

**System Performance Webinar for the  
System Performance/Freight/ CMAQ Performance Measures NPRM**

**FHWA Office of Transportation Performance Management  
April 26, 2016**

*Presented by*

**Francine Shaw Whitson**  
Office of Transportation Performance Management

**Jeff Lindley**  
Office of Operations

**Rich Taylor**  
Office of Operations

**Webinar Recording**

<https://connectdot.connectsolutions.com/p5okifznmwh/?launcher=false&fcsContent=true&pbMode=normal>

[https://www.fhwa.dot.gov/tpm/rule/pm3\\_nprm.cfm](https://www.fhwa.dot.gov/tpm/rule/pm3_nprm.cfm)

**Operator:** Ladies and gentlemen. Thank you for standing by. Welcome to the System Performance External Webinar. At this time, all participants are in a listen-only mode. If you should require assistance during the call, please press "star" then "zero." I'd now like to turn the call over to Jessica Baas. Please go ahead.

**Jessica Baas:** Thank you. Good afternoon, everyone, and welcome to the System Performance Webinar for the System Performance Freight and CMAQ Measures, NPRM. My name is Jessica Baas. I'm with the USDOT's Volpe Center in Cambridge, Massachusetts, and I will be moderating today's webinar, as well as facilitating our question and answer session and helping to troubleshoot any technical issues you may have. Before we begin, I'd like to quickly orient everyone to the web room. On the top left side of your screen, you'll find the audio call-in information. We expect that most of you are listening over your computer speakers, but for the highest audio quality, we recommend that you mute your computer speakers and dial-in with your phone. Below that is a list of attendees, including your host and presenters for today. Finally, on the bottom left is a Chat Box that you can use to submit clarifying questions for our presenters throughout the webinar. In the Chat Pod, we can only answer clarifying questions about the content of NPRM. We encourage you to submit any comments you have to the docket. A PDF copy of the slides will be available for download at the end of the webinar. If you have any technical questions during today's webinar, please use the Chat Box to send a direct chat to me, Jessica Baas. Today's webinar is being recorded. A copy of the recording and the presentation and the Chat Pod transcript will be posted to the docket after today's webinar. And with that, I'd like to turn the webinar over to Francine Shaw Whitson from the FHWA Office of Transportation Performance Management to begin our presentation and discussion. Francine, please go ahead.

**Francine Shaw Whitson:** Thank you, Jessica. Good afternoon, morning or evening, depending on where you are. As she said, my name is Francine Shaw Whitson of the Office of Transportation Performance Management, and the Office of Infrastructure. And I'd like to welcome you to today's webinar. This webinar will provide information about our third Notice of Proposed Rulemaking. It is part of a series covering all the Performance Management Measures that are listed in our NPRM. A listing of all of our webinars in this series is available on our website at [fhwa.dot.gov/tpm](http://fhwa.dot.gov/tpm), as well as at the end of today's presentation, this NPRM, also MAP-21 and Fast-Act Compliant. For today's discussion we're going to provide an in-depth review of proposed measures to assess performance of the National Highway System, or the NHS, and then we're going to open up for questions. As we're going through the presentation, please feel free to enter your clarifying questions into the Chat Pod. In doing so, please indicate the topic that you would like for us to address. Again, as Jessica mentioned, we are recording this webinar, and it will be available for you to download after the webinar. Also a transcript and the Chat Pod will be posted to the docket. So let's get started. I'll first introduce you to Jeff Lindley. He's the Associate Minister for Operations. He will be providing us with a few opening remarks. Jeff?

**Jeff Lindley:** Thanks, Francine. I appreciate the opportunity to speak with everyone on the webinar for a few minutes this afternoon, or this morning, wherever you are. We've got a good turnout and thank you for spending a few minutes out of your day to hear more about this important subject. This is all about the System Performance Measures that are being proposed at FHWA as part of the proposed rulemaking,

and these performance metrics belong with the other information that's contained on the NPRM on issues like setting targets and reporting on progress, are the result of all of our work over the last three years or so. A lot of thinking, a lot of hard work, a lot of consideration of options went into these measures. You already have met Francine Shaw Whitson and you'll meet a few more today, but just a lot of hard work by folks across FHWA and across the department on the subject. And through the process, we tried to balance your concerns and your feedback from all of you and other stakeholders on how well we did, and we look forward to your additional feedback. The proposed measures will require State DOTs and NPOs to monitor performance on the National Highway System. And the whole purpose of that is to get information that will be invaluable in making decisions on investments to improve performance. So this is all about ultimately improving performance, not just using data and collecting metrics. Producing the proposed performance measures is also going to require that there be data available. And I wanted to mention upfront that we do intend to continue to make available the National Performance Management Data Set, or NPMRDS, as you'll hear later on, or equivalent data, if you have equivalent data available. We have been providing the NPMRDS for the last three years since July of 2013, and we intend to continue to provide that data free of charge to States and MPOs and will also continue to provide technical assistance on use of the data throughout the rulemaking process. So if you are a State DOT or MPO and you have not accessed that data, I would encourage you to contact us and check it out, because I think you'll find it to be a very rich and very useful source of information. So again, thanks for joining us. We know this proposed rule is complicated. As you heard earlier, we're recording the webinar, in case you miss some of the details or if you have questions that don't get answered as part of today's webinar, it'll be available online after we finish. And I guess the last thing I would do is to encourage input. If you don't pose questions today, we do know that there is an opportunity, of course, through the rulemaking process to provide comments to the docket. And we encourage you to provide any comments you might have throughout the process. So that's it for me, I'll turn it back over to Francine, thanks.

**Francine Shaw Whitson:** Jeff, thank you. We appreciate your comments. So let's go over today's outline. As you see on the screen, today's presentation will be done in five parts. The first part is just an overview of Performance Provisions being initiated by MAP-21. Part 2 and 3 will introduce the Proposed Measures, the Concepts and how to calculate it, and that will be done by Rich. And Part 4, I will go over the Target Setting, Reporting Significant Progress, and then we're going to wrap up with question and answer at the end. Keep in mind that you should enter your questions into the Chat Pod as we go along, and will cover those as quickly as possible? All right. So let's go on. So let's get started with a quick review of Transportation Performance Management Measures that was introduced by MAP-21. As you can see, we also start with asking why are we doing Performance Management? It's not new to most agencies, but it is new to the field of transportation. And Performance Management will help us maximize the return on investment of the funding dollars that's entrusted to transportation agencies, planning organizations and other agencies that use this money. So what you see here is a slide for the Rulemaking Schedule as we mentioned before, the Safety Performance Measures and the HSIP Rule of Ohio. They were published on March 15<sup>th</sup>. They had an effective date of April 15<sup>th</sup>. And so those rules are in place and effective already. As you can see, the Statewide Metropolitan Planning Rule is anticipated to be published next month. So while you're looking at this particular rule, you get to have the final rule for the planning. The Pavement and Bridge Performance Measures, as well as the Highway Asset Management Plan, we anticipate publishing those two together in October of this year. And this Performance NPRM,

please note that the closing date on comment, which is open for 120 days, is August the 20<sup>th</sup>. So take advantage of those 120 days. Next. What you see here is the summary of New 23-CFR Part 490. When the rule is completed, it's gonna be comprised of all the subparts you see there, A through H. This presentation focuses on Subpart E, the Proposed Measures to Assess Performance of the National Highway System. So those would be the Measures, the Performance Metrics, etcetera. There will also be additional presentations as we move forward, and we have one more left next week, and that's on CMAQ next Tuesday. And we encourage you to register for that particular webinar. For your reference all the propose NPRMs as Associated Fact Sheet and presentations will be available on our website. So with that, I'm going to turn this over to Rich, who will take over for Parts 2 and 3. Rich?

