



ASSOCIATION OF  
METROPOLITAN  
PLANNING  
ORGANIZATIONS

August 19, 2016

Gregory G. Nadeau  
Administrator, Federal Highway Administration  
U.S. Department of Transportation  
1200 New Jersey Avenue, S.E.  
Washington, DC 20590

Re: Docket No. FHWA-2013-0054

Dear Administrator Nadeau:

The Association of Metropolitan Planning Organizations (AMPO) is pleased to provide comments on the Federal Highway Administration's (FHWA) "National Performance Management Measures; Assessing the Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program" proposed rule (Docket Number FHWA-2013-0054) published in the Federal Register on April 29, 2016.

In many cases AMPO is in agreement with AASHTO on multiple concerns under both the Principal Comments and the Section-by-Section Comments.

We appreciate the opportunity to provide these comments and look forward to working with FHWA on the implementation of the Final Rule. If you would like to discuss the issues raised in this letter, please contact me directly at [dhardy@ampo.org](mailto:dhardy@ampo.org) or 202-624-3680.

Sincerely,

DeLania L. Hardy, Executive Director

## OVERARCHING ISSUES

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- Implementing these performance measures will require a heavy reliance on technology and a substantial investment by all MPOs.
- Once established, targets serve as an unchangeable baseline.
- Trip reliability (i.e. a predictable trip) is not *reliably* measured by travel time delay on the NHS. Short trips and multi-modal trips are completely or partially ignored.
- MPOs must amend standing Agreements and Memoranda to define and reflect new roles and responsibilities given to MPOs under 23 US Code 150 with State DOTs and Transit Operators.
- Finding resources, capacity and perform required work to undertake new roles / responsibilities and reflect these in UPWPs. This will include:
  - Target selection
  - Data identification, collection, analysis and reporting
  - Clearly and concisely communicating measures and performance to public and leadership. This will require public meetings, reports, documents and tools.
- Hardware and software as well as staff capacity (e.g. people and training) to undertake this effort will draw away current resources.
- Multi-modal performance is not measured, strict highway performance measures may be misconstrued by the public and the federal government.
- In many places data limitations will prevent a clear distinction between vehicles traveling in the tolled and general purpose lanes.
- Delay and congestion measures are not “context sensitive” and may create an artificial tension between performance of the NHS and strategies that may create unacceptable impacts on communities.
- Owners of a roadway may be small units of government or authorities that have limited resources.
- Although the NPMRDS may serve as the provided source, many MPOs have not utilized this data set and do not know how to manipulate it and pull the needed information. More training sessions and outreach will be necessary and may take away from existing staff time and resources.

- Bike/Pedestrian safety and mobility, as well as other alternative modes, seem to be given little concern in the proposed rule. Simply moving more SOVs at a higher rate of speed is in direct contrast with truly Context Sensitive Solutions.
- *Page 23817; Column 1 – Avoid Additional Burden for Agencies* – Many MPOs have limited (even less than five) full-time planning professionals. We are concerned about the additional burden these requirements may pose. We will need additional staffing to fully meet these requirements, or increased support from our State DOTs.
- *Page 23843; Column 1* – As geographies, population and infrastructure vary greatly even within states, it is virtually impossible to establish effective targets.

## SECTION-BY-SECTION COMMENTS

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### ***SUBPART E—NATIONAL PERFORMANCE MANAGEMENT MEASURES TO ASSESS PERFORMANCE OF THE NATIONAL HIGHWAY SYSTEM***

NHS Travel time reliability measures [§490.507(a)(1)] and [§490.507(a)(2)]

#### *Unreported or Missing Data*

For the LOTTR metrics, the NPRM requires missing data to be replaced with a calculated travel time based on segment length and posted speed limit. For the TTTR, missing data is to be replaced with an observed travel time (less than the posted speed limit) or a travel time based on the posted speed limit. From our perspective, use of an observable travel time in a comparable time interval would be the best approach for either metric. In lieu of an observed travel time, we would encourage FHWA to consider using a travel time interpolated between adjoining segments rather than imputing a time based on the speed limit. We believe this would better mirror actual travel experience.

