

# Data for Decisions – 2014 Best Practices Competition

## Sponsored by the TRB Special Task Force on Data for Decisions and Performance Measures (A0030T)

Communicating Data to Support Decision Makers – Strategic Decisions

### We Move Massachusetts Planning for Performance Tool Massachusetts Department of Transportation

#### The Decisions

Funding levels and allocations across state highway and transit programs

#### The Data

Projected performance by funding scenario:

- Highway Infrastructure - Pavement and bridge condition
- Transit – rolling stock, track and railway bridge condition, handicapped accessibility
- Congestion – annual vehicle hours of delay
- Bicycle – percent of Bay State Greenway master plan mileage completed

#### The Message

System performance will decline without consistent funding.

#### The Audience

The state legislature, state DOT leadership, and the public

#### The Results

Helped support passage of approximately \$12 billion capital transportation program.  
Data-driven resource allocation-identified need for increased funding for transit rolling stock.

### Mobility Report and Dashboard: Promoting Maryland SHA's Performance-Based Approach to Mobility and Reliability Improvement Maryland State Highway Administration

#### The Decisions

Selection of specific projects and programs to alleviate congestion

#### The Data

Performance metrics with supporting charts, graphs and maps for the following categories:

- Mobility and Reliability
- Multi-Modalism and Smart Growth
- Regionally Significant Corridor Performance
- Freight
- Statewide Most Congested Locations
- Incident Management and Traveler Information Systems

#### The Message

Information from the Mobility Report was consolidated into 4 broad categories for the dashboard:

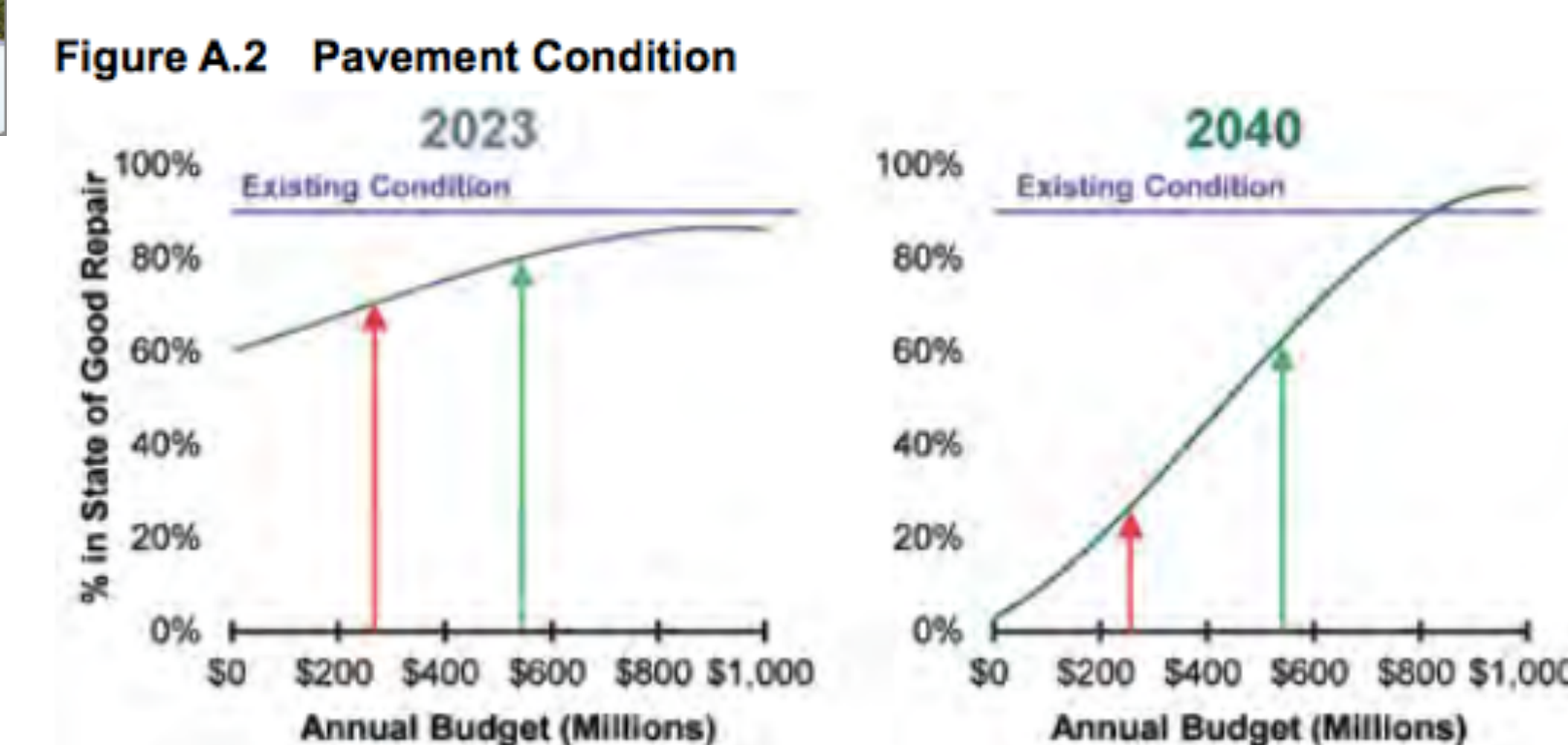
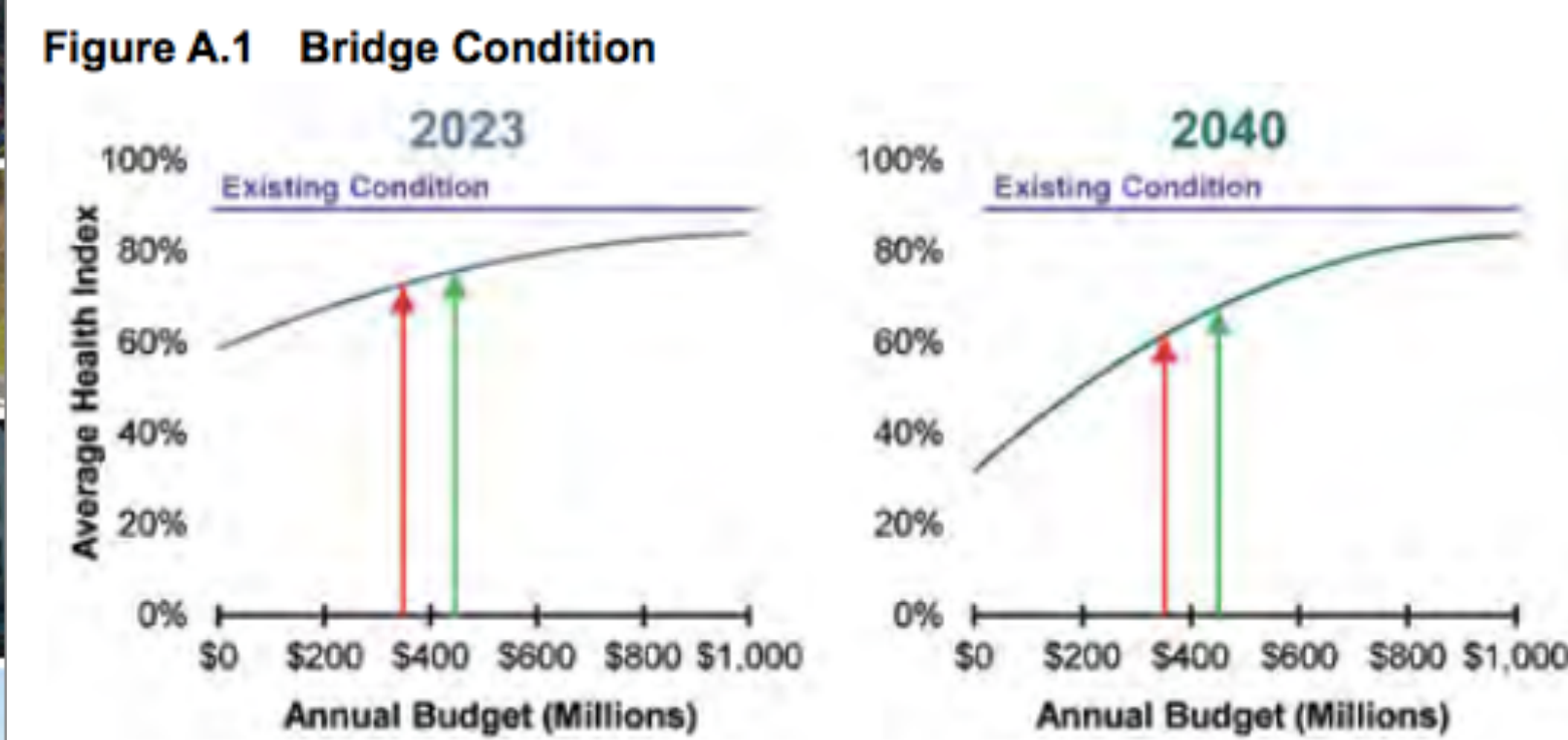
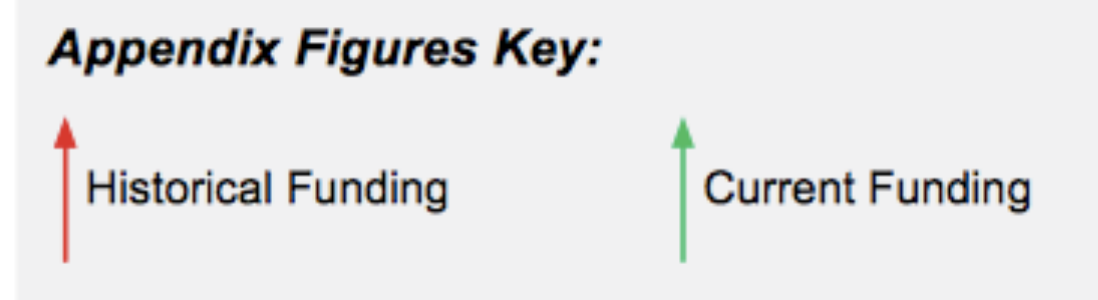
- “What is happening?”** – Congestion, reliability or volume trends for the selected year and location
- “What is Maryland doing about it?”** – Mitigation strategies (projects, programs and policies) implemented for the selected year and location
- “What was the outcome?”** – User savings of implemented strategies
- “How things have changed over time?”** – Mobility trend changes from the previous year