**Rich Taylor:** Thank you, Francine! And good morning/good afternoon to everybody on the webinar today. My name's Rich Taylor, I'm with Federal Highway's Office of Operations. I'm going to be doing the next two parts of the webinar today. This particular section, we're going to look at the four Proposed Measures under System Performance. The Concepts of Metrics Thresholds, Measures and Targets. The Reporting Requirements, and last we will discuss the Data Set, including the proposed Main Data Set, the National Performance Management Research Data Set, or NPMRDS, and the key units of data used to calculate the metrics. FHWA is required, under 23-USC Section 150-C to establish Performance Measures for State DOTs to use for assessing performance of the National Highway System, or NHS. These measures are designed to be used by State DOTs and MPOs to better understand the scope of reliability problems, and peak hour performance on their highways systems, and to aid in identifying and implementing strategies to improve performance. The two proposed travel time reliability measures, which would apply to the full extent of the interstate and non-interstate NHS are, percent of the interstate system providing for reliable travel times, and percent of the non-interstate NHS providing for reliable travel times. Travel time reliability is defined by Federal Highway as the consistency or dependability of travel times from day-to-day or across different times of day. There are also two measures for peak hour travel times, which would apply to urbanized areas over one lane and population only. The first measure is percent of the interstate system in urbanized areas over one million in population, where peak hour travel times meet expectations. And the second is the same measure, except for the non-interstate NHS. So before we go into the measures in more depth, which we'll do in the next part, we want to review a few key terms. The measures in subparts E, F and G, are comprised of a metric, a threshold by which the metric is measured, and the ultimate measure. A metric is defined as a quantifiable indicator of performance or condition as defined by Federal Highways and it's applied to each travel time segment. Using a freight movement example, a metric would be average truck speed, as you see on the bottom left there. A threshold is defined as the level at which the performance of a recording segment is included in the measure or not. The threshold is applied to the metric for each travel time segment, and it's the same for each segment for all State DOTs and MPOs. For this proposed rule, each measure is calculated based on whether road segments are operating at a specified performance level, using a threshold defined by Federal Highways. In this example, a threshold of 50 miles per hour is applied to each road segment so that when average truck speed is above this threshold for a given segment of the interstate highway, that segment is considered uncongested. Federal Highways is requesting comment on the thresholds used in each metric calculation in this proposed rule. Finally, a measure is defined as an expression based on a metric that is used to establish targets and assess progress toward achieving the established targets. In this example, the measure would be percent of the interstate system mileage uncongested. By dividing

the total number of uncongested miles, which is 2,510 in this example, by this 3,000 total miles in the system, the measure is calculated at 83.7 percent uncongested. Now the metric in this threshold are applied to each individual travel time segment while the measure applies to the entire applicable network. The State DOTs and MPOs would use this information in establishing their targets and evaluating if the targets have been achieved. In later slides, we'll review the proposed metrics thresholds and measures for Subpart E. Now let's look at the relationship between measures and targets. The measure definition is the same as on the previous slide. It's an expression used to establish a targets and to assess progress. A target is defined as a quantifiable level of performance or a condition expressed as a value for the measure to be achieved within a time period required by Federal Highways. In this example, the State DOT or MPO has established its target as 80 percent of the road miles designed as uncongested. With over 83 percent of the road network uncongested, the State DOT or MPO achieved its target. Unlike metrics, thresholds and measures, which are defined by Federal Highways, targets are established by State DOTs and MPOs. State DOTs and MPOs would be required to work together to establish targets that would support the national transportation goals, while improving investment decision-making processes. So now we're going to move on and we're going to talk about the geographic areas used by the proposed measures. The maps on the following slides are for illustrative purposes only. So there are three primary geographic areas used when establishing targets for the performance of the NHS measures: State boundaries, MPO's metropolitan planning areas, and urbanized areas with populations over one million. Now the travel time reliability measures would require State DOTs to establish statewide targets that represent performance outcomes of the transportation network or area within their respective state boundaries, and for MPOs to establish targets within their respective metropolitan planning areas. The peak hour travel time measures that would require State DOTs and MPOs to establish a single unified target for an applicable urbanized area. Now Federal Highways further proposes that State DOTs and MPOs establish targets that represent performance outcomes of the entire transportation network or area required for proposed measures regardless of ownership, including NHS bridges that cross a State border. This map shows Illinois in green and two MPOs in Illinois in blue. Please note that Illinois has additional MPOs, but the example in this in the following slides, focuses only on these two MPOs. The MPO in the Northeast, which is in the Chicago region is completely within the State. And the MPO in the South, which is in the Saint Louis region, is in two State MPOs that crosses into Missouri. The interstate system is highlighted in dark blue, and the remaining NHS in grey on the map. Performance of the NHS measures divide the NHS into the interstate system, and the non-interstate NHS within applicable boundaries. In the following slides, we'll zoom in on Illinois to see how State DOTs and MPOs establish targets in the Chicago and Saint Louis areas, based on the extent of the interstate system the non-interstate NHS, and urbanized areas with populations over one million. Now the travel time reliability measures would allow for separate MPO and State DOT targets. MPOs would establish applicable targets for their entire metropolitan planning area regardless of State boundaries, while individual State DOTs would establish targets for only the area within their State boundaries. This map shows that the MPO in the Saint Louis area, and the MPO in the Chicago area would establish applicable targets for their entire metropolitan planning area. The Illinois State DOT would establish targets for the area within its State boundary, including the Illinois portions of both metropolitan planning areas. State DOTs and MPOs should coordinate on the selection of targets to ensure consistency to the maximum extent possible. All right. So the Saint Louis area MPO crosses the Illinois-Missouri State boundary as you can see in this map. For the travel time reliability measures, areas with multi-State MPOs, such as Saint

