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Special Session # 7 -- “Highway System Performance Management: State of Play in the USA”

Kirk T. Steudle, P.E.

Director, Michigan DOT and,

Vice President of AASHTO

steudlek@michigan.gov

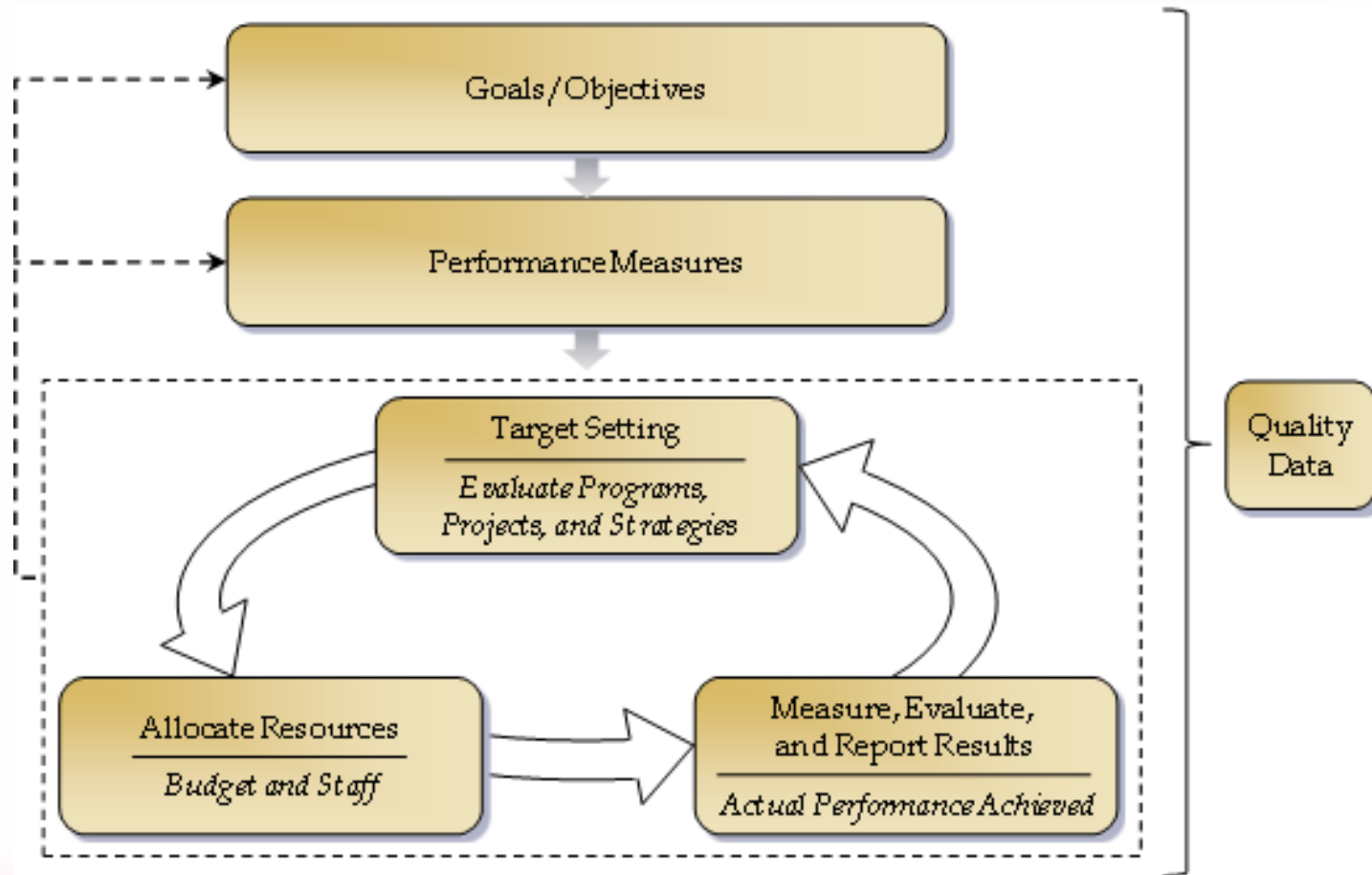


Paper Outline

- Performance management defined; and why it is important now
- Relationship with asset management
- State of the practice at the state department of transportation level and a Michigan (MI) case example
- Comparative performance measures
- Toward a national set of measures
- Worldwide lessons



Performance Management Framework



Why Measure Performance? ... Why Now?

