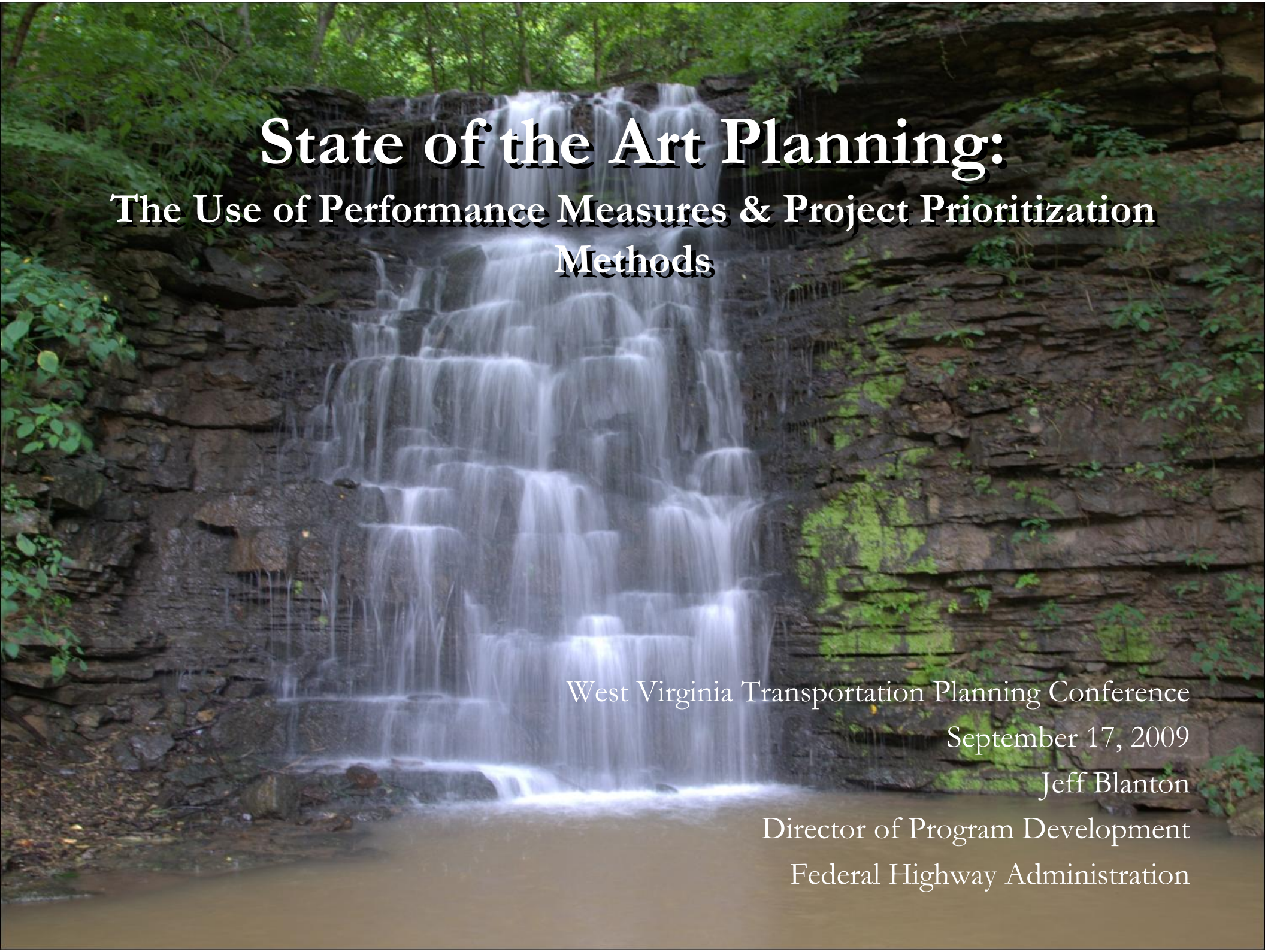

State of the Art Planning:

The Use of Performance Measures & Project Prioritization Methods

West Virginia Transportation Planning Conference

September 17, 2009

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Federal Highway Administration

PERFORMANCE MEASURES

What is Performance Measurement?