#### *NPMRDS Data Issues*

The National Highway Performance Management Research Data Set has large gaps, and suggested data imputation presents a range of problems assessing current and future performance. Specific issues with HOV lanes and managed use lanes have been identified among others. Other data sources may or may not potentially fill such gaps. We have concerns about the prevalence, at least in some areas, of missing data. We encourage FHWA to examine the extent of missing NPMRDS data and evaluate the effect of that data on the proposed performance measures.

#### *NPMRDS Data*

While the NPRM implies that State DOTs will calculate the relevant metrics and measures and submit that data to MPOs, the NPRM does not unequivocally require this to be the case for all metrics used by MPOs, nor does it provide guidance to ensure that data transmitted to a MPO will be in a form manageable by the local agency. We would encourage FHWA's modification of §409.103 to clearly define the roles and responsibilities of States and MPOs in calculating metrics and to require an agreement between the two parties on the format of data and analyses transmitted to MPOs.

#### *Reliability Measures*

From a traveler's perspective, reliability is a superior measure of highway performance than more traditional congestion measures, and we endorse its application. We recognize, however, that as a system-wide measure, based on mileage segments, it will mask many network nuances and will not express the extent of reliability's impact on travel. A more meaningful measure, we believe, would take into account the percent of VMT, rather than the percent of network mileage, affected by unreliable travel times. This would require another step in the calculation and an additional data source. We encourage FHWA to consider such a measure.

While the reliability calculations are intuitively defensible, it is difficult to assess the criteria used in the calculation without observing some validation of the results. We suggest that FHWA work with select States and MPOs to evaluate the quality of the calculated results prior to issuing the final rule.

*(Multimodal) Usage by Travelers Rather than Facility Mileage*

Measuring performance in terms of percent of roadway miles would significantly discount how the system is actually used by customers. With such a measure, denser, more heavily populated areas and heavily traveled portions of the roadway network might lose out in priority-setting in favor of longer stretches of lower volume, lower capacity roads. A road mileage-based measure can in this way be counterproductive, with unintended sprawl-inducing consequences.

Alternatively, a measure that incorporates (ideally) person volumes or at least vehicle volumes and travel times – such as percent of person hours experiencing excessive travel times – would appropriately favor strategies that serve the most users and the efficient application of improvement resources. A person volume or time-based measure may also be multimodal, sensitive to the benefits of public transit and ride-sharing strategies where warranted. (At the very least, lane-mileage measures would be an improvement over directional or centerline mileage measures.)

While not a significant issue, the reliability measures do not take into account the occurrence of extraordinary events that could skew the data, i.e., major non-routine public gatherings, unusual weather events, construction closures and detours, etc. The final rule should include some accommodation of the annual data to eliminate the impact of such events.

Peak hour travel time measures [§490.507(b)(1)] and [§490.507(b)(2)]

*Interpretation of the MAP-21 Concept of “System Performance”*

It is clear that USDOT has worked to be responsive to the national dialogue in the transportation and planning community while implementing the specific requirements set forth in MAP-21. The focus on travel time reliability and peak hour travel time has merit. There are concerns, however, that the proposed facility segment-based measures may not fully support the kind of comprehensive, integrated planning perspective that has been federally encouraged in recent years.

The point of transportation is to provide accessibility. In the near term, it would be desirable for FHWA to give attention to origin/destination movements of persons and goods, which rely on the accessibility that the transportation system provides. Use of origin/destination measures should not be restricted to particular corridors, but should address the performance of complete trips rather than segments on specific facilities.

*Locally Desired Peak Period Travel Time*

The provision for States and MPOs to identify “desired” travel times on roadway segments is welcome. This clearly avoids a one-size-fits-all approach and recognizes that desired traffic volumes and speeds may be context-sensitive. Urban/suburban/rural environments, activity

densities, mode prevalence, land use, and other factors may all contribute to variations in appropriate travel time thresholds. The lack of consistency with regard to this flexibility is questioned, however, in the other proposed congestion and truck speed measures.

Overall, the national measures should not be restricted to vehicle volumes on specific roadway facilities. The measures should capture person and freight throughput capacity and the performance of integrated multimodal corridors that include ridesharing, HOV lanes, public transportation, non-motorized facilities, and goods movement.