Louis, would require additional coordination between the multiple-State DOTs and the MPO in establishing targets that are consistent and reasonable for each entity. The MPO target would cover the entire metropolitan planning area regardless of the State boundaries. While each State DOT would establish targets for the area within their State boundary. In the case illustrated on this map, the MPO in Saint Louis would establish a target for its entire metropolitan planning area, whereas, Illinois would adopt a Statewide target that takes into account the Illinois portion of Saint Louis' metropolitan planning area, and Missouri would adopt a target taking into account the Missouri portion. FHWA recognizes the challenges in coordinating targets between State DOTs and MPOs, especially in cases where urbanized and metropolitan planning areas cross multiple State boundaries. FHWA intends for State DOTs and MPOs to collectively consider boundary differences when establishing both State DOTs and MPO targets. So in this slide, the yellow portions on this map illustrate the full extent of the urbanized areas in Saint Louis and Chicago, and explain how large urbanized areas cross State boundaries. FHWA recognizes that for these large urbanized areas, performance is not constrained by political boundaries and that performance should be addressed regionally. Strategies taken in one political jurisdiction can have direct and indirect impacts when measuring performance in another approximate political jurisdiction. FHWA felt that this approach would increase the potential for coordination across jurisdictions to manage the overall performance of the region. So FHWA chose to limit the measure to urbanized areas with populations over one million, as agencies in these large urbanized areas typically have more capability and experience. Peak hour travel time measures apply to the full extent of the interstate system and not interstate NHS but fall within the boundary of the urbanized areas with populations over one million. For each of these urbanized areas, targets will be collectively established by all State DOTs and MPOs that have within their respective boundaries any portion of the applicable roadway network in the applicable urbanized area. This makes coordination on these measures particularly important. To illustrate the coordination required when establishing targets for peak hour travel time measures, let's look at the Chicago urbanized area. This map shows how the Chicago urbanized area, shown in yellow, crosses into the State of Indiana, and the MPO in Northwest Indiana. For peak hour travel time measures, Illinois and Indiana DOTs and the two Chicago area MPOs, CMAQ in Chicago, and then Northwest Indiana Regional Planning Commission, would establish single unified targets for the full extent of the interstate system, and also for the full extent of the non-interstate NHS within the boundaries of the Chicago urbanized area. That concludes our discussion of the Geographic Areas. Now we're going to move on to Data Sources for the Proposed Performance Measures. The measures covered today draw from the following source-- excuse me-- draw data from the following sources. Again, the NPMRDS is a key data set for the measures to assess performance of the NHS. The NPMRDS is a data set that includes travel times, representative of all vehicles using the highway system. The US Decennial Census serves as a source of urbanized area populations. The peak hour travel time measures applicable to urbanized areas that were one million in population only. The census would be the primary source to determine the size of an urbanized area. At the start of each four-year reporting period, State DOTs would be required to submit the boundaries of urbanized areas greater than one million in population, based on the latest Decennial Census to the Highway Performance Monitoring System, or HPMS. As applicable, State DOTs and MPOs could adjust the census defined boundaries and submit them for approval from FHWA. Once approved by FHWA, these boundaries would apply to the peak hour travel time measure. All right, so let's get into a little more detail about the National Performance Management Research Data Set. Again, this data set is already being offered by Federal Highways in monthly historical data sets, to State DOTs and MPOs. It

includes travel time derived from all traffic using the highway system in what we refer to in the rule as five-minute bins. It includes a breakdown of travel times of the freight vehicles and all traffic, which includes both freight and passenger vehicles. And uses travel times that requires there be vehicle probes on continuous segments of the roadway, and it's covering the entire mainline NHS. The types of vehicle probes that are used include mobile phones, vehicle transponders, and portable navigation devices. Now to give you an example, there are over 100,000 five-minute bins for each road segment over the course of the year. That's a lot of data. So, the rule, proposed rule, allows for the use of an equivalent data set in place of or in addition to the NPMRDS. State DOTs and applicable MPOs would need to agree to use the same equivalent data set for all applicable travel time segments for the calendar year. The State DOT would need to submit the data set they would like to use and request FHWA's approval by October 1<sup>st</sup> prior to the beginning of the calendar year in which the data set would be used to calculate metrics. State DOTs and MPOs would not be able to use the data set until Federal Highway approves them. For a full detail on equivalent data set requirements, please refer to the proposed rule. In general, the equivalency requirements follow those of the NPMRDS, with a focus on the data being actual observed travel times, and not travel times derived from imputed methods, such as historical travel times or other estimates. All right, now we're going to move on to recording requirements. State DOTs, in coordination with MPOs, should define a single set of recording segments of the interstate system and non-interstate NHS for use in determining each of the applicable measures within this NPRM. Reporting segments should cover the full extent of the mainlines of the interstate system, and the non-interstate NHS required for reporting a given measure. So mainland highways include on the through travel line-- or excuse me-- the through travel lanes of any highway, and they explicitly exclude ramps, shoulders, turn lanes, crossovers, rest areas and other pavement surfaces that are not part of the roadway that's normally traveled by through traffic. Separate reporting segments, again, are needed for each direction of travel on every highway in the system. Travel time and segment lengths, as defined in the NPMRDS vary based on road features, such as interchanges, intersections or other considerations. They can be shorter than one-tenth of a mile in urban areas and much longer in rural areas. As proposed in this NPRM, State DOTs and MPOs could aggregate travel time segments provided by the NPMRDS into reporting segments, if desired. Reporting segments in urbanized areas would have a maximum length of half-a-mile, unless an individual travel time segment is longer. The maximum length in rural areas would be ten miles, unless an individual travel time segment is longer. So speaking of the NPMRDS, let's look at a little bit of what the travel times would look like. So the State DOT would establish in coordination with applicable MPOs a single travel time data set, which again, would be the NPMRDS and/or equivalent data set that would be used to calculate the annual metrics in this proposed rule. The same data set should be used for each year in a performance period. A State DOT or MPO should use the same travel time data set for each reporting segment for the purposes of calculating the metrics and measures. So each performance measure within this proposed rule applies to a specific road network and has specific time periods for which the measure is applicable. The performance of the NHS measures cover the interstate system and non-interstate system with two measures for each highway system, and cover a subset of time periods during the year. We will describe the subset of time periods on the following slide. Now the table on this slide demonstrates what values might look like for an example segment of road. Keep in mind that these numbers are only for illustration and do not represent any data currently in the NPMRDS. As shown in the column to the right average travel times are recorded for an entire calendar year within the NPMRDS for each segment of the highway system. Travel times, again, are recorded in five-minute bins. State DOTs would be required to