#### The Audience

The primary audience is SHA decision-makers that utilize the Mobility Report. Others include MPOs and local transportation and planning agencies.

#### The Results

Report has resulted in better informed congestion mitigation investments by Maryland DOT, the MPOs and local transportation and planning agencies.



**Pavement** condition is measured by the Present Serviceability Rating (PSR), which ranks pavement on a five point scale from very poor to excellent, with recently resurfaced roads generally having the highest ratings. MassDOT considers PSR of 2.0 or above as meeting a state of good repair. Currently, as a result of the major reinvestment which took place with the one-time infusion of funding from ARRA, roadway pavement is in good shape, with 88 percent in a state of good repair.<sup>6</sup> As shown in the subsequent tables, pavement conditions will slowly degrade in the post-ARRA era under either funding scenario, but under Current Funding performance will be 4 percent better in 2023 than under Historical Funding, and 100 percent better in 2040.

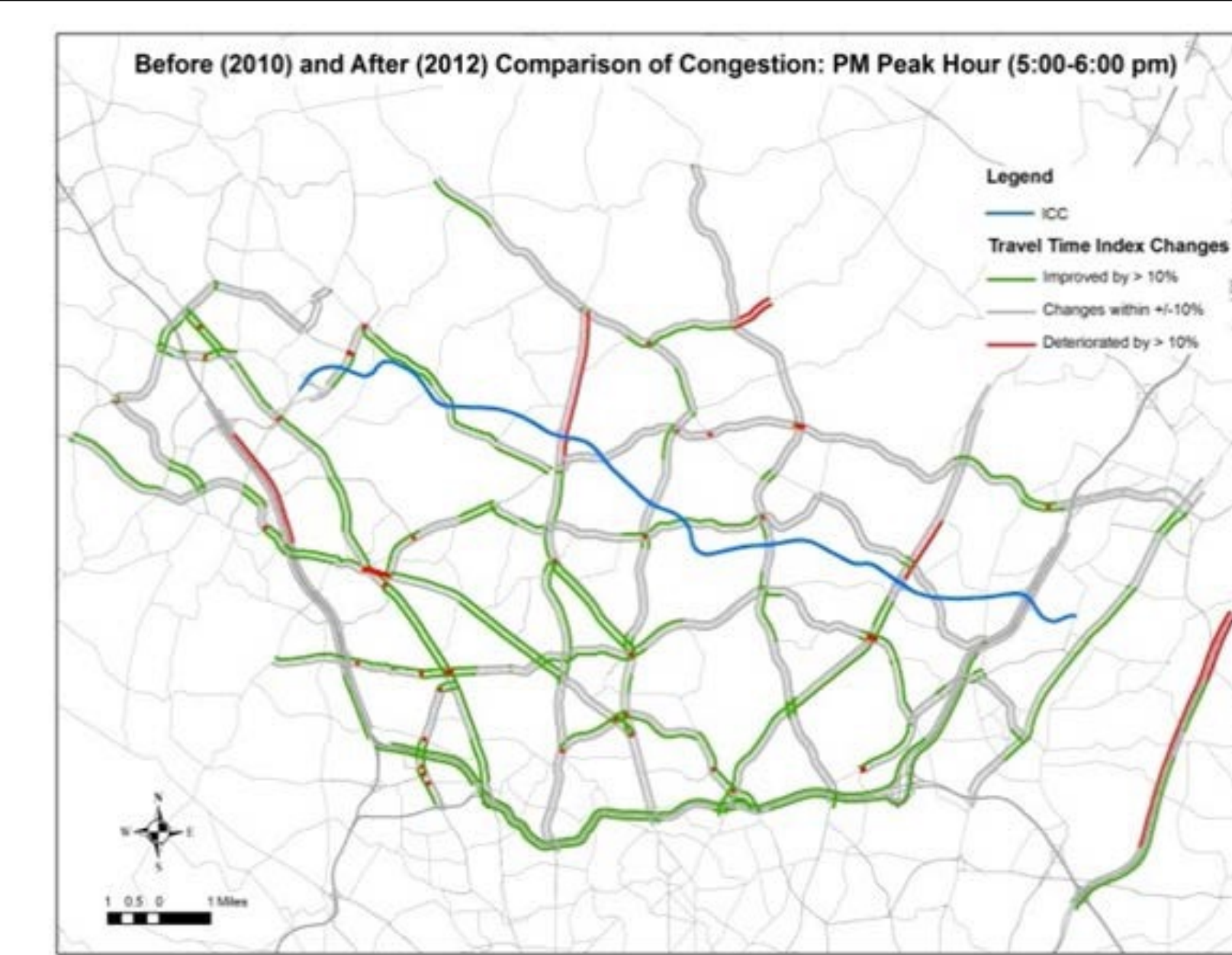
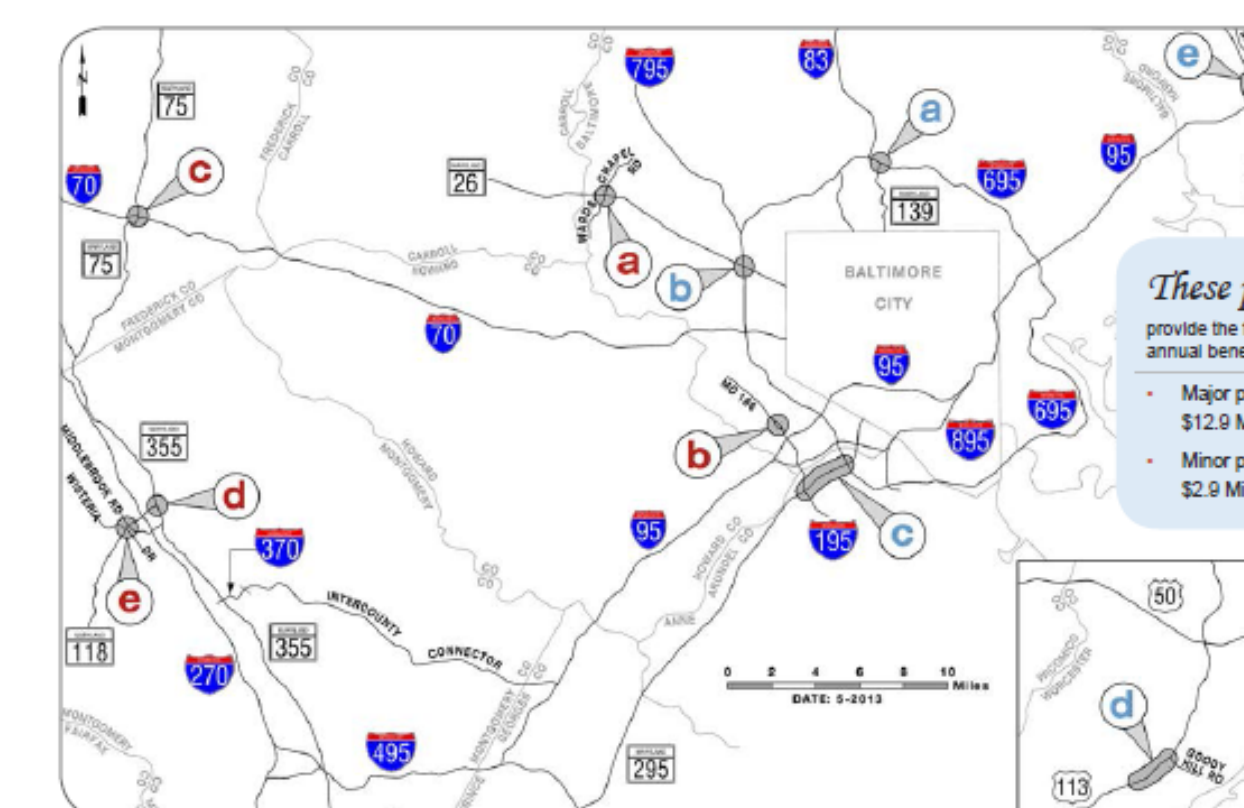
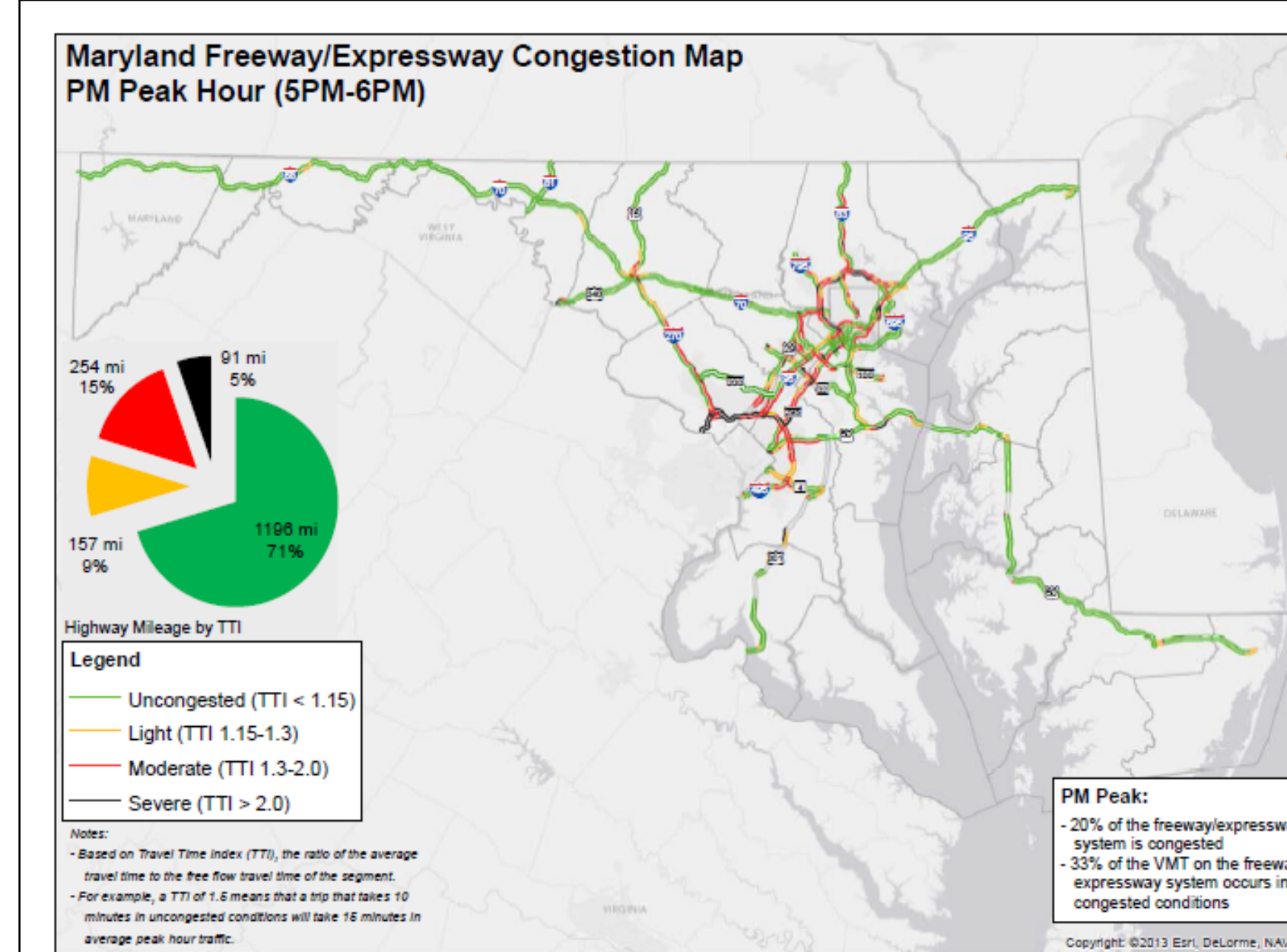
**Customer Impact:** Route 213 in Methuen is an example of a facility with PSR below MassDOT's state of good repair threshold that does not yet have funding dedicated for a resurfacing. This results in less comfortable driving conditions for users of Route 213, and an elevated risk of crashes and property damage.