#### *Data Constraints and Flexibility*

Readily available data is clearly a constraint for this process. There may be issues with conflating volumes with travel time data, but at least some of this is already required for the proposed congestion measure. The data constraint might therefore be loosely applied. Particularly where data capabilities are improving, phase-in periods, place-holders or optional parameters might be built into the metrics and measures from the start. Reasonable estimates of missing data might be allowed until gaps are filled. Given the contextual diversity around the country, flexibility for States and MPOs to apply suitable data could produce more locally meaningful information for decision makers. Correspondingly, attention should be paid by USDOT to developing and providing MPOs and States with data resources to support more comprehensive performance measures now and in the future. Conflation of travel time data and vehicle/passenger volume data is an important part of this.

In any case, an approach to more meaningful measures should explicitly allow flexibility for States and MPOs to begin with reasonable estimates of some measure elements (such as vehicle occupancies) while more complete data development continues.

#### *Target-Setting*

The timeline of Final Rule effectiveness, first baseline reporting and initial target setting should be re-examined to ensure that States and MPOs can utilize the most current data in their targets or modify targets based on changing conditions and policies.

#### *Reporting Time Periods*

An overarching comment, but applicable to this measure: much valuable planning and investment decision-making looks toward significantly longer time horizons. While regular monitoring of performance measures is important, an overemphasis on short-term over longer term targets may present an unintended obstacle to developing innovative and comprehensive solutions. Proposed biennial reporting and target-setting time frames, with formal 4-year performance periods would favor quick but perhaps short-lived over longer-term more sustainable improvements.

#### *Urbanized Area Scope*

The geographic scope of the urbanized area measures is a significant issue. Coordination across MPO boundaries is an important facet of the MPO planning process, but it is unclear that requiring single values and targets for entire (large) urbanized areas adds sufficient value. It may be more productive to stress requirements for coordination and data sharing.

Multiple geographic levels—including the urbanized area level adds significantly to the reporting complexity and may contribute to confusion in the interpretation of results. There may be reluctance by States and MPOs to adopt targets for areas outside of their control. Ensuring consistency of data sources and desired travel time thresholds would also provide practical and meaningful challenges to utilizing the urbanized area level where jurisdictional boundaries are crossed.

#### *Sharp Threshold Cutoffs*

There is a concern that the sharp cut-off thresholds as identified, can serve to discount (or not count at all) incremental improvements made to the system. The NPRM proposes a 1.5 factor to gauge exceeding of desired travel time thresholds. The implication of sharp-cutoff thresholds is that attention may be biased away from locations where performance is further from the threshold or the threshold is harder to achieve. Only improvements that cause segments to cross the threshold will be reflected in the proposed measure; incremental improvements that, for example, reduce the PHTTR metric from 3.0 to 1.6 will not be counted. A measure formulated to allow credit for incremental progress regardless of whether thresholds are actually crossed would lead to a wiser allocation of resources.

#### *Technical Issues with Metrics, including Time Periods and Days of the Week*

Additional details may warrant attention regarding how it is proposed that the longest peak hour travel times are selected and with which desired travel times they are compared. There are also issues with consistency in calendar coverage, i.e., the exclusion of holidays in the PHTTR metric but not in the Level of Travel Time Reliability metric. It is unclear whether the differences in proposed time periods and days of weeks have merit. If not clearly justified, these have the potential to add confusion and add to the burden of analysis. A consistent set of time periods would be easier to understand.

The effect of proposed differences in the size of time bins for computing average speeds in the PHTTR and in the freight congestion measure should be considered in terms of possible prioritization of passenger vehicle or truck movement.

Rounding requirements (and inconsistency across measures) should be clarified and/or improved in the Final Rule. For short segments, rounding average travel times to the nearest second in the PHTTR metric could introduce unnecessary loss of precision. (Average truck speeds in the percent miles freight uncongested measure are specified to be rounded to hundredths place.)

***SUBPART F—NATIONAL PERFORMANCE MANAGEMENT MEASURES TO ASSESS FREIGHT MOVEMENT ON THE INTERSTATE SYSTEM***

Freight movement on the Interstate System measures [§490.607(a)] and [§490.607(b)]

*Regarding Truck Travel Time Reliability*

Use the 80<sup>th</sup> percentile travel time (used in Subpart E) for freight instead of the 95th percentile travel time. Since freight and cars occupy the same roadway, they should be held to the same standard. Even at the same standard, it will be more difficult for freight to meet this standard because of the operating characteristics for trucks (larger, heavier, slower acceleration / deceleration characteristics, etc.).