"Performance measurement is a process of assessing progress toward achieving predetermined goals, including information on the efficiency with which resources are transformed into goods & services, the quality of those outputs & outcomes, and the effectiveness of government operations in terms of their specific contributions to program objectives."

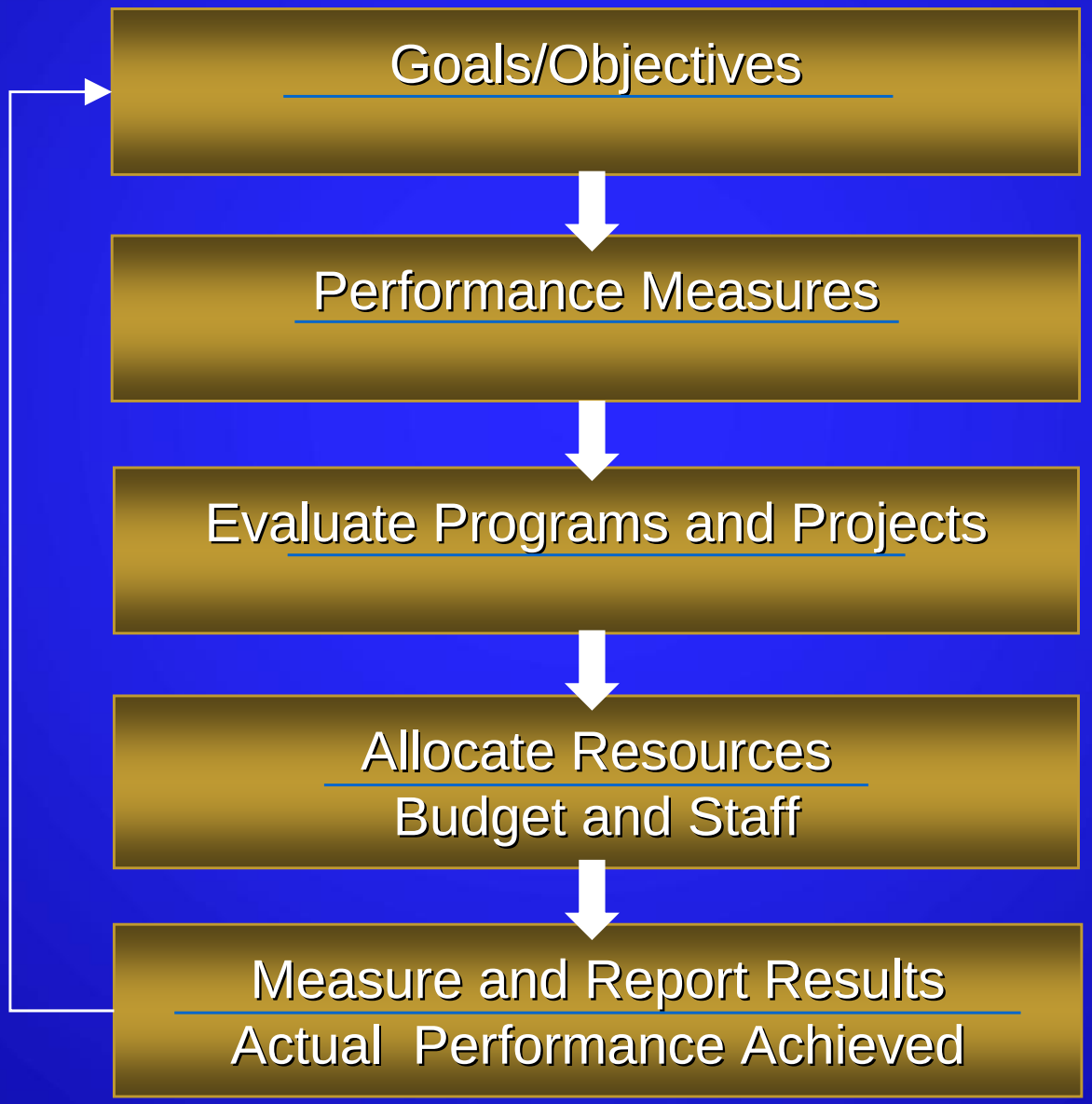
Why Performance Measurement?

