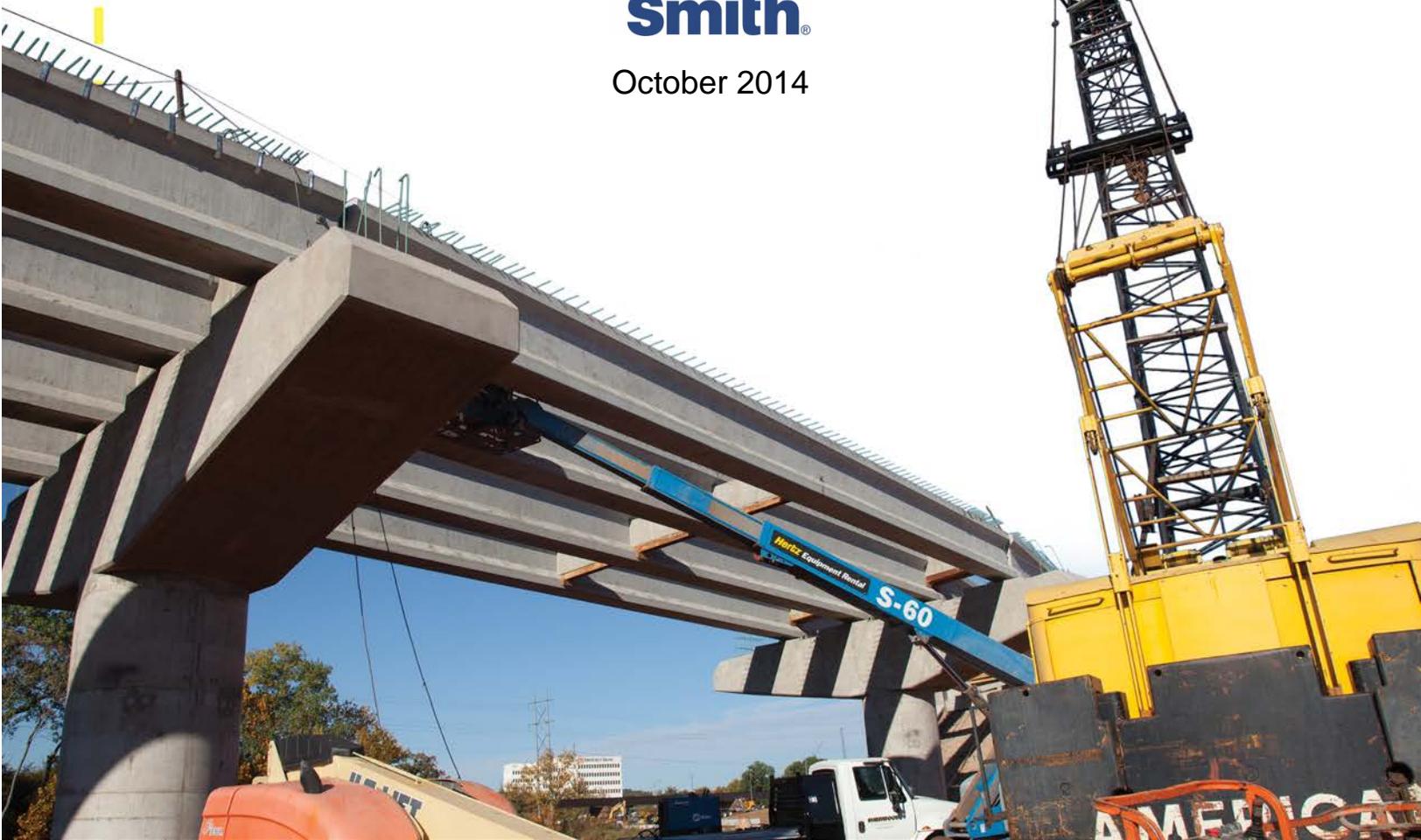
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**Oklahoma Department of Transportation**

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**CDM  
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The Technical Memos were written to document early research for the 2015-2040 Oklahoma Long Range Transportation Plan (LRTP). Most of these memos were written in 2014; all precede the writing of the 2015-2040 Oklahoma LRTP *Document* and 2015-2040 Oklahoma LRTP *Executive Summary*.

The 2015-2040 Oklahoma LRTP *Document* and 2015-2040 Oklahoma LRTP *Executive Summary* were composed in Spring 2015.