*Regarding Percent Interstate Uncongested*

The 50mph speed threshold to define congested conditions for freight movement should not be used. Considering freight characteristics, 50mph for this definition is unrealistically high. Additionally, the 50mph threshold, as proposed, makes no distinction between urban and rural segments and speeds on the Interstate, which erroneously implies congestion in rural areas is similar to congestion in urban areas. Instead a percentage of the posted speed limit (e.g. 70%) should be used to take into account the changes in the posted speed limit that are found on Interstates.



***SUBPART G—NATIONAL PERFORMANCE MANAGEMENT MEASURES FOR ASSESSING THE CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM—TRAFFIC CONGESTION***

Traffic congestion measure [§490.707]

*Comments Relating to the Measure and Metric*

A vehicle-based measure does not account for all (vehicle) users, unless there is a way to also calculate / estimate vehicle occupancy. The current methodology does not include vehicle occupancy.

Roadway access management is another factor or measure that should be considered as part of the Traffic Congestion Measure area. Alternatively, it could be considered under the Freight Movement Measure area because of its impact on heavy commercial truck driver route choice and propensity to avoid bottlenecks commonly associated with the NHS and Interstate system.

*Comments Relating to the Supporting Data and Calculation Methodology*

The half-mile segment maximum requirement for large urbanized areas seems either problematic or futile, if the finest spatial resolution of the HERE travel time data is limited to TMC (traffic messaging channel) segmentation, which are generally larger than one-half mile. As an example, for the NPMRDS in Georgia, more than half of the segments are greater than a half-mile, this is likely to be the case for many other states. The half-mile maximum would only help with refining the AADT spatial resolution, but the travel time information would not change. One recommendation might be to eliminate the half-mile maximum requirement, until the actual travel time data can be represented at the higher spatial resolution.

It would be helpful if USDOT published some technical guidance on how to impute AADT data from discrete traffic count station locations, onto the NPMRDS roadway segments. The main challenges (in Georgia) would be: estimating hourly volumes from daily averages (where there are not currently any hourly volume count data available); estimating directional splits; and associating NPMRDS travel segments with the most appropriate count segment, where a given TMC segment is associated with more than one count station. Alternatively, there may be TMC segments that are not associated with any AADT count stations at all. In that case, please clarify if it would be acceptable to either use a “nearest neighbor” approach or borrow daily volumes from a regional travel demand model.

Dealing with the NPMRDS data could be perceived as quite intimidating and overwhelming to many MPOs throughout the nation. Based on the current level of understanding of the NPMRDS and the required calculation, there is a fair amount of potential for data processing and calculation error. In an effort to streamline the mechanics of manipulating the NPMRDS data and executing the calculations, USDOT should consider the following three ideas:

The NPMRDS only reports travel time data by month. It might be more efficient for NPMRDS/HERE to compile and publish an annual dataset for each state and/or urbanized area over 1 million in population. Otherwise, the congestion metrics (as well as system reliability and peak hour traffic) will have to be processed in monthly intervals, and then consolidated into a completely new dataset.

Each record in the NPMRDS dataset should include the corresponding TMC unique identifier. Otherwise, State DOTs will have to perform multiple table joins with the provided TMC/Link ID look-up table for each month of data for each year of reporting.

Each record in the TMC/Link ID look-up table (provided by the NPMRDS download site) should include the corresponding segment's measured/calculated distance (in miles) value to help minimize the number of tabular joins.

Some agencies might have difficulty handling and storing the raw NPMRDS data over time. In Georgia, each monthly dataset averages 800 MB and consists of over 27 million records (5-minute bins for each directional TMC segment for each month). This challenge is compounded when accounting for derivative tables (necessary relational joins and/or other aggregated data tables).

*General/Overarching Comments that could also be Relevant to Overarching Issues.*

USDOT should assume responsibility for summarizing the NPMRDS data for the entire country to ensure consistency. USDOT should still make the data available in case some agencies want to dig deeper into it.

The skills and experience required to calculate this measure, as well as the other system performance measures (Subparts E, and F) may not have been adequately considered as part of this rulemaking. Fairly advanced knowledge of a relational database, that can handle an overwhelmingly numerous amount of records will be necessary (e.g., SQL).