- AASHTO believes a national performance measurement program would:
 - Focus needed attention on key national goals
 - Provide more transparency and accountability for the Federal program
 - Build on the considerable performance measurement/management work already occurring in individual state DOTs



Why Measure Performance? Why Now? (Cont'd.)

- Help make the case for sustaining and increasing the funding levels for infrastructure
- Help state DOTs advance their own efforts thru peer to peer work sessions and data exchange

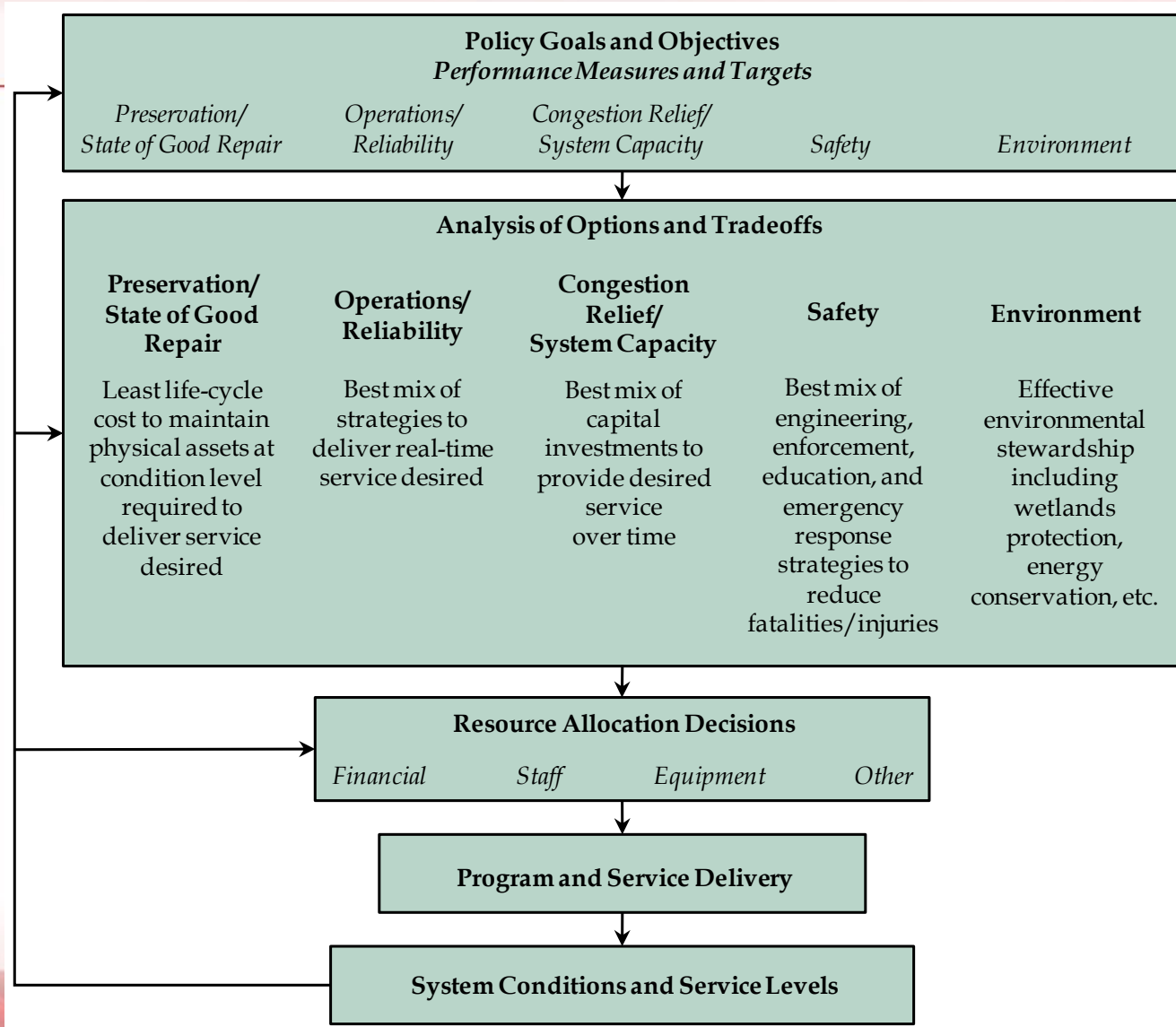


Common Themes of Asset Management (AM) and Performance Management (PM)