**Bridge** condition is measured by the Health Index (HI). HI is the ratio of the current condition of each element to its perfect condition (expressed as a score from 0 to 100). Currently, as a result of the major reinvestment which took place under the Accelerated Bridge Program (ABP), Highway Division bridges have a high average HI of 89 percent. Under Historical Funding levels, these hard-won gains would be lost gradually, with the HI declining to 72 percent in 2023 and 61 percent in 2040. Under the Current Funding scenario, bridges will have a good HI index of 76 percent in 2023, declining to 69 percent in 2040. This represents a 6 percent improvement under Current Funding versus Historical Funding in 2023, and 13 percent in 2040. Lower HI scores in future years, while a clear indication that bridge conditions will worsen, do not mean that bridge safety is compromised. Lower scores do indicate a greater likelihood of weight and speed restrictions being posted on bridges.

**Customer Impact:** The structurally deficient bridge carrying Routes 202 and 10 over the Little River in Westfield is posted with very low weight restrictions, particularly for two and three axle trucks. This results in heavier loads traveling along city streets for an additional four miles round trip to the next suitable crossing of the Little River.

**“Current Funding.”** Reflects the new transportation funding recently enacted by the Massachusetts state legislature, with dollars allocated among asset categories to reflect the Administration's policy priorities.

**“Historical Funding.”** Assumes state and Federal funding levels and allocation priorities and rules projected into the future, prior to the Legislature's passing of the transportation funding bill in July 2013.



**Minor Congestion Relief Projects**

- MD 26 at Wards Chapel Rd.
- MD 166 at Rolling Rd.
- MD 295 from I-695 to I-195
- I-70 Eastbound Ramp at MD 75
- MD 355 at MD 118
- MD 118 at Middlebrook Rd. & Wisteria Dr.

**Major Projects**

- I-695/MD 139
- I-695/MD 26
- MD 295 from I-695 to I-195
- US 113 Goody Hill Rd. to Massey Branch
- I-95/MD 24/MD 924

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