Furthermore, if state agencies are the sole parties responsible for preparing the data for MPO use, and since there could be discrepancies in preparation, regardless of who is responsible, there exists the potential that MPOs could be vulnerable to numerous quality assurance/quality control issues. The NPRM does not provide for any process to allow MPOs and DOTs to reconcile technical/methodological disputes regarding preparation or calculations of the NPMRDS data.

Official NHS mapping published by FHWA, as of March 2015, is inconsistent for some states with what is known to be the latest, approved NHS on the ground. This would need reconciliation if those states opted to use the NPMRDS data to perform the congestion measure calculations (as well as the other relevant measures).

[http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps/](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/))

***SUBPART H—NATIONAL PERFORMANCE MANAGEMENT MEASURES FOR ASSESSING THE CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM—ON-ROAD MOBILE SOURCE EMISSIONS***

On-road mobile source emissions measure [§490.807]

*Page 23829:* It is agreed that the measure established through this rulemaking should apply to CMAQ-funded projects only in areas designated as nonattainment or maintenance for pollutants applicable to the CMAQ program versus all areas.

*Page 23829:* Selection of Proposed Measures: FHWA considered four possible measures:

- a. Emission reductions by pollutant
- b. Estimated emission reductions of CMAQ-funded project relative to total emission reductions of the area
- c. Estimated emission reductions of CMAQ-funded projects relative to total emissions of the area
- d. Cost-effectiveness of CMAQ projects

FHWA wants to meet the CMAQ program performance requirements under 23 USC 149 and 150 and be mindful of existing emissions reporting practices and data sets. They have decided that only (a) above is the measure that best fits. This does appear to be the best measure as the emission projections are already estimated using the EPA's MOVES model in nonattainment and maintenance areas.

*Page 23836:* Use of the existing CMAQ Public Access System to calculate the metric for the on-road mobile source emissions measure. We support the FHWA proposal to include only projects with quantitative emissions estimates in the proposed measure.

Historically, quantitative data has not been required in the CMAQ Public Access System and certain projects may have emissions reduction benefits but may be either 1) difficult to quantify due to the nature of the project or 2) at a de minimis benefit threshold. In such areas, qualitative information is provided. Small decreases in emissions may not be measurable, but can contribute to the larger overall effort of emissions reduction.

The availability of the FHWA cost-effectiveness tables is helpful. Certainly, providing the ability of the States and MPOs to modify their emissions information for projects currently in the system to include a quantitative analysis is reasonable. We suggest adding two fields to the system – one for year open to service (or completion year), and one for expected service life. The benefits for a given project would then be counted beginning in the year open to service, and continue to be counted as long as the service life has not been exceeded.

Limiting the performance measure to include only quantifiable emission reduction projects is sufficient but should not preclude the use of CMAQ funds on projects that only gain qualitative benefits due to lack of data and/or de minimis impacts in smaller MPOs. It is possible for a

project to provide emission benefits, either direct or indirect, even when these benefits are not easily quantified.

The reporting targets implicitly assume that there is a degree of uniformity in the implementation of CMAQ projects. This is manifestly untrue – even in larger regions with many CMAQ projects, implementation proceeds at an uneven pace. In some years the target will be met many times over; in others, no benefits at all may be realized. This will be alleviated to a degree by following the open to service/service life approach suggested above. In addition, a moving average should be employed to smooth out the uneven implementation of projects.

The use of obligation as a trigger is further complicated by the use of advance construction (AC) to initiate projects. Use of AC is under control of the State, not the local programmer. Furthermore, those making the decision to use AC are likely to be different from those overseeing project implementation. Their goals are to manage cash flow, contract authority and obligating authority. As a result, projects are put in AC, implemented, and may not be converted to federal funds (at which time they are recognized as obligated) until much later. Again, shifting to an open to service approach will avoid this complication.

In another interpretation of the NPRM, in the same section, the rulemaking proposes that the system will be “a national data source for emissions reductions estimates and will not require a new data collection process.” This is a reasonable general goal. In interpreting this, is it the intent to allow MPOs to canvas the system for like projects and to use that as the quantitative basis for expected emissions reductions of a certain project type if they have only reported qualitatively in the past? If so, there is probably such a variance in the recording of project information such as the duration of the expected project benefits, whether the benefit has been annualized, description variances and reported benefits that are widely disparate. Further clarification would be necessary or a suggestion would be that, as long as the basis was documented and approved for moving from qualitative to quantitative, the MPO can move forward with their assumptions.