- Links goals and actions.
- Allows for the evaluation of policies, plans, and programs.
- Tracks system performance over time.
- Helps to guide the allocation of resources.
- Provides accountability to customers and the ability to communicate results.

Benefits of Performance Measurement

- Enables a more customer oriented focus.
- Provides "real world" data that can be used to assess progress in meeting goals & objectives.
- Fosters greater consideration of the day-to-day functioning of the transportation network, which can help frame transportation plans.
- Helps in prioritizing projects for funding.

Performance Management: Linking Goals/Objectives to Results



Uses of Performance Measures

- To define goals in Statewide Transportation Plans and other Statewide programs. (framing attributes that are most important)
- Reporting of current performance & trends for the state and specific regions.
- Evaluate the success of implemented and ongoing programs & projects.

Uses of Performance Measures (Cont)

- Serve as criteria for investment decisions in the transportation planning process.

- A metric for communicating with decision makers & the public about past, current, and expected future conditions.

Typical Transportation Performance Measures

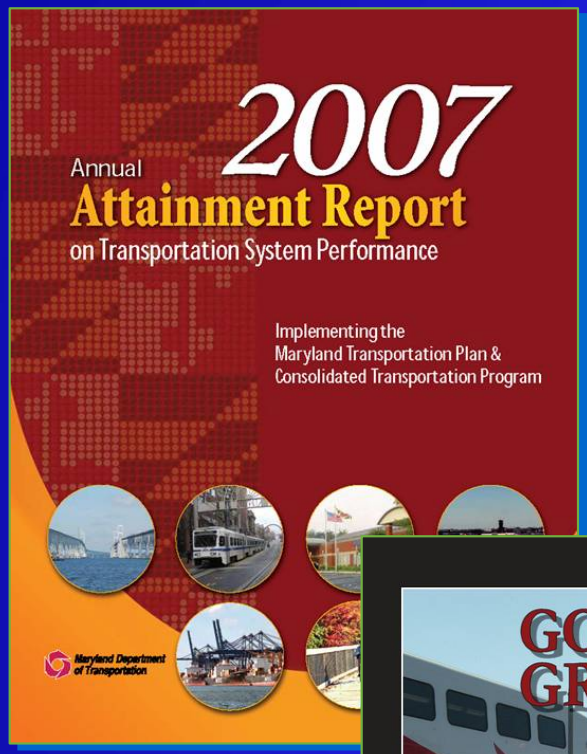
- Condition of physical assets
- System Usage
- System Service levels
- System Operations
- Customer Satisfaction
- Safety
- Freight
- Environmental

Trends in Performance Measurement

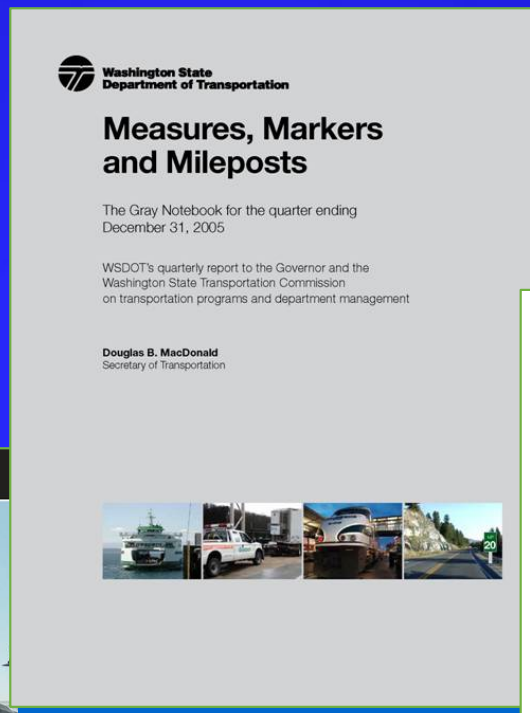
- Performance measures have become a standard management practice for a majority of transportation organizations.
- The Federal transportation reauthorization is likely to emphasize greater accountability and performance measurement.
- Many states have statutes or policies that require performance measurement and reporting of results.
- FHWA, AASHTO among others are providing leadership and support in the area.