- Core principles of AM and PM are the same
- Clarifying the relationship is important
 - Key difference is application of core principles
 1. Asset Management: Managing physical assets
 2. Performance Management: All performance areas of concern
- Asset Management and PM are needed to support Strategic Resource Allocation Process



Strategic Resource Allocation: Process



Key Points on Asset Management and Performance Management

- Asset Management is the application of Performance Management principles to physical asset management
- Asset Management must be long-term
- Performance Management is concerned with long and short-term aspects
 - Long range transportation plans for new capacity
 - Short-term aspects
 - Real-time system operations
 - Incident management
 - Agency performance (e.g., customer service)



State of the Practice at the State DOT Level

- All state DOTs collect asset condition data and highway fatality data
- The majority of state DOTs also provide comprehensive performance data to both increase accountability and to achieve the best system performance



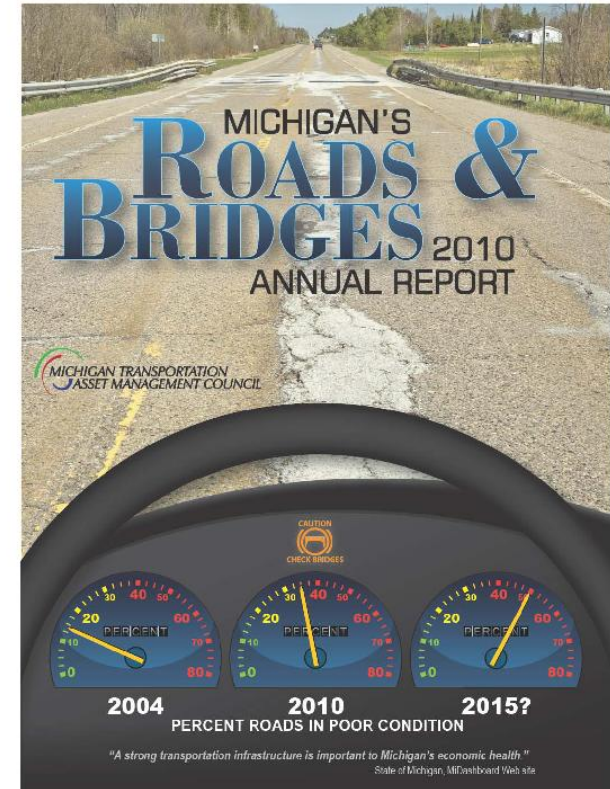
Michigan Case Example

- The MI DOT has been using asset management framework for twenty years and has aided local governments in this effort for ten years
- Transportation Asset Management task force created which led to the legislature creating an Asset Management Council
- Council oversees a comprehensive data collection process



Michigan

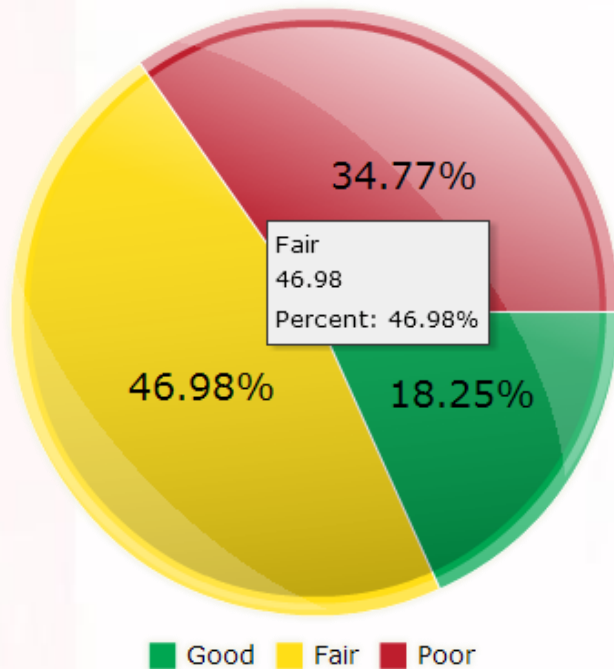
- MDOT established an Asset Management Division
- The MDOT transportation commission approved measurable performance targets for pavements and bridges on the state's freeways and non-freeways