*Page 23848:* The FHWA proposes that the State DOTs may adjust their 4-year targets just after the midpoint of the performance period. This is in an effort to consider many factors outside the control of the State DOTs such as uncertainty in funding, changing priorities and other external factors.

It is important to realize that some MPOs may be faced with air quality issues, such as PM<sub>2.5</sub>, but the transportation component, for example, is less than 20% of the total pollutant contribution. In these cases, particularly in small MPOs, implementation of transportation control measures may not significantly reduce the air quality issue because it is not the major contributor to that issue. This is the case in Alaska where stationary sources are the primary contributor to PM<sub>2.5</sub> or maybe in Arizona where the source of PM<sub>10</sub> is something other than road dust. The ability to modify targets mid-way is likely the best course of action. It is important to provide states and MPOs latitude in setting targets and the ability to adjust targets over time as new SIP emission budgets or transportation control measures are developed. The targets should be able to take into account the percent of motor vehicle related emissions

relative to all emissions, if desired by the State or MPO. Targets should be tied to SIP budget, if desired by the state or MPO.

*Page 23850:* FHWA proposes targets for the on-road mobile source emission measure would be bounded by state geographic boundaries and nonattainment or maintenance areas. FHWA also proposes that State DOTs could establish separate statewide targets for each of the applicable criteria pollutant and precursor.

It is reasonable that each nonattainment or maintenance area would have its own targets unless two or more areas were in such close geographical proximity that air quality was controlled by the whole. Some states are so vast that air quality impacts from other urbanized areas have no influence on others within the state.

Also, there may be situations where EPA has approved a Limited Maintenance Plan (LMP) procedure in a maintenance area. In this case, an area may demonstrate conformity without submitting an emissions budget. Thus, additional modeling may be necessary to address the targets even though it is not required to demonstrate conformity. This additional burden should not be placed on the MPOs since the measures should be consistent with the transportation conformity rules. This is true of CO in maintenance areas with LMPs.

*Page 23851:* FHWA proposes that on-road mobile source emissions would be based on a federal fiscal year. MPO's with an urbanized area greater than 1,000,000 in population would have to establish both 2-year and 4-year targets if it is a nonattainment or maintenance area. Other MPOs would only have to establish 4-year targets.

Establishing four-year targets for small MPOs is desirable with the opportunity to modify the target mid-way through the performance period.

*Page 23888:* FHWA proposes that definitions for donut area and isolated rural nonattainment and maintenance areas will be the same as found in the transportation conformity rule at 40 CFR 93.101.

It is a good approach to remain consistent with the definitions from the conformity rule.

FHWA proposes that existing processes be used to manage, track and report projects as part of the CMAQ program using the CMAQ Public Access System. The measure being considered expresses the total emissions reduced per fiscal year, for all CMAQ-funded projects by pollutant and applicable precursors for which the area has been designated as nonattainment or maintenance.

Currently, reporting to date has been qualitative in some MPOs. Some MPOs have only reported on the pollutant itself and not the precursors. Will the System be the national data source for precursors or can we use known correlations, for example, between reductions in PM<sub>2.5</sub> yielding a certain reduction in NO<sub>x</sub>? That may bring a more accurate and standard estimate of emissions reductions.

It is proposed that State DOTs report estimated emissions reductions of CMAQ projects for the first year that a project is obligated and only the first time a project is entered into the System

and not each time the project receives additional CMAQ funds to avoid double counting of benefits.

It seems that the project should be reported the first time it is expected to realize emissions benefits rather than the first time CMAQ funding is obligated for the project. It may be better to report benefits on a project specific basis. For example, a diesel engine retrofit project or vehicle acquisition may realize emissions reductions the first year CMAQ funds are obligated. However, a project that establishes new or expanded transportation infrastructure may not realize emissions reduction benefits until it is actually built, potentially years later.