If there is an inconsistency between the Tech Memos and the 2015-2040 Oklahoma LRTP *Document* or 2015-2040 Oklahoma LRTP *Executive Summary*, the reader should assume that the *Document* and *Executive Summary* contain the most current and accurate information.



# Oklahoma Long Range TRANSPORTATION PLAN

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# Oklahoma Long Range TRANSPORTATION PLAN

## I. INTRODUCTION

This Tech Memo identifies and describes a set of performance measures developed by ODOT's consultant team, in coordination with Oklahoma DOT (ODOT) staff. The measures are recommended for consideration as a component of the State's 2015-2040 Oklahoma Long Range Transportation Plan (LRTP).

### I.1 Definition of Transportation Performance Measurement

The performance measures recommended in this Tech Memo are consistent with broadly accepted industry practices for use of performance measurement and performance management among state DOTs:

- **'Performance measurement'** describes the consistent use of quantitative data to gauge an agency's effectiveness in fulfilling one or more major elements of its overall mission, which in a DOT usually include safety, mobility, transportation infrastructure preservation, environmental stewardship and statewide economic growth, all of which are often addressed in a long range plan.
- **'Performance management'** describes a wider framework in which senior executives use measures to support decision-making, manage their organizations, and provide external accountability. Performance management often includes an emphasis on linking agency-wide vision, goals, and objectives with measurable yardsticks, targets, and even quantitative projection of performance outcomes under alternate performance scenarios. Regularly updated dashboards or other reporting techniques are often a highly visible part performance management.

The Tech Memo's recommendations recognize that ODOT is still in the initial stages of developing performance measures. As such, the Memo emphasizes preliminary identification of individual measures, rather than advanced steps for creating a program of performance management.

### I.2 ODOT's Drivers for Establishing LRTP Measures

The consultant team has determined based on conversations with ODOT staff that the agency's decision to include performance measures in its LRTP was driven strongly by three overlapping factors:

1. **New State and Metropolitan Performance-based Planning Requirements –** MAP-21 provisions require FHWA to establish a performance-based planning process at the state level. In June 2014, FHWA issued a notice of proposed rulemaking on this topic, which closely links performance-based planning



requirements with the national performance measures program also under development and described below.

2. **New National Performance Measures Program** – USDOT is also working to implement MAP-21 requirements for implementation of national transportation performance measures in the following areas:
  - Pavement condition on the Interstate System and on remainder of the National Highway System (NHS);
  - Performance of the Interstate System and the remainder of the NHS;
  - Bridge condition on the NHS;
  - Fatalities and serious injuries—both number and rate per vehicle mile traveled--on all public roads;
  - Traffic congestion;
  - On-road mobile source emissions; and
  - Freight movement on the Interstate System.

At the present time, FHWA has announced its proposals only for measures related to fatalities and serious injuries, however, FHWA's proposals for remaining measures above are reportedly imminent.

3. **Industry-wide Adoption of Performance Management Practices** – Over the last decade and more, state transportation agencies have increasingly incorporated performance measurement and management into their planning activities, seeking to improve performance in areas that matter to the public and stakeholders.

Together, these three factors have greatly increased ODOT leadership's interest in initiating a set of agency-wide performance measures; however, ODOT's primary concern is to develop measures that are useful and make sense for Oklahoma.

### **I.3 Consultant Team's Criteria for Choosing Measures**

Selecting an effective set of measures constitutes the first phase for establishing a robust performance measurement program. The consultant team relied on a set of criteria we believe practitioners frequently use for choosing effective measures including the following:

- **Measures are Easy to Understand** – Good measures should be easy to understand and intuitive both to practitioners in the field and to a wider audience of stakeholders.



- **Measures are Relevant to Decision-Makers** - Good measures should help provide decision-makers with information that supports the choices and trade-offs they make on behalf of the public. This means data should be strongly connected with goals and objectives in which decision-makers are interested.
- **Measures Minimize Additional Staff Burden** – Good measures should draw on existing data collection practices where possible, not reinvent them. The measures should ensure that any burdens imposed on staff to collect and report performance data are manageable within existing resources.
- **Results are within DOT’s Influence** – Good measures should track data that a DOT can influence via the array of policy, budgeting and programmatic tools at its disposal.
- **MAP-21 Consistency** – Of particular concern to ODOT is that measures developed as part of the LRTP should support compliance with measures that FHWA anticipates to announce in 2015.