Michigan

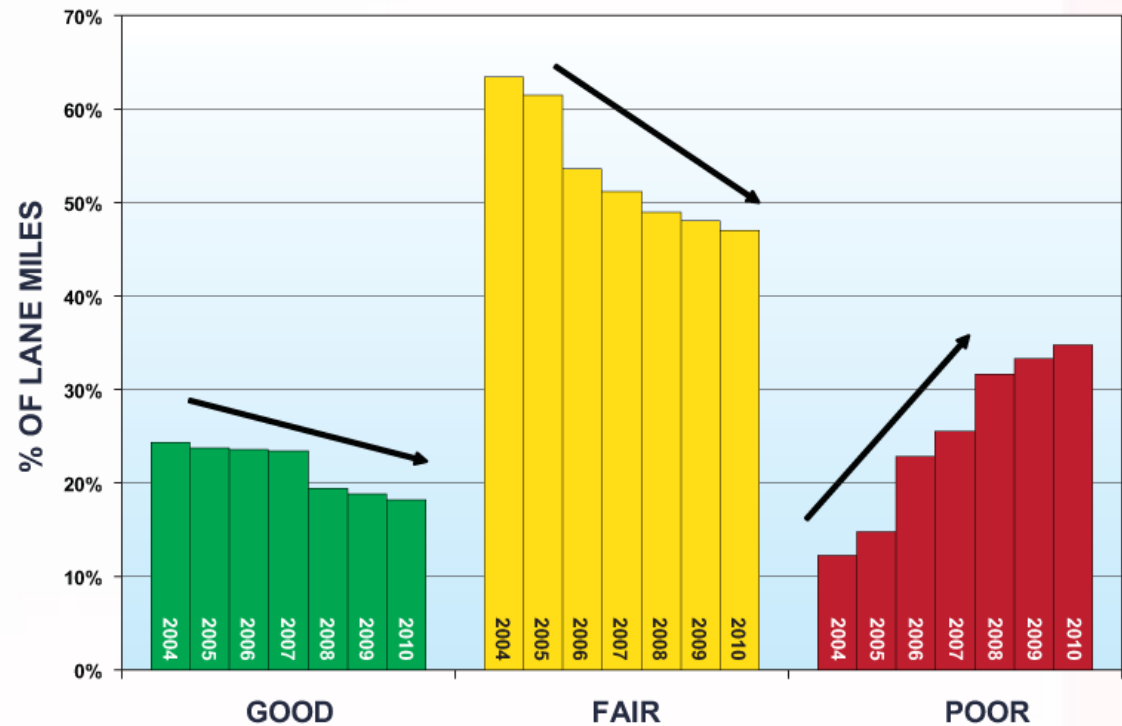
Pavement Condition

2010 Actual



2004 - 2010 Pavement Condition

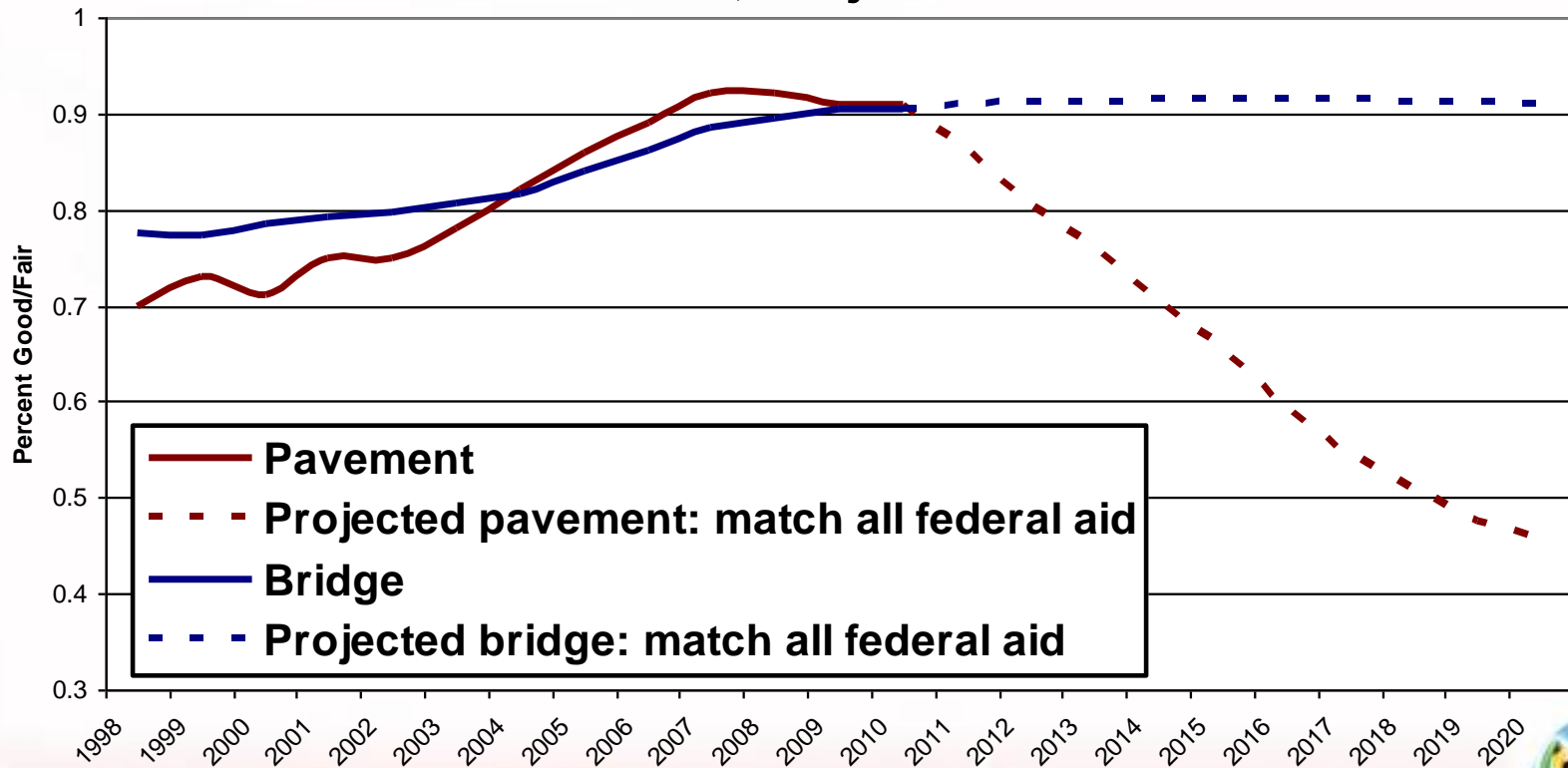
Federal-Aid Eligible Roads



Michigan

Transportation demands and expectations steadily are increasing