calculate the metrics for all applicable roadway segments for the required time periods and report them to FHWA annually. So that concludes the review of the Data Requirements and particularly of the Proposed Measures in the NPRM. Now I did want to add, though, that we're going to talk a little bit about the travel time periods that are applicable to the various measures that we're discussing today. So FHWA is proposing that the level of travel time reliability metric-- try a new-- thank you. Proposing that the level of travel time reliability metric, which is used to calculate the Travel Time Reliability Measures be based on the variability of travel times over a full year during the following time periods. Weekdays, which are Monday through Friday, from 6 to 10 a.m.; from 10 a.m. to 4 p.m.; and from 4 to 8 p.m. As well as weekends, which are Saturday and Sunday from 6 a.m. to 8 p.m., so that's a total of four different time periods. FHWA selected these time periods to cover peak hours and other times of day the system may be used the most. By using these smaller time periods, State DOTs and MPOs may better understand reliability issues during variable travel times throughout the week, i.e. that is a peak period weekday, midday, and weekends. And implement effective operational strategies to address problems. Evaluating the defined time periods would remove the times of day when travel is typically uncongested due to lack of use. Now for the peak hour travel time measures. FHWA is proposing that the peak period of travel will occur between 6 a.m. and 9 a.m. or between 4 p.m. and 7 p.m. on non-holiday weekdays. The six one-hour time blocks within these periods are referred to as the peak period in this rulemaking. The annual average travel time for each of the six hourly blocks, from 6 to 7, 7 to 8, etcetera, in the peak period would be calculated separately for a reporting segment, as the first step of calculating the peak hour travel time metric. So we've now gone over the key concepts that System Performance Measures build upon. Next, we will talk about how we actually calculate the measures in more detail. All right. Now we're going to talk about the measures to assess performance of the NHS, and specifically the Travel Time Reliability Measure. So again, we've already told you that the required reliability measures are percent of the interstate system providing reliable travel times, and the percent of the non-interstate NHS providing reliable travel times. So FHWA is proposing that reliability be described as a comparison of longer than average travel times experienced by users compared to the normal travel times which are defined by the metrics, the level of travel time reliability, or to be shortened to LOTTR. The longer than average travel time is in the 80<sup>th</sup> percentile of all travel times over the course of a year on the reporting segment. While the average travel time is described-- excuse me-- while the normal travel time is described as the 50<sup>th</sup> percentile travel time over the course of the year. This metric would capture the variation in travel speeds for a specific segment of the road. A road segment would be defined as reliable if the 80<sup>th</sup> percentile travel time remains less than 50 percent higher than the normal travel time. And this equates to an LOTTR that is below a threshold of 1.50 in each of the four designated time periods. Again, that's weekday morning peak; weekday afternoon or evening peak; weekday midday; and on the weekends. So in the example segment, for one of the four time periods, the LOTTR was 2.00, which exceeds the threshold of 1.50. Therefore, the segment overall is not considered reliable. The measure is calculated as the sum of all system miles that provide for reliable travel times. In this example 81.3 percent of all miles provided for reliable travel times. So the next several slides will review the process for calculating both the metric and this measure-- and the measure itself. Excuse me, the metric for the measure and the measure itself. The travel time reliability measure proposed in this subpart is focused on the variability in travel times experienced by all vehicles during four time periods on all days throughout the year. Again, the four time periods are 6 to 10 a.m. on weekdays; 10 a.m. to 4 p.m. on weekdays; 4 to 8 p.m. on weekdays; and 6 a.m. to 8 p.m. on both weekend days. The method to calculate the metric associated with this measure



proposes that State DOTs assemble and organize a complete year of travel time data for each reporting segment and for each time period. The assembled data would include for each presorting segment in each travel direction, average travel times for all vehicles to the nearest second as reported in five-minute bins in the NPMRDS or equivalent data set. The information in those five-minute bins would be collected throughout the day for each of the four time periods of each weekday and weekend day from January 1<sup>st</sup> through December 31<sup>st</sup> of a single year. So returning to our example table here, showing data from one segment of road, you can see a subsample of travel times from February 3<sup>rd</sup> and November 7<sup>th</sup>, a portion of the travel times covering the entire year. Average travel times are those travel times to the nearest whole second for all vehicles. Note that one travel time is not recorded and is shown as blank in the table. November 7<sup>th</sup> from 6:30 to 6:35. All right, now moving onto the next slide, to calculate the metric, any travel time that is recorded as blank or null, would be replaced with the travel time at posted speed limit rounded to the nearest whole second. The travel time at posted speed limit with an equal of these segment lengths in miles, divided by the posted speed limit in miles per hour. Which is calculated as 26 seconds for this half-mile segment. So the calculation of the level of travel time reliability metric is proposed as the ratio of a longer or 80<sup>th</sup> percentile travel time to the normal or 50<sup>th</sup> percentile travel time, as ranked within each time period for each travel time segment over the course of a year. As shown in this example, for the period from 6 a.m. to 10 a.m. on weekdays, the 50<sup>th</sup> percentile travel time is 35 seconds; and the 80<sup>th</sup> percentile travel time is 44 seconds. FHWA is proposing the use of the 80<sup>th</sup> percentile travel time because it is generally accepted as the upper bound of travel time that transportation agencies can plausibly manage using operational strategies and available resources. Travel that's beyond this point are acknowledged to occur during unique traffic incidents that can be outside the control of a transportation agency. FHWA is also proposing the use of the 50<sup>th</sup> percentile travel time to represent the normal or expected time of travel during the hours of the day when the highway is in predominant use. FHWA believes that the comparison of the 80<sup>th</sup> and 50<sup>th</sup> percentiles of the travel times occurring during the time periods identified, which are the most typical travel times, will reflect the reliability of the system as perceived by most highway users. So having determined the 80<sup>th</sup> and 50<sup>th</sup> percentile times for each time period on a given segment, the next step is calculating the LOTTR metric for each time period and to evaluate whether those metrics meet the threshold. So from the last slide, we can calculate the LOTTR by dividing the 80<sup>th</sup> percentile travel time by the 50<sup>th</sup> percentile from our weekday 6 to 10 a.m. time period. In that example, 44 seconds divided by 35 seconds equals an LOTTR of 1.26. The results is shown in the first row on this table. LOTTR metrics-- again, one for each time period-- will be calculated for every NHS reporting segment within the State and rounded to the nearest hundredth decimal place. The LOTTR values for each of the four time periods were reported the relevant segment. The remaining LOTTR metrics are 1.39 from 6 a.m. to 10 a.m. weekdays; 1.54 from 10 a.m. to 4 p.m.; and 1.31 on weekends from 6 a.m. to 8 p.m. Recall that the threshold for reliable travel times as defined by Federal Highways would be an LOTTR below 1.50. In the example shown the segment presents reliable travel times for three of the time periods. However, note that it has an LOTTR of 1.54 on weekdays from 4-- excuse me-- from 4 p.m. till 8 p.m. This exceeds the threshold level of 1.50 and is not considered reliable. For purposes of determining the measure, a segment is considered reliable only if it provides for an LOTTR below the threshold of 1.50 for all time periods. So if any of the four time periods has an LOTTR metric of 1.50 or above, the whole road segment would not be considered as providing for reliable travel times. This example road segment would not be considered as providing for reliable travel times since it does not provide` for reliable travel times during one of the four time periods. All right, so