Performance Measurement: Examples

Performance Reports



2007 Annual Attainment Report
Maryland DOT



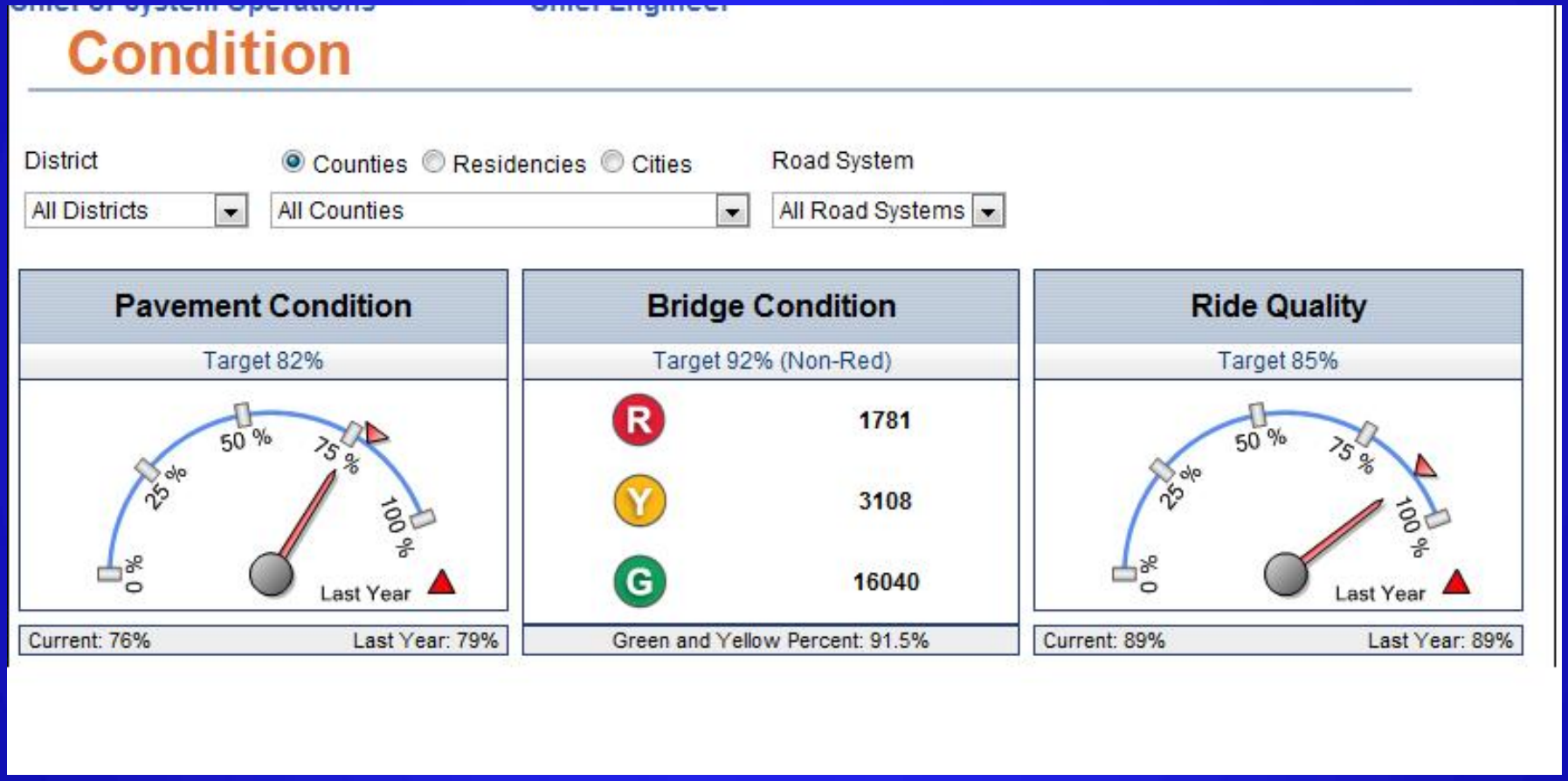
Measures, Markers and Mileposts
Washington State Department of Transportation

