AASHTO SCOPM TASK FORCE WORKSHOP ON MAP-21 NATIONAL PERFORMANCE MEASURES TARGET-SETTING

JUNE 13, 2013

AASHTO Hall of States Building,
444 North Capitol Street, NW, Room 383-385
Washington, DC

Supported by the NCHRP 20-24 program

Workshop Information Packet

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1. Agenda

Thursday, June 13th 2012

7:30 **Breakfast**
continental breakfast will be provided in the meeting room before the workshop

8:00 **Welcome, Introduction, and Workshop Overview**

- **Paul Degges, Tennessee DOT, Chair of SCOPM Task Force**
- **Janet Oakley, AASHTO**
- **Pete Stephanos, FHWA Office of Performance Management**
- **Hyun-A Park, Spy Pond Partners, LLC**

8:45 **Key Cross-Cutting issues and Recommendations**
Discussion and Recommendations Development for issues that cut across all performance management areas

- **Matt Hardy, AASHTO**

9:15 **Pavement: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Judith Corley-Lay, North Carolina DOT**
- **Christos Xenophontos, Rhode Island DOT**

9:45 **Bridge: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Gregg Fredrick, Wyoming DOT**
- **Tim Gatz, Oklahoma DOT**

10:15 **Break**

10:30 **Freight: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Tim Henkel, Minnesota DOT**
- **Lori Richter, Wisconsin DOT**

11:00 **System Performance: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Daniela Bremmer, Washington State DOT**

11:30 **CMAQ: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Mara Campbell, Missouri DOT**
- **Rachel Falsetti, Caltrans**

Noon **Safety: Performance Management Area**
Presentation of Issues, Feedback from Task Force, Development of Recommendations

- **Tom Cole, Idaho DOT**
- **Bernie Arseneau, Minnesota DOT**
- **John Selmer, Iowa DOT**

12:30 **Lunch**
lunch will be provided in the meeting room

1:00 **Update: Cross-Cutting issues and Recommendations**
Discussion and Recommendations Development for issues that cut across all performance management areas

- **John Barton, Texas DOT**

2:15 **Priority Issues Brainstorming**
Discussion and Recommendations Development for issues within performance area that were raised in the morning

3:30 **Break**

3:45 **Activities Priority Setting**
Determine what activities will best support the findings of the Task Force and prioritize importance of the activities

4:45 **Workshop Wrap-up and Next Steps**
Summary of Day's presentations and discussions

2. Workshop Attendees

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3. Draft Target-Setting Summaries

Cross-Cutting Issues and Recommendations

GOVERNANCE

- MAP-21 performance measure and target-setting rules should focus on federal objectives and state support of these objectives. The rules should be focused on the ability of states, using available federal funds, to deliver the desired results – not on how states manage their own programs that do not use federal funds.
  - States may choose to implement the MAP-21 performance requirements separately from the state performance management program. In some states, federal funds only support a small part of the overall budget. For these states separate performance management programs may be appropriate. In other states, the majority of the program is federally funded and state and federal goals and objectives may be the same.
  - The role of the forthcoming National Freight Network must be clarified.

GENERAL CONCERNS

- For the Freight, System Performance, and CMAQ areas, the performance measures are not mature and can be expected to be improved over time. Ideally the rules will allow for this – setting measures in stone too early could limit progress and ultimately the value of the performance measures
- Target setting has risks – an agency that doesn't meet the target they have established could face public criticism. There is also the possibility of unintended consequences, for example; the public could say "why is failure a reason to invest more $$$" when not meeting a target?
- There is a need for good data and the time and staff to evaluate results versus target

PROVIDE MAXIMUM FLEXIBILITY

- State should not be required to set targets in a uniform way
- Complement flexibility in target setting with transparency and accountability
- Allow flexibility for DOTs and MPOs to use a risk-based target-setting approach
- Allow states to approach target-setting for the entire set of national performance measures as a bundle. This may lead to having some targets get worse while others get better. This accommodates states that have tradeoff processes.
  - Managing to a single target is difficult to do
- If a state wants to adjust targets dynamically (on an ongoing basis as conditions change), they should be allowed to do so.
- Would it be possible for states to use measures that are close but not exactly the same as the ones defined? This could be desirable mainly for the freight, system performance, and CMAQ measures.

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- Consider allowing targets in the form of % change (slope or trend line rather than single number).