the last step we're going to discuss here is how to calculate the travel time reliability measure. The measure, again, is calculated by dividing the total system mileage that meets the thresholds of providing for reliable travel times by the full total system mileage. In this example, the full extent of the interstate system required for recording of this measure is 8.000 Eastbound miles. In most cases the full extent of the system will be much longer, including uniquely defined segments for each direction. But we were using the short length for simplicity in this example. Note that reporting is to the nearest thousandths of a mile. The first step in calculating the measure would be to consider the reliability of each recording segment. The time periods in red here reflect when each recording segment was not providing for reliable travel. In green are time periods when the recording segment does provide for reliable travel times. So based on the definition of a reliable segment from the last slide, we can see that the first and third road segments do not provide for reliable travel times. One or more time periods in each of those segments does not meet the reliable travel time threshold as they have an LOTTR greater than or equal to 1.50. So to calculate the total system mileage providing for reliable travel times, we simply add up the miles that provide for reliable travel times in all four time periods to the nearest 100<sup>th</sup> of a mile. In the example, 6.500 miles provide reliable travel. So then to actually calculate the measure, you would divide 6.5 by the total of 8 miles, and we find that 81.3 percent of the system in the example provides for reliable travel. This measure is calculated to the nearest tenth of a percent. State DOTs and MPOs would compare the percentage to their targets to evaluate performance on the interstate and non-interstate NHS. Each State DOT and MPO would establish targets for both the interstate system, and the non-interstate NHS within their boundaries, as each highway system is associated with a unique measure. The measure is calculated separately for each system. All right. So once the measure has been calculated for all applicable mileage within the State boundary or MPA, State DOTs and MPOs could compare that mileage to their target percentage of mileage providing for reliable travel times. State DOTs and MPOs would establish targets for both the interstate NHS, and non-interstate NHS. In the illustrative example on this slide, the measure was calculated as 81.3 percent of interstate miles providing for reliable travel times. The State DOT had established a target of 80.0 percent of interstate miles providing for reliable travel times for the calendar year. Thus the State DOT in this example achieved its target. This concludes our review of the Travel Time Reliability Measure. Now we're going to move on to the Peak Hour Travel Time Measures. These two proposed Peak Hour Travel Time Measures would be applicable to all segments of a mainline NHS within urbanized areas with a population greater than one million. The two measures that are proposed for peak hour travel time, again, are percent of the interstate system in urbanized areas over one million in population where peak hour travel times meet expectations. And the second measure is the same, but for non-interstate NHS. The formula to calculate these measures is very similar to the travel time reliability measures, but the metrics are calculated very differently. In this case, the metric is defined as the ratio of the longest peak hour travel time during the peak hour period to the desired travel time during that period. This is known as the peak hour travel time ratio, or PHTTR. In the case of these metrics, State DOTs will use the ratio of the longest travel time during specific peak hours as compared to the desired travel time during those hours. State DOTs-- this is important-- State DOTs in coordination with relevant MPOs would establish the desired travel times based on their operational policies. It is also important to note for each urbanized area, all State DOTs and MPOs whose boundaries intersect that urbanized area would jointly establish a single target for the interstate system, and a single target for the non-interstate NHS for that urbanized area. So each urbanized area should have two targets. And the State DOTs and MPOs that have boundaries in multiple urbanized areas would be

required to establish targets for each of those urbanized areas. All right, so let's go into how we calculate the metric and measure. In the next several slides, we're going to review this process and we'll just start with the metric. So the peak hour travel time measure proposed in this subpart is focused on the absolute or average travel times experienced by all vehicles during six time periods on weekday, on non-holiday weekdays only throughout the year. The six time periods are the weekday time periods of 6 to 7 a.m.; 7 to 8 a.m.; 8 to 9 a.m.; and then 4 to 5 p.m.; 5 to 6 p.m.; and 6 to 7 p.m. And again, there are no Federal holiday or weekend time periods included in the calculation. The proposed method to calculate the metric would entail State DOTs assembling and organizing in a complete year of travel-time data for each reporting segment, and for each time period. The assembled data would include for each reporting segment in each travel direction average travel times for all vehicles to the nearest second as recorded in five-minute bins in the NPMRDS, or equivalent data set. The information in those five-minute bins would be collected through each of those six time periods for every weekday from January 1<sup>st</sup> through December 31<sup>st</sup> in a single year. Again, every non-holiday, Federal holiday weekday. In the example table, you can see the same associated table of travel times from February 3<sup>rd</sup> and November 7<sup>th</sup> as before. Once again, State DOTs would assemble average travel times to the nearest whole second for all vehicles. To calculate the metrics, all travel times that equate to speeds less than two miles per hour, or greater than 100 miles per hour are removed from the calculation. Also any blank travel times are removed from the calculation. You'll note that in this case, the travel time on November 7<sup>th</sup> from 6:30 to 6:35 p.m. in red registered an unusual travel speed of 15 seconds. The time after it from 6:35 to 6:40 p.m. registered as blank. In this case, a travel time of 15 seconds on a .5 mile segment would equate to a speed of 120 miles per hour. As this is greater than 100 miles per hour, it would be removed from the calculation of the metric. Similarly the blank travel time from 6:35 to 6:40 p.m. on November 7<sup>th</sup> would be removed. All right, now let's walk through calculating the peak hour travel time ration metrics, step by step. So for each of the six hours in the peak period, an average travel time would be calculated by summing all average travel times reported for all non-Federal holiday weekdays. That sum would be divided by the total number of measured travel times on non-Holiday weekdays over a full calendar year. In this example for the hour of 6 to 7 a.m., all reported average travel times would be summed from all of the non-Federal holiday weekdays. Let's imagine that in this example we summed all travel times over the year and divided by the total number of valid travel times, and the result was 36 seconds. So in this case, the average annual travel time from 6 to 7 a.m. for this half-mile segment would be 36 seconds. So for each segment of road, the longest peak hour travel time is the average annual travel time from the six hourly periods that is greatest in time. This table shows the average annual travel times for two segments. Segment A, which is, again, 0.500 miles in length, and Segment B, which is 0.250 miles in length. Reporting said links would be rounded to the nearest hundredth of a mile. As you'll note, there are three morning peak hour periods, and three afternoon peak hour periods. For later calculations, it's important to note when the longest average annual travel time occurs, and whether it's a morning or afternoon peak hour. In this example, Segment A's longest average annual-- excuse me-- longest annual average peak hour travel time is from 8 to 9 a.m. And it is the travel time of 42 seconds. Segment B's longest annual travel time is 23 seconds, and it occurs from 4 to 5 p.m. Now note that the longest peak hour travel time for each segment is during a different peak period. Segment A's longest travel time is in the morning; while Segment B's falls in the afternoon. All right, so we're continuing on looking at the metric calculation, and this slide shows a sample part of the NHS who's full extent in the urbanized area is 2.5 miles. Notice that we have five segments, A through E. Segments A and B are the same segments we discussed in the last slide. So FHWA is