Good to Great
Strategic Plan and Annual Report
New Mexico DOT

ODOT Business Plan 2004 & 2005
Ohio Department of Transportation

Virginia DOT Dashboard

Virginia DOT Dashboard: System Condition



NCDOT Dashboard: System Condition

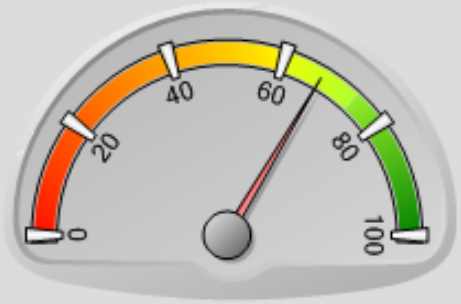
Infrastructure Health

This page displays the Department's success rate for maintaining and improving the health of our highway system. These items are indicators of the health and condition of our bridges, pavements and roadside features such as guardrails, signs and culverts.

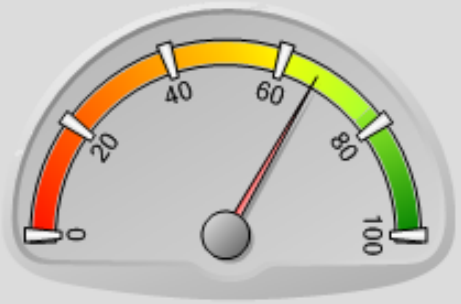
Filter these results by county:

STATEWIDE

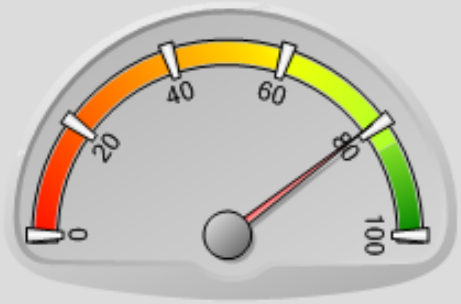
Infrastructure Health: Statewide



Bridge Health Index 67.18%

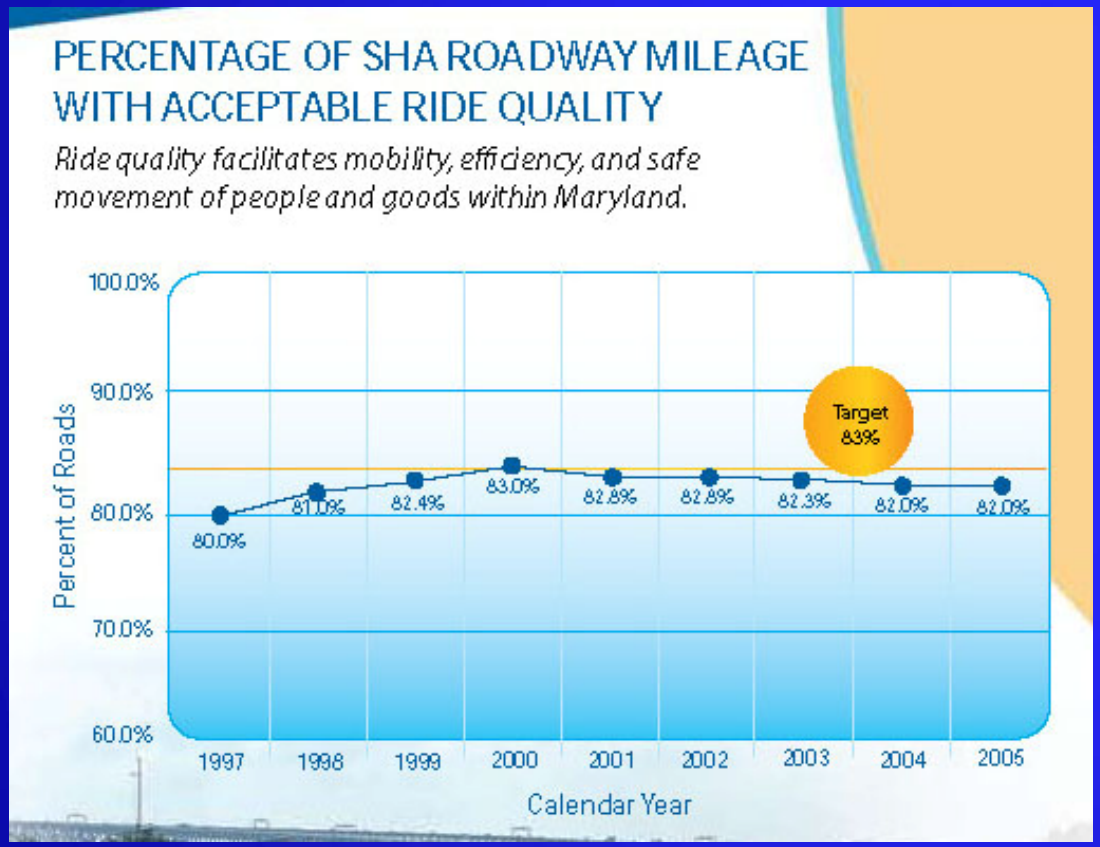


Pavement Condition 66.66%

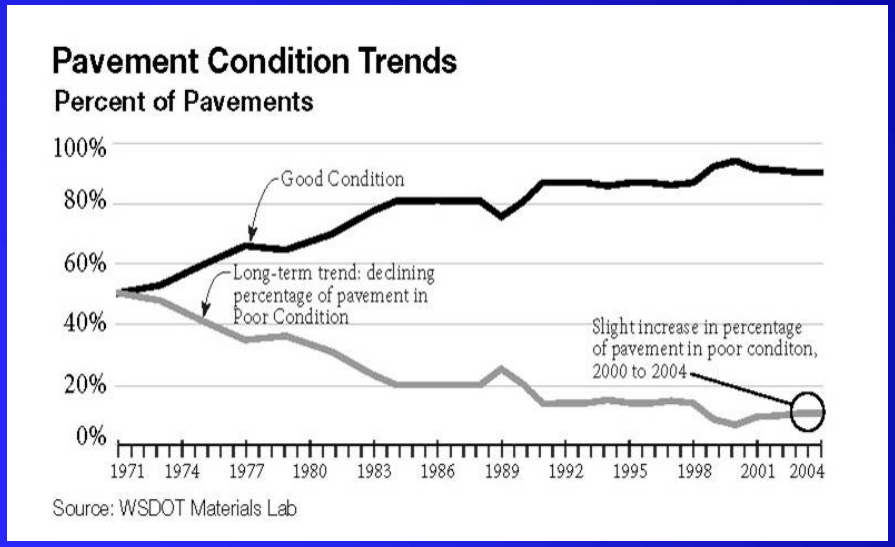


Roadside Feature Condition 79.25%

Pavement & Bridge Condition



2007 Annual Attainment Report
Maryland DOT



Measures, Markers and Mileposts
Washington State Department of Transportation

Safety

Fatality Rate	Incident Duration	Infrastructure Health	Delivery Rate	Great Place
1.29	75min.	70%	61%	Coming Soon

Fatality Rate

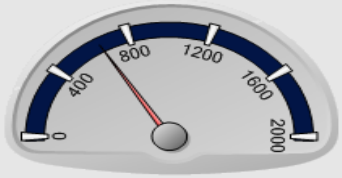
Making our transportation network safer: This is defined as the total number of statewide fatalities on NC roads per 100 million vehicle miles traveled for the calendar year to date. The gauge is accompanied by a trend chart of the total number of fatalities, crashes and injuries by year.

Click here for additional performance information

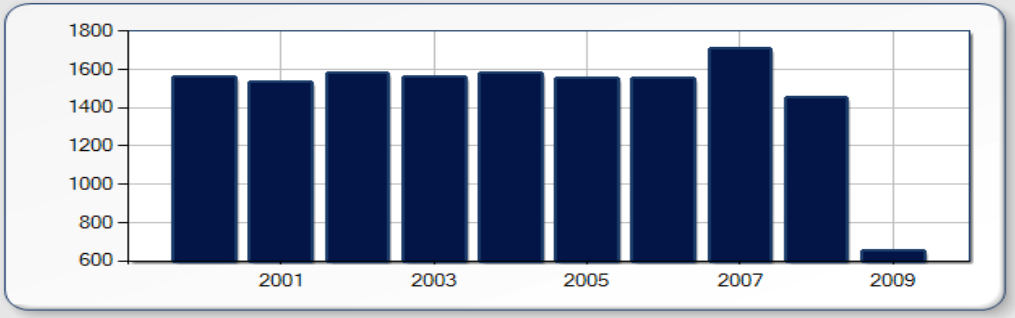
Our mission is connecting people and places in North Carolina — safely and efficiently, with accountability and environmental sensitivity.