## I.4 Connection to LRTP Goals and Objectives

The performance measures included in this Tech Memo are intended to be consistent with a broader framework of Plan goals and objectives developed as part of the LRTP Update planning process. In summary, the goals include:

- LRTP Goal: Safe and Secure Travel
- LRTP Goal: Infrastructure Preservation
- LRTP Goal: Economic Vitality
- LRTP Goal: Mobility Choice, Connectivity & Access
- LRTP Goal: Environmental Responsibility
- LRTP Goal: Efficient system management and operation

With the exception of the last goal, this Tech Memo proposes one or two measures for each LRTP goal. While the goal of efficient system management and operation is of importance to the LRTP, it is more explicitly discussed in the agency’s operations-oriented plans, developed at the Executive Level.

## I.5 Consultant Team’s Performance Measure Development Process

The performance measures included in this Tech Memo were developed during a period of about five months via the following multi-step process:

- **Initial ODOT Staff Consultations (Late March 2014)** – At the end of March 2014, CDM Smith team members met with senior staff and the LRTP Manager to brief them on an overall approach and expectations for developing performance



measures as part of the LRTP Update process. In addition, performance measures were discussed at a series of kick-off meetings with key ODOT staff.

- **Public Outreach (May 2014)** – During May 2014, public engagement meetings held around the state included informational boards prepared by the CDM Smith team that contained background information on the purpose of performance-based planning, MAP-21 measures, and a proposed performance measure development process.
- **ODOT Staff Fact Finding Interviews (June/July 2014)** – In late June, the ODOT Director of Capital Programs provided recommendations of key staff for the CDM Smith team to consult with on performance measures. Throughout the summer, the CDM Smith team conducted a series of phone interviews with staff at ODOT to discuss their perspectives on potential measures that aligned with each of the five goal areas noted in this Tech Memo. A total of 9 interviews were conducted with 15 staff using pre-determined interview scripts and covering the following disciplines:
  - Pavement (Matt Swift)
  - Freight (Matt Swift, Linda Koenig, Craig Moody, Deidre Smith)
  - Congestion/Traffic Operations (Ron Maxwell, Daryl Johnson, Linda Koenig, Alan Stevenson)
  - Environment (Linda Koenig, Dawn Sullivan)
  - Bridges (Jack Schmiedel, Michael Johnson)
  - Safety (David Glabas)
  - Transit and Rail (Randy Hogan, Craig Moody, Terri Holley, Linda Koenig)
  - Project Delivery (Dawn Sullivan, Linda Koenig)
  - Alternative Fuels (Clay Norrell)
- **Tech Memo Development/Senior Staff Briefing (Aug/Sept 2014)** – Following completion of the fact-finding interviews, the consultant team identified an initial set of measure proposals for discussion with ODOT staff. Based on this initial proposed set of measures, a briefing presentation was developed for ODOT (Senior Staff and affected Central Office Division Directors or representatives) summarizing proposed measures. The content of this Tech Memo reflects the feedback provided by Senior Staff.



# Oklahoma Long Range TRANSPORTATION PLAN

## II. RECOMMENDED PERFORMANCE MEASURES FOR OKLAHOMA

The following sub-sections 1 to 6 of this Tech Memo provide a recommended set of high-level performance measures developed by ODOT's consultant team, in coordination with Oklahoma DOT (ODOT) staff. Other components of the Plan explain in greater detail the more complex characteristics and additional strategies, practices and policies that can support system operations. Other Plan reports are intended to be complementary to the performance measure recommended here; and pertain, for example, to safety, congestion analysis, bridge and highway preservation, and transit etc.

The Performance Measures Tech Memo is intended to address the requirements of the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP 21), which requires each state DOT to select and periodically report on a set of performance measures which describes the state transportation system. These performance measures are by no means the only criteria a state uses to develop and maintain its system – rather a manageable set of measures that can meet the needs for transparency and public information. ODOT will need to keep apprised of the federal rule-making process for performance measures, as it is not yet complete. Then the State DOT should develop targets and a reporting schedule for the performance measures, accordingly.