NEED FURTHER CLARIFICATION

- Target-setting is directly related to what goals and objectives have been established. Clearer guidance is needed on the federal goals and objectives for each of the performance areas.
- There are existing federal requirements that have some overlap with the national performance measure and target-setting requirements in MAP-21. Guidance is needed on the relationships across these overlapping federal requirements – for example:
  - Safety: NHTSA performance measure requirements
  - CMAQ: EPA air quality requirements
  - Freight: Long range plans and freight plans
- FHWA should provide further details on the definition of corridors, segments, and thresholds for the system performance and freight measures

NEED A RATIONAL SCHEDULE

- The time periods for the performance measure data collection, target-setting, assessment, and target-setting adjustments need to consider the varying processes each state has for these activities. Performance measures and targets are reported on the previous year's data. Two years later this reporting will result in an assessment of whether a state has met or not met its targets. If adjustments are needed to the targets based on this assessment, there may be lengthy processes to follow to adjust the target. When is the adjusted target reported - two years from the last reporting? When will the adjusted target be assessed? At the next biennial reporting? This may be only a year from the adjustment date.
- A mock case study of how this would work for a state would be helpful. Colorado may be a good state to use for this case study.

COMMUNICATION IS NEEDED NOW AND CONTINUOUSLY

- Based on the input provided in the surveys, it appears that there are varying degrees of understanding of MAP-21 and the schedule and processes for finalizing the rules.
  - Some people perceive MAP-21 performance measure requirements as broader than what is in the legislation.
  - Some people are not aware that FHWA is working on a contract with a private vendor to acquire truck and passenger movement data to support the system performance and freight measures.
- Regular webinars starting immediately may be helpful to keep people updated on MAP-21 facts and plans.
  - Webinars and resources on target-setting would be helpful
- AASHTO communication activities should address
  - Concerns about what will happen if targets are missed.
  - Purpose of delving into target setting approaches prior to rulemaking, when measures are still speculative

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- Different activities reach different audiences so use of multiple forums to communicate would be most effective.
- AASHTO and FHWA should continue to facilitate discussion amongst states

GUIDANCE AND TRAINING

- Process guidance is needed on:
    - Expected level of uniformity across states in target setting and reporting processes
    - Incentives and disincentives of target-setting. What is the incentive for setting stretch targets and the disincentive of setting low targets that are easy to meet?
    - Coordination of performance targeting across different MAP-21 performance areas
- Technical guidance would be helpful on:
    - Target setting methods, covering establishment of trend lines, distinguishing normal statistical variations from actual changes; identifying performance measure relationships to factors such as weather, work zones, economic conditions, economic development, population, capacity, etc.
        - Present results in context of: funding, freight flow trends, population growth, weather, local jurisdiction action/inaction, customer survey results, assumptions vs. reality, etc.
    - Root cause analysis - several states noted in their survey responses that they would conduct "root cause" analysis to understand why targets were not met. This would involve delving into the reasons why the state did not accomplish what it thought it could do. Documented examples of these analyses for different performance areas would be of value.
- AASHTO and FHWA should establish clearinghouse for information exchange and/or information on best practices.
- Trainings should be ready to be delivered when rules are finalized

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Safety-Specific Issues and Recommendations

GENERAL CONCERNS

- Evaluation, analysis and diagnosis capability is key for target setting process to be effective; requires substantial resources and expertise
- States with zero-based goals shouldn't be discouraged from also setting less aggressive interim targets.
- Targets should not be linked to funding. Target achievement dependent on factors unrelated to what can be addressed via engineering fixes.
- Recognize random variation in results in evaluating target achievement – consider target in the form of a range around a report mean (e.g. +- 5 percent)
- Performance holding steady, or in some situations declining, may be acceptable
- Targets need to be set in the context of available funding and agency funding allocation decisions
- Recognize time lag between funding/initiating countermeasures and resulting impacts
- USDOT should consider a state's current safety performance before assessing consequences of missed targets: long term progress, fatality/injury rates relative to national average, best use of available resources, etc. Contextual information including trends in VMT, population, demographics, economic changes, licensing & registration, changes to crash reporting, funding important for understanding results

DATA AVAILABILITY

- Time lag issues in availability of final fatality and injury numbers – e.g. final FARS data for 2012 available December 2013
- Lack of complete traffic data to compute rates – especially on local roads
- Reduce "competing sets of accident data at the local, State, and Federal level"
- States need certified VMT data at least 3 months before performance report is due

MEASURE DEFINITION

- Definitions of serious injuries not standardized. Current systems don't report serious injuries.
- Clarify impact of five year moving averages and when the first year for evaluating performance will occur.
  - Will states include four years of safety data in the first year of implementation and could states be penalized for the impact of those first four years?
- Don't duplicate existing reporting requirements – e.g. HSIP annual report, SHSP, Performance Plan
- Need for FHWA coordination with NHTSA on target setting and alignment with current reporting practices