NCDOT DASHBOARD

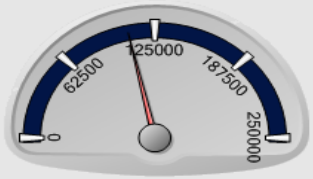
Fatalities



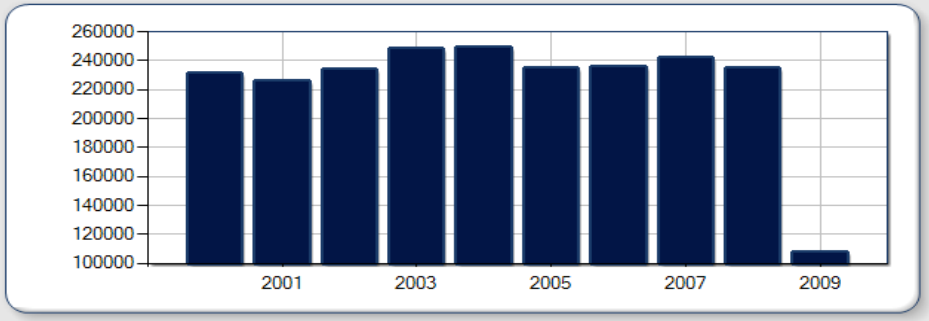
Statewide:
Total Fatalities as of 06/30/2009:
653