proposing that the State DOTs in coordination with MPOs, and in consultation with operating agencies, assign desired peak period travel times based on their operational policies for their NHS roadways. For each reporting segment for the peak period-- one each for the three morning hours, and the three evening hours. State DOTs would need to report a single desired peak period travel time for the morning hours in the peak period, and a single desired peak period travel time for the afternoon hours in the peak period when reporting segments are submitted to Federal Highways. Each would be provided to the nearest whole second. Here you can see the desired peak hour travel times for the morning hours for Segment A through E. As proposed, State DOTs would only be allowed to modify the desired peak period travel time if the reporting segment lengths changed during a performance period. For this example, as our peak period travel times are calculated using posted speed limit of 50 miles per hour for each reporting segment. State DOTs and MPOs would determine the desired peak period travel times based on their own operational policies and programs. So the last slide on this slide shows the desired peak period travel time for each segment. For Segment A, for example, the desired peak period travel time was 36 seconds. So FHWA's proposing the metric for this measure as a peak hour travel time ratio, the PHTTR, again, which is a comparison of the peak hour travel time to the desired peak period travel time for each reporting segment. The PHTTR for each segment is calculated, as illustrated in the equation at the top. Again, peak hour travel time over desired peak period travel time. And again, State DOTs would be required to establish desired peak period travel times that would correspond to the a.m. peak, and the p.m. peak hours for each reporting segment. On this slide, the PHTTR would be calculated using the desired peak period travel time for the time of day when the longest peak hour travel time occurred. If you recall from our example for Segment A, the longest peak hour travel time was for the period 8 to 9 a.m., a morning hour, so the desired peak period travel time that corresponds to the morning travel time. For Segments B, C, D or E the desired peak period travel time could vary depending on when the longest peak hour travel time occurred. So the PHTTR metric for each recording segment would be calculated to the nearest hundredth. So similarly to how we determined system reliability in the travel time reliability measures, to calculate the measures for peak hour travel time, the State DOTs and MPOs would divide the sum of all miles that met expectations by the total system mileage in the urbanized area. FHWA is proposing that a PHTTR level threshold-- excuse me-- a PHTTR threshold level below 1.50 represent peak hour travel times that meet expectations of State DOTs, MPOs and local operating agencies. So a PHTTR of 1.50 represents an actual peak hour travel time that is 50 percent higher than the desired peak hour travel time. FHWA feels that a PHTTR level of 1.50 or higher indicates the roadway is no longer meeting its intended performance as desired by local needs to move traffic through the system. So in the example we see here on the slide, Segment C and D did not meet expectations for peak hour travel times, since they're PHTTR was 1.50 or higher. The remaining three segments met expectations. The total percentage that met expectations was 80 percent, since 2.000 miles out of the total 2.500 miles met expectations. The measure would be calculated to the nearest tenth of a percent. Now State DOTs and MPOs would compare this percentage with a target percentage that met expectations and report both numbers to Federal Highways. And as before, State DOTs and MPOs would establish targets and report the measure for both the interstate and the non-interstate NHS. Now you'll recall from earlier that State DOTs and MPOs would establish a single target for each system, for each urbanized area within their boundaries; so let's talk a little bit about those targets. So as with the last measure, the State DOTs and MPOs would compare the percentage of highway system miles calculated by the measure, for both the interstate system, and non-interstate NHS to a target percentage of system mileage that met

expectations. So on the example on this slide the measure is calculated as 80 percent of the total interstate mileage that met expectations. The State DOT and all applicable MPOs had established a single target for the urbanized area as 80.0 percent of the interstate miles uncongested-- or excuse me-- interstate miles that met expectations for the calendar year. Thus the State DOT and MPOs achieved their target for the example calendar years shown. Now note that unlike thresholds, if the measure equals the target, the State DOT or MPO is considered to have achieved its target. As a reminder, all State DOTs and MPOs that intercept an applicable urbanized area under this measure would establish single unified targets for the interstate system and non-interstate NHS within that urbanized area. All right, so that concludes our review of the Peak Hour Travel Time Measure. So we'll make a real quick discussion of the Data Submittal Requirements, now that we talked about the measures. So you can see on this chart, the data submittal requirements for the metric calculations that we've talked about here in this webinar today. So FHWA is proposing for State DOTs to report annually on travel time reliability and peak hour travel time metrics for each reporting segment on the interstate system and the non-interstate NHS. State DOTs would report the annual outcomes to the HPMS by June 15<sup>th</sup> of the following year. And that is metrics for calendar year 2017, for example, would be reported no later than June 15<sup>th</sup>, 2018. Specifically Federal Highways is proposing that State DOTs would annually report the following information to the HPMS for each reporting segment. But they would report their reference NPMRDS Traffic Message Channel or TMC Codes, or related reporting segments made of multiple TMC Codes, or by using the standard HPMS location referencing. The second item that would need to be recorded would be the level of Travel Time Reliability Metric to the nearest hundredth for each of the four reporting periods. Then the corresponding 80<sup>th</sup> and 50<sup>th</sup> percentile travel times to the nearest second would need to be reported. The peak hour travel time ratio metric to the nearest hundredth would need to be reported for each recording segment, as well as the peak hour travel time to the nearest second. And the hour where the peak hour travel time occurred would need to be reported. So those are the data elements that are used in the metric calculations that would need to be reported to the HPMS. Now FHWA would use the data that is contained in the HPMS on August 15<sup>th</sup> of each calendar year to make a determination of significant progress toward the achievement of the NHPP targets as applicable. Now please note that if a State DOT does not provide sufficient data and/or information for FHWA to make a significant progress determination for the NHPP targets, then the State DOT would be considered to not have made significant progress. We will get into the details of the Significant Progress Determination in subsequent slides. All right, so this concludes our discussion of the Proposed Measures and Data Submittal Requirements. Now, I'd like to turn it back over to Francine.

**Francine Shaw Whitson:** Thank you, Rich, I appreciate it. We appreciate all the questions that's coming in the Chat Pod, keep them coming. We selected several questions that have not been responded to, we're going to respond to those questions over the telephone, just so you guys know. So if you don't see a response, we've selected yours to answer on the phone. So let's get into Target Setting, Reporting and Significant Progress. So Part A of this rule builds on a proposal that we introduced in the Pavement and Bridge Condition Rulemaking that was from MAP-21 last year. And it makes the changes that are necessary to implement the FAST ACT. So this part of the presentation is going to cover 40 requirements, and as they require to the measures in Subpart E, as well as Significant Progress Determination as it applies to the National Highway Performance Program Measures. Now understand that while that NHPP and NHFP Significant Progress Determinations follow a similar process, our focus

today is only going to be on the National Highway Performance Program. Okay? So let's go over this. So before we get into the details of the presentations, you see already a slide where we thought it would be very good to have a high level overview of the different aspects of the proposal that we will be discussing today. As to the Pavement and Bridge Condition NPRM, FHWA is proposing a four-year performance period, in which States and MPOs would establish, report and assess performance. State DOTs and MPOs would establish targets for each measure as applicable to the geographic area or network. Two-year targets will be representing the anticipated performance at the end of the first two years. And the four-year target will represent the anticipated performance at the beginning of the four-year period. State DOTs will be required to establish both two-year and four-year targets. These targets would be reporting to FHWA at the beginning of the performance period, and if needed, they can be adjusted at the two-year point. State DOTs would also report to Federal Highway on any progress they've achieved at both the midpoint, and at the end of the period, where they assess their progress and submit to the report to Federal Highway. For MPOs, they would establish four-year targets, and in some circumstances if the MPO is larger, MPOs with larger urbanite areas will also establish two-year targets, which will be discussed later in this presentation. MPOs will report their performance targets back to the State DOT at the beginning of the performance period and would report on the progress they have achieved in the System Performance Report where they submit their Metropolitan Transportation Plan. So let's get into a little bit more details about the proposal. One of the things that we realize in doing-- in drafting this proposed rule is that State DOTs and MPOs will definitely have to be coordinating for the selection of targets. And that's central to business people all in measure areas. So if the State DOTs, under the NPRM, all State DOTs must establish both two-year and four-year targets with their respective geographic boundary contains portions of the transportation network, or the geographic area that's applicable to the measure. State DOT targets would be established one year of the effective date of the Final Rule. Adjustment on the targets will be allowed, as I said before, with two years-- at the two-year period. Only Statewide targets that set up prior to the proposed rule will be required. However, States do have the option of establishing additional targets, and that's for your urbanized areas, and your non-urbanized areas. Now if a State does choose to establish those additional targets, keep in mind, it's going to increase the number of targets that it will have to report. For MPO targets, MPOs have up to 180 days after their respective DOTs establish their targets. So those measures that don't require MPO and State DOT to agree to a single unified target, MPOs can establish their targets in one of two ways. They can agree to plan and program projects so that they contribute towards the achievement of the relevant State DOT target, or they can commit to their own unique quantifiable target for the Metropolitan Planning Area. If the State DOT does adjust its four-year target, then the MPO will go through the process again of deciding whether to reach-- to plan a programming target, or commit to a new quantifiable target. So starting with the first performance period, State DOTs and MPOs will be required to establish targets for the four measures that're shown on this slide. Note that there's a special phase-in option for the non-interstate NHS reliability measure during the first performance period only. And that's the time period from 2018, October 1<sup>st</sup> through-- I'm sorry, January 1<sup>st</sup> of 2018 through December 31<sup>st</sup> of 2021. They'll have a phase-in the next performance period. The other measures would not have the phase-in option. In the first performance period, State DOTs would only establish four-year targets. This will provide two years for State DOTs and MPOs to become more proficient in managing performance, and for the NPMRDS data coverage were not interstate NHS, there are ways to be more complete. It also gives States and DOTs more time to coordinate on their target. For the peak hour travel segment the proposed rule will