#### *General Comments on an Onroad Emissions Measure for CMAQ and the CMAQ Public Access System*

As for reporting the CMAQ project emission reductions, this is already being reported each March in the FEMIS system in kg/day. Converting this to tons/year (assuming the kg/day refers to an annualized day) does not provide any new information about the performance of the project or how it compares to other projects.

In one CMAQ project selection process an MPO compares emission benefits in tons/annualized day. Using annualized days allows a fair comparison between projects that may have a varied number of effective days. For example, a bicycle project may be operated seven days a week but excluding winter months, and an intersection project may only be needed on work days (five days a week) but for the entire year. So a tally is made of the entire year of emission reductions for a given project based on the number of effective days and divide that by 365 to get kg/annualized day. Only in the case of kg/annualized day does the factor of 0.4026 apply.

There is some concern that an early review of the CMAQ Public Access System was problematic. The reviewer was able to find projects from their region and financial information, but the emission reductions were absent.

#### *Consideration of Greenhouse Gas Emissions Measure*

In this notice of proposed rulemaking, USDOT specifically asks for comments on whether and how to establish a CO<sub>2</sub> emissions measure in the final rule.

- While some states have state-specific laws mandating the reduction in GHG emissions, others do not. Politically, some states and MPO Policy Boards will not even entertain participation in a pilot project to set a GHG baseline.
- Further, because of the lack of data, many states will not have baseline numbers or methods in place to evaluate reductions in GHG emissions.
- In addition, CMAQ funds are only applicable to CO, O<sub>3</sub> and PM, not the universe of pollutants. In those states that require mandatory reductions of GHG, they must already have in place, or are working to put in place, a baseline and a methodology for measuring emissions reductions. There should not be a need to develop another system under these proposed performance measures.

- If CO<sub>2</sub> must be measured, it should be the role of the EPA which already requires emission measures for criteria pollutants as part of the conformity process. The EPA MOVES14 vehicle emissions model already has the capability of estimating vehicle CO<sub>2</sub> emissions. But those estimates are rather crude, based on assumed fuel economy and the amount of fuel consumed.
- A state by state estimate of CO<sub>2</sub> emissions could just as easily be estimated by EPA or FHWA based on fuel sales and vehicle fuel economy. There is no need to burden the states and MPOs to report these estimates.

The proposed framework of establishing targets with interim reporting on a two and four year basis may not be the most appropriate system. Currently, emissions modeling is lined up with the conformity requirements that dictate the modeling of certain future years required by the SIP. Many DOTs and MPOs do not prepare transportation models on a bi-annual basis. A more appropriate modeling scheme may be every 5 years or a direct alignment with conformity requirements in nonattainment areas using the MOVES model to estimate emissions. Off-model year analysis would require MPOs and DOTs to prepare new travel demand model networks, new emissions model inputs and updated socio-economic inputs. This effort would increase the work associated with estimating on-road GHG emissions without providing much more clarity than a 5-year or conformity-aligned basis. Targets could potentially be established and interim emissions tested through the life of the plan without a strict adherence to a biannual system.

- Short-term targets can be set in a way that encourages per capita GHG reductions from the transportation system above what is provided by improvements in vehicle fuel economy technology alone, in-line with California SB 375. Unlike SB 375, DOTs and MPOs should have the ability to set their own targets. For ease in performing these analyses, it would be useful for the modifications to the MOVES model to allow for the easy manipulation of fuel economy variables. Like with other measures, metrics trending towards the target should be sufficient to demonstrate adherence to the performance-based planning framework.

## QUESTIONS

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- In some cases, the owner of a roadway performing below a set standard / target may be a small local unit of government with limited resources. In these cases, will falling below a target mandate that that governmental unit utilize its limited resources on a NHS route over other local routes that may have more local significance?
- *Page 23817; Column 1 – Lack of control over Performance Outcomes* – MPOs normally do not own or operate infrastructure. As such, should road owners fail to meet any performance outcomes, will the MPO be penalized?
- How can pavement condition and roadway construction factors be taken into account during the data collection/sampling process or during the performance measure calculation and reporting process?
- Should there be other seasonal factors included when calculating the Excessive Vehicle Hours of Delay per Capita metric?
- What is the definition of “Average Travel Time” when calculating “Travel Segment Delay?” Is it the average daily, weekly, and monthly, PM or AM peak, or overall annual average travel time?