## 1. GOAL: Infrastructure Preservation of Bridges

<b>Team's Status Assessment: Measure Ready to Implement</b>	
<b>Goal-related Objective (Proposed)</b>	Improve the condition of state owned bridges
<b>Performance Measure Recommendation</b>	<ul style="list-style-type: none"> <li>• <b>Number of state-owned structurally deficient (SD) bridges on Oklahoma State Highway System</b></li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• Recommended measure is in use and is aligned with Governor's priority 2011 <i>Bridge Improvement and Turnpike Modernization Plan</i> to repair or replace all of the State's structurally deficient bridges by 2019</li> <li>• Measure is consistent with expected MAP-21 national measure direction for bridges (See Technical Considerations below)</li> <li>• Measure is easy to understand, but based on sound engineering information</li> <li>• Measure offers a high level perspective on an issue of significance to public and stakeholders</li> <li>• Measure results are within ODOT's control</li> </ul>
<b>Target (Recommended by ODOT Bridge Engineer)</b>	<ul style="list-style-type: none"> <li>• Less than 1% of bridges rated structurally deficient by 2020 (2014 at 6.9%)</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Investment levels? ODOT's success in this measure area will depend on adequate funding levels for bridge work</li> </ul>
<b>Data Source</b>	<ul style="list-style-type: none"> <li>• Bridge inspection reports tracked via PONTIS and reported annually to FHWA's National Bridge Inventory</li> </ul>
<b>Measure Technical Considerations</b>	<ul style="list-style-type: none"> <li>• Team expects FHWA to use SD bridge deck area in MAP-21 measure; data to calculate this measure is already in place</li> <li>• Minimum 1% SD Threshold? Not practical to expect all SD bridges can be eliminated: as SD bridges are repaired/replaced, newer ones will deteriorate and be added to the list.</li> </ul>

Measure POC:

Mike Johnson



## 2. GOAL: Infrastructure Preservation of Pavement

<b>Team's Status Assessment: Measure Feasible, But Undeveloped</b>	
<b>Goal-related Objective (Proposed)</b>	Improve pavement condition on all NHS roads
<b>Performance Measure Recommendation</b>	<ul style="list-style-type: none"> <li>• <b>Good/fair/poor pavement condition index for NHS roads</b> - based on desired thresholds for Int'l Roughness index (IRI) and small number of other surface condition parameters (e.g., asphalt rutting, cracking, and jointed PCC faulting)</li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• IRI + other parameters already collected and reported annually to FHWA as part of annual Highway Performance Monitoring System (HPMS) submittals</li> <li>• Measure is consistent with expected national MAP-21 measure direction, which could be based on multiple distress factors if AASHTO recommendation is followed</li> <li>• Measure is easy to understand compared to multi-faceted Pavement Quality Index (PQI), but still based on sound engineering information</li> <li>• Measure offers a high-level perspective on an issue of significance to public and stakeholders</li> <li>• Measure results are within ODOT's control and measure reflects ODOT preference for measure that is not just based on IRI</li> </ul>
<b>Target</b>	<ul style="list-style-type: none"> <li>• ODOT does not set targets for PQI or IRI at present, therefore time is needed to establish this new measure and become familiar with data and trends, etc., that may inform an appropriate target. MAP-21, however, will require target setting over the next 2+ years.</li> <li>• ODOT may wish to consider setting separate targets for large MPOs, which may be required under forthcoming MAP-21 rules.</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Pavement trends? Average IRI scores for NHS roads in Oklahoma are within 0-95 range considered 'good' and they are trending downward for the Interstate and NHS. (See IRI Trends appendix.)</li> <li>• IRI only? At direction of senior staff, opted not to recommend an IRI only-based measure, since this is not an adequate measure of overall condition.</li> <li>• Split out Interstate/non-Interstate NHS condition? Condition is likely better on Interstate routes, therefore splitting these out may be helpful</li> </ul>
<b>Data Source</b>	<ul style="list-style-type: none"> <li>• ODOT Pavement Management System/annual reports to FHWA HPMS</li> </ul>
<b>Measure Technical Considerations</b>	<ul style="list-style-type: none"> <li>• MAP-21 reporting <b>may require expansion/revision of data collection practices</b>, depending on consistency between ODOT's practices and national requirements.</li> </ul>

