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Federal Requirements for Freight System Performance Map

Provisions in MAP-21 and the FAST Act

presented to

NYMTC Freight Transportation Working Group

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National Goals for the Federal-Aid Highway Program (MAP-21)

1. **SAFETY**.—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **INFRASTRUCTURE CONDITION**.—To maintain the highway infrastructure asset system in a state of good repair.
3. **CONGESTION REDUCTION**.—To achieve a significant reduction in congestion on the National Highway System.
4. **SYSTEM RELIABILITY**.—To improve the efficiency of the surface transportation system.
5. **FREIGHT MOVEMENT AND ECONOMIC VITALITY**.—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **ENVIRONMENTAL SUSTAINABILITY**.—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **REDUCED PROJECT DELIVERY DELAYS**.—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

National Performance Management Measures: Freight Movement

5. **FREIGHT MOVEMENT AND ECONOMIC VITALITY.**—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

➤ **Two** National Performance Management Measures for freight movement and economic vitality:

1. Percent of Interstate Highway Mileage providing for Reliable Truck Travel Times
 - 95th percentile truck travel time divided by 50th percentile truck travel time
2. Percent of the Interstate System Mileage Uncongested
 - Definition of “uncongested” based on threshold speed of 50 MPH

➤ Data source: National Performance Management Research Data Set (NPMRDS)

- » Based on HERE passenger vehicle probe data, supplemented by ATRI probe data for trucks

Concerns Raised by NYMTC Members and TRANSCOM

- Reliance on NPMRDS (HERE/ATRI)
 - » Misses many local owner/operators and local delivery vehicles
 - » ~50 percent of 5-minute reporting intervals have no data on truck travel times (across the tri-state TRANSCOM region's network)
 - Additional data sources supplied to TRANSCOM Data Fusion Engine can provide some missing data
- Travel time thresholds for truck travel time reliability measure (95th percentile/50th percentile) inconsistent with all-vehicle reliability measure (80th percentile/50th percentile)
- 50 MPH speed threshold used to define “uncongested”
 - » Nearly 6 percent of Interstate roadway segments have a posted speed limit less than 50 MPH
 - » 430 occurrences where speed limits were reduced on sections of highways or crossings (e.g., due to weather or construction)
 - » Does not account for hills and other conditions other than congestion that can slow trucks
 - » Rules require missing travel time data to be replaced with travel time at posted speed limit

Other National Performance Management Measures

National Performance Management Measures: Safety

1. **SAFETY.**—To achieve a significant reduction in **traffic fatalities** and **serious injuries** on **all public roads**.

Five National Performance Management Measures for safety:

1. Number of fatalities
2. Rate of fatalities
3. Number of serious injuries
4. Rate of serious injuries
5. Number of non-motorized fatalities and non-motorized serious injuries

Final rule for safety performance management published March 2016

- » The targets established by the State DOT shall be reported to FHWA in the State's HSIP annual report
- » All measures based on five-year rolling averages
- » Rates calculated per million vehicle-miles traveled (VMT)
- » Data collected for all public roads

National Performance Management Measures: Infrastructure Condition

2. **INFRASTRUCTURE CONDITION.**—To maintain the highway infrastructure asset system in a **state of good repair**.

➤ **Six** National Performance Management Measures for infrastructure condition:

1. Percentage of pavements of the Interstate System in Good condition
2. Percentage of pavements of the Interstate System in Poor condition
3. Percentage of pavements of the non-Interstate NHS in Good condition
4. Percentage of pavements of the non-Interstate NHS in Poor condition
 - All based on state-collected data on IRI, cracking, rutting, and faulting
5. Percentage of NHS bridges classified as in Good condition
6. Percentage of NHS bridges classified as in Poor condition
 - All based on bridge inspection data reported to National Bridge Inventory

➤ Notice of Proposal Rulemaking Published in Federal Register January 2015

➤ Final rule on Transportation Asset Management Plans and associated performance measures expected November 2016

National Performance Management Measures: Congestion and Reliability

3. **CONGESTION REDUCTION**.—To achieve a **significant reduction in congestion** on the National Highway System.
4. **SYSTEM RELIABILITY**.—To improve the **efficiency** of the surface transportation system.

Four National Performance Management Measures for congestion and reliability:

1. Percent of the Interstate System providing for Reliable Travel Times
2. Percent of the non-Interstate NHS providing for Reliable Travel Times
 - Both based on 80th percentile travel time divided by 50th percentile travel time
3. Percent of the Interstate System where Peak Hour Travel Times meet expectations
4. Percent of the non-Interstate NHS where Peak Hour Travel Times meet expectations
 - Both calculated by dividing longest average annual peak hour travel time by “desired” peak hour travel time (set by policy)

Data source: National Performance Management Research Data Set (NPMRDS)

- » Based on HERE passenger vehicle probe data, supplemented by ATRI probe data for trucks

National Performance Management Measures: Environmental Sustainability

6. **ENVIRONMENTAL SUSTAINABILITY.**—To enhance the performance of the transportation system while protecting and enhancing the natural environment.

➤ **Two** National Performance Management Measures for environmental sustainability (CMAQ):

1. Annual Hours of Excessive Delay Per Capita
 - Based on threshold speeds of 35 MPH for Interstates/freeways/expressways and 15 MPH for principal arterials and all other NHS roads
2. Total Emissions Reduction
 - 2-year and 4-year cumulative reported emission reductions, for all projects funded by CMAQ funds, of each criteria pollutant and applicable precursors (PM2.5, PM10, CO, VOC, and NOX) under the CMAQ program for which the area is designated nonattainment or maintenance

➤ Data sources: National Performance Management Research Data Set (NPMRDS) and CMAQ Public Access System

» Based on HERE passenger vehicle probe data, supplemented by ATRI probe data for trucks