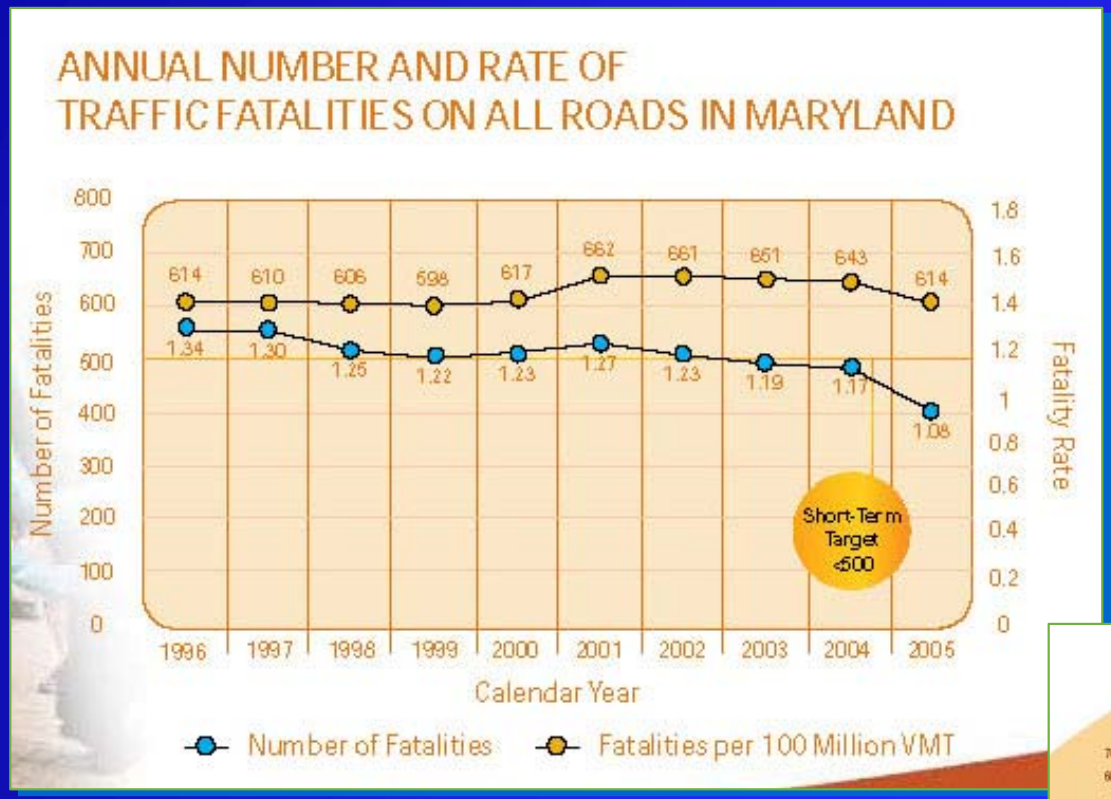
Crashes



Statewide:
Total Crashes as of 06/30/2009:
107603



Safety



2007 Annual Attainment Report
Maryland DOT

PROJECT PRIORITIZATION

What is Project Prioritization?

- A process or method of filtering projects to meet State DOTs goals and objectives.
- A decision making process to determine which needs should be addressed first.
- Prioritization processes can be either quantitative or qualitative and are usually based on items identified in the Statewide Transportation Plan or other strategic planning documents.
- Rating factors are usually asset management based factors which are objective & quantifiable.

Typical Project Prioritization Factors

- System preservation (Road & Bridge)
- Safety improvements
- Capacity improvements
- Freight capacity improvements
- Availability of funding
- Bicycle & pedestrian
- Economic Vitality or development considerations

Why Prioritize Projects?

- Limited amount of resources for transportation improvements and system operation & maintenance. (Stewardship)
- Helps to direct funds to programs and projects that align with agencies goals and performance measures.
- A transparent process that provides explanation to stakeholders of why projects are chosen.
- Part of an overall Asset Management approach.

Prioritization Methods

- System wide or focus on groups of related projects
- Worst First – Focus on condition & addressing the worst problems first
- Functional Classification
- Focus on Economics by using benefit cost ratios or cost effectiveness criteria (Quantitative)
- Optimization processes – Linear programming or integer programming
- Scoring systems or matrix analyses (Qualitative)

Prioritization Methods (Cont.)

- Quantitative methods are generally preferred over qualitative methods
- Benefits of Quantitative methods:
  - Focuses on the beneficiary & thus less likely to double-count or miss benefits
  - Maximizes benefits from a fixed budget
  - Deals with actual impact measures
  - Supported by AASHTO and FHWA

Prioritization Methods (Cont.)

- Issues with Qualitative methods:
  - False specificity, what does it mean that LOS improvement is worth a point value?
  - Hard to equate value with different types of projects. How does project cost figure into the prioritization process?
  - Prone to double counting or missing benefits due to lack of specificity about who benefits and the level of benefit.
  - Lack of independence or irrelevant alternatives.

Project Prioritization: Examples

Utah DOT Decision Support System (DSS)

- A data driven analysis of the relative strengths of capacity projects in the first phase of their Unified Plan.
- Each project receives a score based on the following:
  - Functional Class
  - Current and projected future traffic volumes
  - Truck traffic
  - Safety benefits
- DSS ranks projects using this criteria to assist the Utah Transportation Commission in deciding projects to add to their STIP.
- In addition to major capacity projects, a funding source was created to address smaller scale projects.

WILMAPCO Project Prioritization Process

- A process to evaluate transportation projects using measurable criteria based on the goals contained in the LRTP
- 4 step process:
  - Apply Screening criteria
  - Staff calculates technical score (33 points max)
  - TAC reviews technical score & comments on ranking
  - WILMAPCO Council ranks submissions

WILMAPCO Project Prioritization Process (Cont.)

- Goal 1: Improve Quality of Life (10 pts)
  - Air Quality
  - Environmental Justice
  - Safety
- Goal 2: Transport People & Goods (12 pts)
  - Congestion Management System
  - Transportation Justice
- Goal 3: Support Economic Activity & Growth (11 pts)
  - Freight
  - Support of economic development initiatives
  - Private or local funding contribution

Conclusions

- Performance Measures & Project Prioritization allow:
  - State DOTs to maximize resources
  - System optimization
  - The link between statewide goals and actions
  - Accountability to customers and the ability to communicate results.
  - Enables a more customer oriented focus
  - Part of an overall Asset Management approach.

Questions?

One Final Thought Before I Go:

With Performance Measures & Project Prioritization

There is a pot (of gold) at the end of the rainbow!

Thank You!

(for staying awake)

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