**Measure POC:** Matt Swift



### 3. GOAL: Safe and Secure Travel

<b>Team's Status Assessment: Measures Ready to Implement</b>	
<b>Goal-related Objective (Proposed)</b>	Reduce traffic-related fatalities and serious injuries
<b>Performance Measure Recommendations</b>	<ul style="list-style-type: none"> <li>• <b>Rate and Number of traffic fatalities annually</b> – (All Oklahoma public roads)</li> <li>• <b>Rate and Number of traffic-related serious injuries</b> – (All Oklahoma public roads)</li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• Recommended measures are already tracked by ODOT - as part of Strategic Highway Safety Plan (SHSP); minimal effort required to adopt as part of LRTP Update/avoids 'reinventing the wheel'</li> <li>• Measures are easy to understand and relevant to decision-makers</li> <li>• Measures are highly consistent with expected MAP-21 national measures as published in NPRM in Summer 2014</li> <li>• Measures offer a high level perspective on an issue of high importance to traveling public and ODOT's stakeholders</li> </ul>
<b>Targets (From Draft 2<sup>nd</sup> Ed. Ok. DOT SHSP)</b>	<ul style="list-style-type: none"> <li>• 678 <i>fatalities</i> by end of 2016 (12% drop from 2007)</li> <li>• 17,767 <i>serious injuries</i> by end of 2016 (10% drop from 2007)</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Enhanced Target Setting? ODOT may wish to consider setting separate targets within large MPO boundaries, which is required under MAP-21 proposed rules; this will, however, require additional analysis.</li> </ul>
<b>Data Sources</b>	<ul style="list-style-type: none"> <li>• Fatalities: NHTSA Fatality Analysis Reporting System (FARS) data, which is reported annually by State of Oklahoma (Collated from individual Police Accident Reports.)</li> <li>• Serious Injuries: Extracted from state's safety data</li> </ul>
<b>Measure Technical Considerations</b>	<ul style="list-style-type: none"> <li>• Team expects FHWA to require use of 5-year rolling averages</li> <li>• Team expects FHWA to require use of MMUCC (4<sup>th</sup> ed) definition of serious injury</li> <li>• Team expects FHWA to consider expanding national measures to include pedestrian/bicycle safety performance</li> </ul>

**Measures POC:** David Glabas



## 4. GOAL: Economic Vitality (Freight Movement)

<b>Team's Status Assessment: Measure Needed, AND Will Require Work</b>	
<b>Goal-related Objective (Proposed)</b>	Improve the efficiency of freight transportation & capacity of freight-related highway infrastructure
<b>Performance Measure Recommendations</b>	<ul style="list-style-type: none"> <li>• <b>System-wide, annual freight tonnage/value for truck, rail, barge modes</b></li> <li>• <b>Measure of freight travel time reliability and/or speed</b> (To be developed based on truck-specific, travel time data)</li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• Measure #2 is consistent with expected MAP-21 freight movement measure direction</li> <li>• Important to ODOT's freight agenda to become familiar with emerging field of freight metrics</li> <li>• Measure #2 is nationally supported; American Trucking Ass'n and others favor reliability/speed-based freight measures</li> <li>• Measures offer a high level perspective on an issue of significance to stakeholders</li> </ul>
<b>Targets</b>	<ul style="list-style-type: none"> <li>• Premature to set targets in this area, given that ODOT has not developed measures. MAP-21, however, will require target setting over the next 2+ years</li> <li>• ODOT may wish to consider working with large MPOs to set separate targets, as these may be required under forthcoming MAP-21 rules.</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Staff Expertise Need – Getting up to speed on travel time data sets could be a heavy lift in the short-term for ODOT staff that will require a training investment. (Strongly consider adding capacity within ODOT's planning and ITS/operations staff on use of system-wide travel time datasets.) LRTP includes 'proof of concept' analysis of freight travel time example on two corridors.</li> <li>• Measure results are only somewhat within ODOT's direct control. (Traffic volumes/congestion also depend partly on economic conditions and major funding to address capacity needs.)</li> </ul>
<b>Data Source(s)</b>	<ul style="list-style-type: none"> <li>• Freight tonnage/value: FHWA Freight Analysis Framework or TransSearch data</li> <li>• Truck travel time measure: National Performance Measurement Research Data Set (NMPRDS) - FHWA has acquired a national data set of average travel times that is updated monthly and is being made available to States and Metropolitan Planning Organizations (MPOs) to use for their performance management activities.</li> </ul>