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SAFETY-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Process guidance is needed on:
  - Building on existing well-established data-driven safety planning process – including target setting, identifying emphasis areas, evaluation and adjustment
- Technical guidance is needed on:
  - Establishing national standard definition and process to determine and report serious injuries, contributing factors, and location of accidents (using GPS)
  - Traffic & VMT prediction methodologies in high-production shale-oil/gas regions

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Pavement-Specific Issues and Recommendations

GENERAL CONCERNS

- Recognize that target setting process is integral to risk based asset management plan (TAMP) development
  - Target-setting involves tradeoffs across assets/program areas
  - Requires a long-term view, need to communicate long term impacts of a less aggressive target/higher need backlog
- The processes for off system/local NHS roads is not in place for monitoring and analyzing the data, no trend line has been established
- Recognize TIP/STIP project cycle – time lag to impact system conditions given existing commitments. Changes to the STIP late in the game may put agency credibility on the line.
- Present results in context of: funding, freight flow trends, population growth, weather, local jurisdiction action/inaction, customer survey results, assumptions vs. reality, etc.
- Consequences of failure to meet a target must be carefully weighed – could have unintended consequences
  - affect the attainment of targets in other areas (lack of system-wide view)
  - drive investment decisions to a worst-first strategy

MEASURE DEFINITION

- Structural Health Index – recognize lack of established definition; variations across states in source data to compute potential index
- Advancement of Structural Health Index: Have a pooled fund study to develop consistent faulting and cracking standards. Intensive effort underway to move forward structural-capacity testing technology/implementation.
- Recognize variations in each state's internal processes of finalizing results

PAVEMENT-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Technical information and guidance is needed on:
  - Measurement and analysis of IRI
  - Calibration and certification of measurement equipment
  - Summaries of the latest research on road roughness and its effect on vehicle operating costs

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Bridge-Specific Issues and Recommendations

GENERAL CONCERNS

- Resolution of input from Subcommittee on Bridges and Structures on changing the Good/Fair/Poor measure to one based on maintenance, repair and rehabilitation need category: Cyclical Maintenance (CM), Preventive Maintenance (PM), and Replacement/Rehabilitation (RR)
- Concern with definition and implications of expanded NHS - some owners of expanded NHS facilities don't want to be on new NHS and are attempting to change functional classification.
- Concern with use of deck area weighting – implications for smaller bridges
- End of calendar year reporting is not good for bridges – prefer reporting in April right after NBI data submittal
- Targets need to be set in the context of a budget/funding amount for NHS and Non-NHS
- Concern that necessary actions not captured by the performance measure may be deferred (e.g. addressing seismic issues)
- Cannot manage to a single target – target-setting is a multi-objective process, and States have many targets/objectives that must be balanced
- Concern with potential for inconsistent interpretations of performance data
- Need to assure the public that bridges below a target or labeled Deficient are still safe

MEASURE DEFINITION

- Definition of the CM, PM, RR measure still being clarified – expecting further input from Subcommittee on Bridges and Structures.
- Seeking greater flexibility in measure definition (i.e. trend targets vs. single-number targets)
- Concern that SD measure is not aligned with current bridge management practices and could result in a worst first strategy
- Concern that focus on SD target will drive sub-optimal project selection
- Concern about inconsistency of SD measure with risk-based asset management plan requirements – need measures to address safety and risk as well as condition
- Need to address the time required to initiate and complete a project that will have impact on the measure. Most projects cannot be initiated and completed within three year timeframe (inspection, programming, design, construction)

BRIDGE-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Offer guidance on how other states are incorporating off-system bridges into target-setting
- Guidance should emphasize that the criteria for prioritization does NOT have to match the performance measure

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- Advocate/provide for funding to help maintain target conditions for off-system NHS bridges
- FHWA/AASHTO should provide more support on how to use analytical tools like AASHTOWare BrM for target-setting
- Provide training on bridge-preservation policy

BEST PRACTICES SHARING

- Would like successful examples of bridge target-setting approaches (What is being optimized?)
- Would like to have a mechanism for comparing targets to those of peer states
- Note: North Dakota has an asset tradeoff model to produce targets (explore whether useful for others)

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Freight-Specific Issues and Recommendations

GENERAL CONCERN

- The freight measures may be too narrowly defined to fully reflect and communicate what is important about the country's freight system.
  - Need to relate to safety and mobility objectives

MEASURE DEFINITION

- Some believe freight measures should also address "quantity" aspects and "capacity utilization" aspects of freight movement
- Will there be a measure that combines modes? Concern that all measures in this area are only concerned with the truck mode.
- Consider allowing area-wide/aggregate target rather than corridor-specific

NEW FHWA CONTRACT WITH VENDOR FOR DATA

- Make sure the data is compatible with state systems
  - Provide option for states to supplement using local data
  - Segmentation is important - RFP does not include specific requirements related to segmentation
  - Need to support additional processing to match existing segments with other data, especially HPMS
- FHWA needs to provide funds to post-process the data if the data is not going to be ready-to-use.
- Suggest FHWA compute the federally-mandated measure for States, but give the option to use that result or supplement it with States' own speed data – should they choose to collect it
- Need historical trend information in order to be able to determine targets. Suggest FHWA provide this information to produce first targets.