MDOT Trunkline Road and Bridge Condition Actual 1998-2010, Projected 2011-2020



Michigan's Dashboard

Deficient Bridges

Economic Strength

Unemployment	↓
GDP	↑
Deficient Bridges	↑
Per Capita Income	↓
Children in Poverty	↓

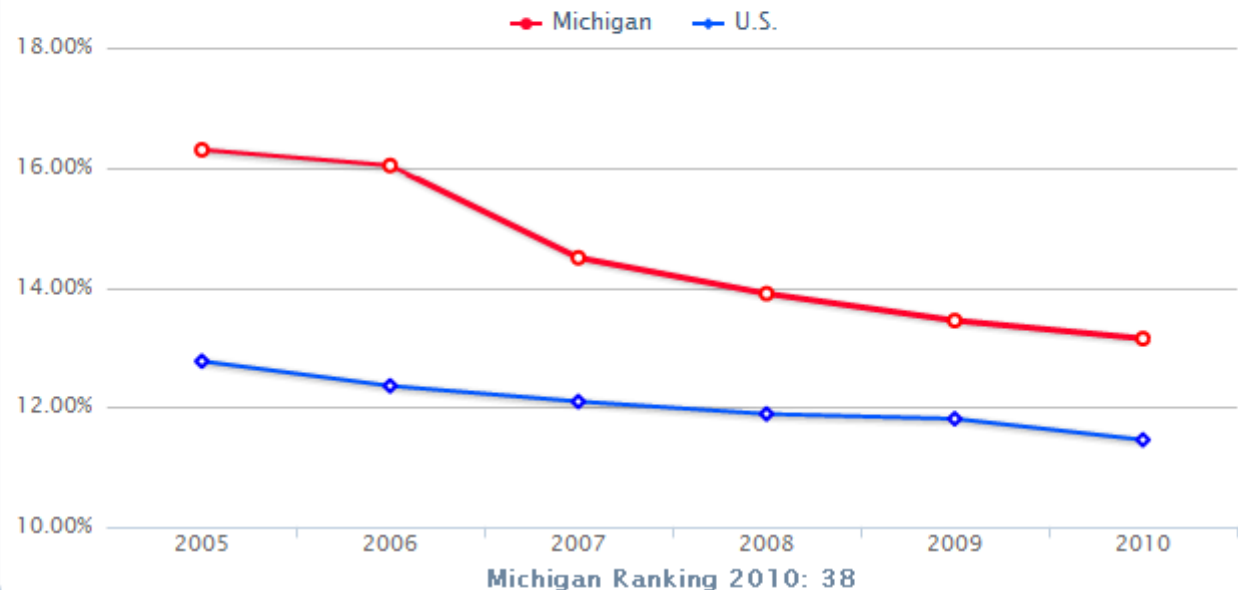
Performance Key:

Better ↑ Same — Worse ↓

Why it Matters

A strong transportation infrastructure is important to Michigan's economic health. Transportation and distribution of commercial and industrial goods and materials require sound bridges and well-maintained roads. A highway bridge is classified as structurally

Percentage of Structurally Deficient Bridges in Michigan



Source: U.S. Department of Transportation, Federal Highway Administration
Updated annually in February

Michigan's Dashboard



- Top 10 States ↑ Performance improving
- Middle 30 States ↔ Performance staying about the same
- Bottom 10 States ↓ Performance declining

Economic Strength				
	Prior	Current	Rank	Progress
Unemployment	10.5%	10.9%	●	↓
Gross Domestic Product (GDP)	(5.2)%	2.9%	●	↑
Percent of structurally deficient bridges	13.5%	13.2%	●	↑
Real personal income per capita	\$28,250	\$27,558	●	↓
Children living in poverty	19%	23%	●	↓

Health and Education				
	Prior	Current	Rank	Progress
Infant mortality (Per 1,000 births)	7.6	7.7	●	↓
Obesity in the population	30.3%	31.7%	●	↓
3rd graders reading at grade level	89.8%	86.8%		↓
ACT college readiness benchmarks	16.0%	17.3%		↑
Population with bachelor's degree or higher (25+ years old)	24.7%	24.6%	●	↓

Value for Money Government				
	Prior	Current	Rank	Progress
Bond rating (Standard & Poor's)	AA-	AA-		↔
Government debt burden per capita	\$748	\$762	●	↓
State government operating cost as a percent of GDP	11.9%	12.5%		↓
State and local government operating cost as a percent of GDP	20.9%	21.9%		↓
Access to state government – number of online services	325	357		↑

Quality of Life				
	Prior	Current	Rank	Progress
State park popularity – annual visits per citizen	2.1	2.1		↔
Population growth (Ages 25 – 34)	(1.9)%	(1.6)%		↑
Clean and safe water resources – water quality index	83	88		↑

Public Safety				
	Prior	Current	Rank	Progress
Violent crimes per 100,000	502	497	●	↑
Property crimes per 100,000	2,935	2,838	●	↑
Individuals fatally or seriously injured in traffic accidents	7,382	6,917		↑

www.michigan.gov/MiDashboard

Revision 8/25/2011



National Performance Measurement Program:

AASHTO's Reauthorization Proposal

Key elements of the program include:



National Goals by Congress & Secretary of Transportation

PMs established through a collaborative process

For each state – build on the work already done on PMs

and NOT include:



Performance measures or targets established in legislation

Tying PMs and/or targets to funding

Disincentives that penalizes states

Performance targets set in cooperation w/partners & stakeholders

Consistent monitoring & reporting of actual results



Comparative Performance Measures Objectives

Provide states with comparative view of performance relative to peers

Share information on practices of better performing states

Understand current state of the data – work towards common definitions and measurement practices

Get buy-in from states, agree on guidelines or standards for comparability – qualify measures for Tier 1 status

Useful practices and sharing of knowledge and self-improvement is the goal - not punishment



Comparative Performance Measurement Projects



Framework & functional description for comparative performance database & analysis infrastructure

Tier 1 Measure definitions, calculation methods, reporting formats; action needed to progress Tiers 2&3



AASHTO

Candidate Initial Set of Performance Measures

Goal Area	Initial Measures – Ready for Deployment
Safety	Multiple year moving average of the number of fatalities
Pavement Preservation	NHS IRI
Bridge Preservation	Deck Area of structurally deficient bridges on NHS
Congestion/Operations	<i>No initial measures</i>
Connectivity	<i>No initial measures</i>
Environment	<i>No initial measures</i>
Freight/Economic Competitiveness	Speed/travel time on significant freight corridors (SFC) Reliability on SFCs
Transit	<i>No initial measures</i>
Livability	<i>No initial measures</i>



Worldwide Lessons for Highway Performance Management

- Start with asset management elements-pavement and bridge condition and roadside safety and traffic control features
- Set national goals and targets for a small number of items
- Solid comparative data is a must for international comparisons and for subunits of government
- It takes a long time to get the measures and data right



Thank you!