**Measure POC:**

Linda Koenig, Deidre Smith, Craig Moody, Daryl Johnson, Ron Maxwell



## 5. GOAL: Economic Vitality (Congestion)

<b>Team's Status Assessment: MAP-21 Mandated, AND Will Require Work</b>	
<b>Goal-related Objective (Proposed)</b>	Provide predictable, reliable travel times
<b>Performance Measure Recommendation</b>	<ul style="list-style-type: none"> <li>• <b>Travel time-based measure(s) of congestion</b>, such as hours of delay or travel time reliability index for Interstate or major commuter corridors.</li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• Measure expected to be consistent with national MAP-21 direction, which is widely expected to be based on travel time data.</li> <li>• Measure is easy to understand; Texas Transportation Institute's 'congestion rankings' are widely reported in the mass media, for example.</li> </ul>
<b>Target</b>	<ul style="list-style-type: none"> <li>• Premature to set targets in this area since ODOT has not developed measures; MAP-21, however, will require target setting over the next 2+ years. ODOT may wish to consider working with large MPOs to set targets.</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Congestion trends? Compared to some other states, recurring congestion is modest in Oklahoma, with the exception of portions of the highway network in OKC and Tulsa.</li> <li>• Interface with Intelligent Transportation Systems (ITS)? ODOT is expanding the real time traffic reporting component of its ITS program and development of a travel time-based measure in conjunction with ITS team's development of real-time travel alert messages, could be built on similar data sets. LRTP includes 'proof of concept' congestion measurement example for two corridors.<sup>1</sup></li> <li>• Staff Expertise Need - Getting up to speed on travel time data sets could be a heavy lift in the short-term for ODOT staff and will require a training investment.</li> <li>• Measure results are only somewhat within ODOT's control (Traffic volumes/congestion also depend partly on economic conditions and funding to address capacity needs.)</li> </ul>
<b>Data Source(s)</b>	<ul style="list-style-type: none"> <li>• FHWA National Performance Measurement Research Data Set (NMPRDS) - FHWA has acquired a national data set of average travel times that is updated monthly and is being made available to States and Metropolitan Planning Organizations (MPOs) to use for their performance management activities.</li> </ul>
<sup>1</sup> See separate Congestion Analysis Pilot Study	

**Measure POC:** Ron Maxwell/Daryl Johnson



## 6. GOAL: Mobility Choice, Connectivity & Access

<b>Team's Status Assessment: Measures Easily Implementable</b>	
<b>Goal-related Objectives (Proposed)</b>	Improve access to rural transit, passenger rail service
<b>Performance Measure Recommendations</b>	<ul style="list-style-type: none"> <li>• <b>Annual rural transit vehicle revenue miles.</b></li> <li>• <b>Annual ridership, on-time performance: Amtrak Heartland Flyer</b></li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>• Measures are easy to understand. Ridership, for example, is a widely tracked measure of actual transit use and vehicle revenue miles (VRM) are a simple indicator of total transit service provided. VRM is reported by ODOT by route and county on a monthly basis and is included in the FTA's National Transit Database (NTD).</li> <li>• Ridership and revenue data is already collected; Amtrak provides ridership/on time performance data to ODOT on a monthly basis.</li> </ul>
<b>Targets</b>	<ul style="list-style-type: none"> <li>• Premature to set targets in this area given that ODOT has not developed measures; however, targets should be easily set based on these measures</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Ridership trends? Ridership is modest, but is generally growing on rail and transit modes in the state; interest, meanwhile, is growing in adding rail service. Rural transit providers operate a combined 3 million revenue miles of service each year. Amtrak ridership is approximately 88,000 people per year.</li> <li>• Urban transit? ODOT does not have responsibility for urban transit, which is directly funded by FTA; therefore urban transit is excluded from this measure, however similar ridership or vehicle revenue data is readily available in the FTA's NTD.</li> <li>• Access measures? Some states, particularly Minnesota, are experimenting with advanced data analytics tools to gauge accessibility via any mode to jobs and services; however, this type of measure is experimental and resource intensive at the present time.</li> <li>• Bike and pedestrian measures - At this time, most bike and pedestrian investments in Oklahoma are made at the local level, therefore almost no data is available at the state level and measures are not practical.</li> </ul>
<b>Data Source(s)</b>	<ul style="list-style-type: none"> <li>• Revenue miles: ODOT transit trip statistics report</li> <li>• Amtrak ridership: Monthly Amtrak Status Report</li> </ul>