require State DOTs and MPOs to coordinate to establish single targets for each urbanized area within their boundaries. If the area of the physical highway system is not within a State or within a Metropolitan Planning Area's boundary, then the State DOT or MPO is not required to establish targets for that system. So let's go over now a little bit about the reporting. MAP-21 requires a statutory deadline of October 1<sup>st</sup>, 2016 for initial State Performance Report. As we know, this rule will not be final by October 1<sup>st</sup> of this year. Therefore, FHWA will be issuing guidance this summer on how to handle this initial State Report. The requirements for this report can be found in Section 150E of MAP-21. The NPRM also proposes that State DOT submit three types of reports that you see here on this slide. A Baseline Report, a Midpoint Report and then a Final Performance Report. Details of these reports can be found in the NPRM. For MPOs, in addition to the States Biannual Reports, MPOs will be required to submit the two reports that's shown on this slide here, both the System Performance Report, and the CMAQ Performance Plan. They are also in more detail on the NPRM. So let's go over the timeline for performance reporting. This slide shows the expected timeline for State DOT reporting for the first two performance period. As you can see, there's a four-year performance period for the majority of the measures based on time of the year, and it starts January 1<sup>st</sup>, 2018, and it ends December 31<sup>st</sup> of 2021. Okay, so let's look at a quick example of how targets would be incorporated in the Biannual Reports, all right? So the Baseline Report, you see the State DOT and the MPOs is back at their two-year targets and four-year targets and the baseline report. These targets are represented by the green and blue circles. Okay, and then you have your midpoint, your two-year targets will be evaluated against the actual performance. State DOTs may at this point, submit an adjusted four-year target. Keep in mind that the four-year target shown in the slide is higher than the original four-year target. Adjustments can also be made to lower the four-year target. FHWA will make the significant progress determination on this Mid-Period Performance Progress Report in order to submit HPMS data. We're going to discuss that in more detail in just a moment. And so for the full performance period, State DOTs and MPOs will evaluate their four year targets that they submitted in their baseline report by comparing the actual performance at the end of the performance period for each measure. We will make significant progress determination based on the submitted full period Progress Report. So we're proposing a phase-in progress establishment for the Non-Interstate NHS Travel Time Reliability Measure for the first performance period only. And that's again, the first four-year period which is 2018 through 2021. State DOTs will not have to report two-year targets of performance associated with this particular measure. They're established their four-year target. And again, we're proposing this to allow State DOTs and MPOs more time to become more proficient and manage your performance and for the trial time data set, so you can more coverage. So that's go on to Significant Progress Determination. This slide is the proposed measures that will be applicable for the assessment of significant progress for the National Highway Performance Program with NHPP. Highlighted in blue are the NHPP measures proposed in this NPRM. So Part C and D in white comprise the remaining NHPP measures, and note the measures for bridge and for pavement. And they were introduced in our last NPRM. As proposed, FHWA will assess each of the State DOT's targets separately for NHPP measures to determine significant progress towards the achievement of your targets. As shown in the table, each proposed measure is part of a measured group. If FHWA was to determine that the State DOT did not make significant progress towards one of the measures in a measured group, that State DOT would need to provide a description of the actions that State DOT will undertake to achieve all its targets in that measured group. Okay, State DOT is gonna report their targets and their metric data, and FHWA is going to use that metric data to provide calculated measures for the purposes of significant

progress determination. You see on the slide here, who is going to be doing it. And again, we'll make the determination for significant progress, what we're going to be doing it based on the NHPP targets that are submitted, and we're going to be doing it every two years. Keep in mind of the consequence for not making significant progress is that you have to describe how you plan to make significant progress on the next Performance Report, although we do encourage you to do it sooner. Couple of things I'll report real quick is that the extenuating circumstance, we would consider extenuating circumstances, if the State DOT's documented in their report that they send this to FHWA. Okay, so we're proposing, as you can see from this slide, we're proposing that significant progress be made for each of the two-year and four-year targets. Okay, and targets-- I'm sorry-- significant progress is achieved when the target is either actual performances achieved or it's better-- next-- or if the target is a declining target, then the target is equal or worse than the baseline performance is what that means, the target must be achieved. Let me restate that just so it's clear. Because it wasn't even clear to me saying it. If a State sets a declining target, you must achieve that target in order to achieve significant progress determination. Okay? Hope that's better. Now for significant progress determination for regular targets, we propose that any improvement over baseline, which represents a .1 percent improvement would be determined a significant progress. So this concludes our discussion of Reporting Target Establishment and Significant Progress. We're going to talk a little bit about our Regulatory Impact Analysis such as required. So. So FHWA has determined that this does-- this particular rule is considered a significant regulatory action, which is under Executive Board of 12-866. It's also been the minion of DOT's Procedures and Policies. We consider it significant because of the widespread interest, the public interest, and the transformation of this Federal Highways program. Now we considered it to be significant because of the interest, but not because of it being economically significant. So we're going to go over a Regulatory Impact Analysis, which is required. To estimate the cost to the proposed rule, we looked at the level of effort, which is we express the labor hours, and labor categories, as well as the capital needed to comply with each rule compliant on a rule. We estimated the cost, as Rich said earlier, under two scenarios. When we supply the data, the NPMRDS data set, and when there's a equivalent data set that's supplied by the State. So the terms of the level of effort in labor hours, the calculation for performance of NHS measures would include measure calculation cost, metric calculation cost. Those two costs total 9.76 million dollars for the associated cost of metric and measured calculations. This NPRM also contains a summary of the breakdown analys-- I'm sorry-- break-even analysis, whoo!-- or the change needed to make these costs beneficial. The analysis felt that the needed reductions in travel time represent less than .01 percent of the average annual hours of travel time for commuters in the 498 urban areas across the US. For more details on the Regulatory Impact Analysis, we ask that you look at the docket where we've placed the regulatory Impact Analysis. So that concludes our review of Measures, Metrics, Targets, Reporting, Significant Progress. Aren't you glad? Wow! Yay! <laughter> So now we're going to open up and we're going to ask you for any questions and comments. Jessica, can we open for questions now?