FREIGHT-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Provide data, technical assistance, training, information exchange, and information on national/global freight trends.

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System Performance-Specific Issues and Recommendations

GENERAL CONCERNS

- States may need financial and technical resources and expertise for the data collection, processing, analyzing, and reporting of required performance measures in a timely manner, to ensure consistent analysis between states.
- Funding flexibility is critical to enabling states to act based on targeted vs. actual performance
- Concern about (mis)use of measures & targets for state to state comparisons or scorecards
- Delay/reliability not necessarily seen as a focus area for some states/regions – safety and asset condition may be more important
- Statewide system performance targets not useful for making operational and corridor investment decisions
- Future prediction methodologies not well established for reliability
- Important to recognize that methodologies are not mature and need time to improve
- Population, employment, economy are key drivers of traffic and congestion, more than agency actions
- Meeting economic growth objective likely to mean worsening congestion
- Desire to link between targets and socio-economic conditions

MEASURE DEFINITION

- Clarify recommended flexibility for states to define geographic scope/network coverage
- Need to clearly establish flexibility/constraints with regard to:
  - Time frame
  - Relative or absolute targets
  - Realistic or aspirational
  - Update frequency & process

Some dissenting opinions about:

- Delay and reliability as appropriate "one size fits all states" measures
- Whether measures adequately capture characteristics of interest – e.g. percent of travel meeting generally accepted operating conditions, utilization of available capacity
- Whether states should set threshold speed values for determining delay (versus use of national standards for rural and urban areas)

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DATA

- USDOT must provide processed traffic data that can be readily integrated with other existing datasets in a state (traffic volume, number of lanes, roadway type, etc.). This alignment of various data elements/datasets on a single platform (such as GIS) is called conflation, which is necessary for developing MAP-21 performance measures.

New FHWA data will be valuable given many agencies lack the data for calculating the measures, but still concern about:

- Conflating the data to state inventory and traffic data – different segmentations, timeframes
- Reconciliation with existing archived travel time data
- Blending with modeled data for trend analysis
- Contextual data (economic, funding, investment, fuel prices, etc.) is essential and must be packaged in a meaningful way
- Many agencies have 1-2 year lags from data collection to distribution/availability

SYSTEM PERFORMANCE-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Request guidance on alternative target setting methods and sharing of agency practices
- Supporting studies and data would be helpful:
  - Pre-recession traffic trend data
  - Studies correlating traffic congestion with economic indictors, level of investment, operational decisions
  - Reliability indices for benchmarking/comparison

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CMAQ-Specific Issues and Recommendations

GENERAL CONCERNS

- Lack of consistent processes established for modeling impacts, especially delay
- Concern that targets could drive suboptimal project selection
- CMAQ-eligible projects may not be the best projects to improve performance
- Concern that approach may systematically favor some jurisdictions in project selection, undermining equitable distribution
- Need to recognize differences between areas that already have low emissions and little congestion and areas with substantial air quality and congestion issues
  - For some areas, a target to "maintain" or even get worse could be justified in order to achieve other objectives

PROGRAM PERFORMANCE VERSUS SYSTEM PERFORMANCE

- MAP-21 requirements may not favor use of CMAQ funds to address highly localized problems

MEASURE DEFINITION

- Need more precise definition for the measures
- AASHTO's proposed measure is not aligned with current reporting process.
- Concern with use of 2009 non-attainment timeframe, particularly for states that have made gains over last four years.
- Some concerns with basing MAP-21 measures on the annual CMAQ report; set of projects that the report considers is different than the set of projects adopted that year
- Consider reporting hours of delay per capita rather than total
- For emissions, use kg/day for consistency with FHWA database
- FHWA travel time data – provide for small sections that can be aggregated

CMAQ-SPECIFIC GUIDANCE AND TRAINING NEEDS

- Current CMAQ project models focus on emissions reduction, not delay; many CMAQ projects don't impact delay. Provide examples of calculation methodologies.
- Guidance needs to address emissions and delay impact assessment for a range of project types
- Need guidance on data source and method for setting a baseline/redefinition of baseline
  - Need for use of regional emissions and delay from models or would targets be based on estimated reductions from CMAQ projects, independent of a baseline value?
  - Annual reductions estimated from funded CMAQ projects or averaged over multiple years to smooth out variations?

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BEST PRACTICES SHARING

- New York has a model for project analysis tool (explore whether useful for others)

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