**Measure POC:** Ernie Mbroh, Craig Moody



## 7. GOAL: Environmental Responsibility

<b>Team Status Assessment: Fuels Measure OK; Litter Measure Requires Work</b>	
<b>Goal-related Objectives (Proposed)</b>	<ul style="list-style-type: none"> <li>Promote use of clean fuels</li> <li>Support improved water quality and reduce roadway flooding risk</li> </ul>
<b>Performance Measure Recommendations</b>	<ul style="list-style-type: none"> <li><b>Clean fuels as a share of ODOT's total fleet fuel use (in gasoline gallon equivalents (GGE))</b></li> <li><b>Quantity</b> (cubic yards or other measure of weight/volume) <b>of litter and debris cleared from storm drains/culverts/roadsides</b></li> </ul>
<b>Measure Justification</b>	<ul style="list-style-type: none"> <li>Measures are easy to understand;</li> <li>Measures offer a high level perspective on issues of significance to public and stakeholders</li> <li>Measure results are within ODOT's control</li> </ul>
<b>Targets</b>	<ul style="list-style-type: none"> <li>Clean Fuels: Premature to set targets in this area given that ODOT has not developed measures in the past. However, ODOT does have a goal of converting 90% of DOT LDV fleet to CNG capability (dual fuel) by end 2015.</li> <li>Litter/Debris: Premature to set target in this area given that ODOT is just beginning to develop measure</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>Clean Fuels: Data includes all fuel used by ODOT (including all vehicles and other equipment). At present, 5% of all fuel used by ODOT vehicles is CNG. (In 2013: 142,000 gasoline gallon equivalent out of 2,860,400 gasoline gallon equivalent consumed fleet-wide as CNG fuel.)</li> <li>Litter/Debris: Measure results will be beneficial for reporting to Environmental Programs Division storm water program manager in Cubic Yards or Tons. Currently, however, litter/debris data is not consistently collected; and is often reported in dollars and labor hours. Implementation of this measure would require modification of maintenance contracts and training of maintenance personnel to report information on volume of litter, wood and other potential storm water pollutants removed from ODOT rights of way.</li> </ul>
<b>Data Source(s)</b>	<ul style="list-style-type: none"> <li>Clean Fuels: Agile Assets database/Clay Norell, ODOT</li> <li>Litter/Debris: Measure data source is under development by Environmental Division/Maintenance Division at ODOT; would likely come from ODOT Maintenance Division's personnel and contractors.</li> </ul>

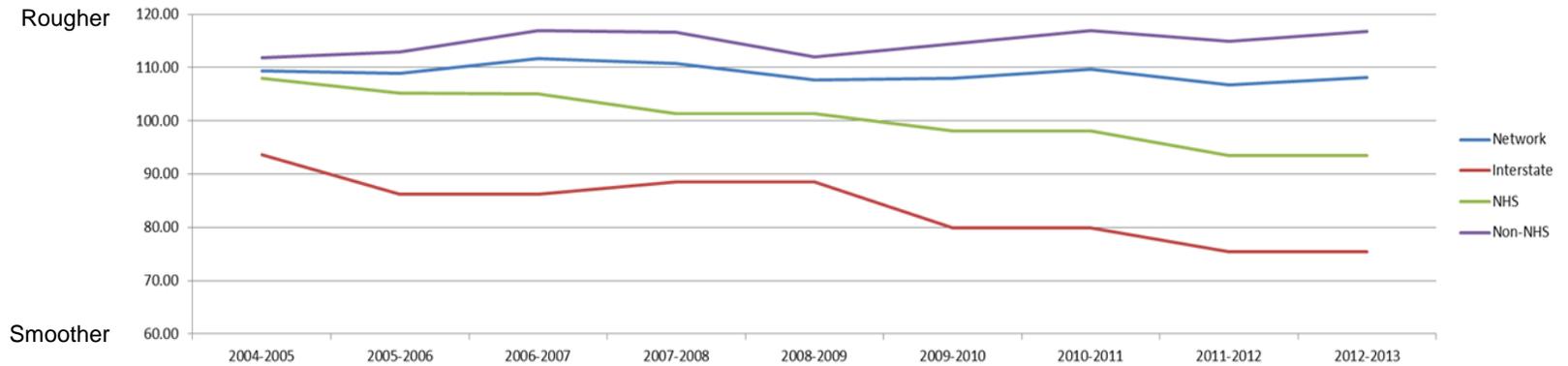
Measure POC:

Dawn Sullivan, Clay Norell



# Oklahoma Long Range TRANSPORTATION PLAN

## APPENDIX A: OKLAHOMA IRI RATING TRENDS



Source: ODOT Pavement Management Branch, September 2014