**Jessica Baas:** Sure, and so our first question that we're going to take from the Chat Pod is: for reporting segments, assuming the use of NPMRDS, why would anybody aggregate TMCs? It appears to be unnecessary (for this rule), it's extra work, and if you allow it, it may lead to a sort of gerrymandering where poorly performing TMCs can be bundled with better TMCs so measures meet targets.

**Rich Taylor:** This is Rich Taylor. Yeah, I don't know that that's an issue. It does require a lot of work to do the gerrymandering that you're referring to. But at any rate, we put it in there as an option. It certainly



does not have to be done. So if you have a strong feeling one way or the other, you should definitely make that known on the docket.

**Francine Shaw Whitson:** Thank you, Jessica. Next?

**Jessica Baas:** Okay, we're going to take a couple questions from Guest 13 next. The first one is, "How does the peak hour travel time achieve FHWA's priority for providing for a national focus-- focus the performance requirements on outcomes that can be reported at a national level?" And then as a follow up, "Each area over one million would set their own preferred peak hour travel time, which would limit the ability to have a nationally consistent measure."

**Rich Taylor:** So in terms of national consistency, the measures would be consistent, because the reporting whether the urban areas over one million in population, which is where we want to cover the peak hour performance of the system, we would have that information at a national level, because we'd know whether the system-- excuse me-- the interstate and non-interstate NHS in each of those urban areas are meeting the expectations of the State DOTs, MPOs and local agencies that are operating the system. So from a consistency standpoint, the measure does provide national consistencies. It'll tell us the number of miles on each system that are meeting the expectations of their operating agencies.

**Jessica Baas:** Okay, thank you. The next question's also from Guest 13, "Why doesn't NPMRDS catch probe data for non-vehicle users? Was this tested in the data development?"

**Rich Taylor:** I suggest that any questions on the NPMRDS, that kind of thing be actually asked, and we'll make sure we copy these questions, at the Quarterly NPMRDS Technical Assistance Webinar, which the next one is on May 10<sup>th</sup>. I put the registration information in the Chat Pod. It's from 1 to 3 p.m. Eastern. Those kind of detailed questions can be answered by the experts on that phone call, as it's not really specifically related to the rulemaking for this particular webinar.

**Jessica Baas:** Okay. Thank you. The next question is from the Minnesota DOT, "Why not use the same peak period for both reliability and peak travel time measures?"

**Pete Stephanos:** Yes, I'm sorry. We had the reliability measure covers period of time that the system is in use, but not the peak period. So we cover a much longer timeframe, as Rich talked about, where the peak period is focused just on those hours of greatest use in the morning peak, and the afternoon peak. So that's why we didn't use the exact same-- they are different measures, or they're representing different aspects of performance.

**Jessica Baas:** Thanks. The next question's from Keith Miller, it says, "The NPRM states that five-minute volumes would be necessary to weight the reliability measure by traffic volumes, but since their reliability metric is calculated over the entire year, across the majority of the day, wouldn't it be simple to report the percent BMT of reliable travel by using the AADT for each segment?"

**Rich Taylor:** Again, we actually don't require the use of any volumes for the reliability and peak hour travel time measures. They actually are required for one of the CMAQ measures which may have confused you a bit. So that's the answer, that they are not required, CMP or AADT is not required to develop the Travel Time Reliability or Peak Hour Travel Time Measures.

**Jessica Baas:** Okay, than you. We have a couple comments and questions on outliers, so I'll just go through all of them, and then let the presenters respond. The first one is from Keith Miller, "You propose removing travel times that represent speeds lower than two miles per hour, but what if those speeds are realistic? For example, travel approaching a congested toll plaza." Then from Logan Kip, "For removing outliers, I agree that two miles per hour and 100 miles per hour are good cutoffs. But shouldn't there be a more standard statistical procedure, such as removing values that are three standard deviations from the median?" And then finally from Ryan Hicks, "Are there any methods such as a competence score being developed for this data set that will rate each five-minute data record based on the data quality? This might make it easier to filter out outliers."

**Pete Stephanos:** Yeah, try to adjust that, in general. Well, in regards to the last question, I would again, as Rich suggested, that is sort of a detailed question regarding the actual data in the NPMRDS, and that's sort of addressed through the quarterly webinar. So we have in May--

**Francine Shaw Whitson:** Tenth.

**Pete Stephanos:** Tenth, is the next one. Encourage you to attend that one, and ask that particular question about competence, integral for a particular piece of data in that database. But overall, we did look at different approaches to addressing outliers within the data base. I think in the last webinar, we even applied a light to it. So maybe we could do that before we get off the phone. That looked at different ways of removing the data around some of the suggestions that are chatted in the Chat Pod. So I encourage you to look at that. Look at the analysis that came out of that. Even look at the NPMRDS yourself, and do some of your own outlier analysis. And then if you come up with something meaningful you'd like to offer post it to the docket. We felt like the filtering that we used was the most effective way to implement the proposal that we have in front of you.

**Jessica Baas:** Thanks. The next question is from Lauren LeJuene, and it reads, "A maximum length of .5 miles in the urbanized areas seems short when evaluating interstate facilities when interchanges are frequently greater than one mile. Please clarify."

**Rich Taylor:** So that requirement is again for the reporting segments. And it's basically taking travel time segment, which is standardized in the NPMRDS as the TMC, or Traffic Message Channel, code, which is a length of roadway as defined by the providers of the data set. And all we're saying is that any reporting segments-- or excuse me-- any travel time segments that are combined into a reporting segment would have to be no longer than half a mile in urban areas, or ten miles in rural areas. Only if the actual traffic managed-- or excuse me-- traffic message center, or TMC code, was not already longer than those minimums-- or maximums, excuse me. So in other words, if the NPMRDS, if there's an urban area where the TMC is actually three-quarters of a mile in length and it is okay to use that as your recording segment.

**Jessica Baas:** Okay, thank you. The next question is from Guest 3, "Are these performance measures required for each segment or just for the whole system? Please clarify."

**Rich Taylor:** Sure, the clarification you're looking for is that the metric calculation, which is the first one that's done is required for each reporting segment. But then you use the information that's from those metrics along with the threshold to determine which of those reporting segments in this terminology is the length or mileage of that reporting segment, is included in the actual measure calculation, which is for the applicable system itself. So the measures for the applicable system, the metrics are for the reporting segments.

**Jessica Baas:** Okay. Thank you. The next question is from Guest 7, "Why are there different reporting targets for State DOTs with adjustments, and MPOs, no adjustment?"

**Rich Taylor:** For the reliability measure, their target set by the State, as Francine said, that are two-year targets and four-year targets. And for the MPOs, they'll be setting just four-year targets. So we are providing an opportunity at the two-year point for the State to adjust that target. We do have some discussion of the four-year target in the rule about what an MPO would do if the State does adjust that target at the two-year point regarding their four-year target. So I encourage you to look at that and provide comments, if you have any questions or suggestions. But for the peak hour travel time, as was discussed, it's one unified target that's both a two-year and a four-year for the urbanized area. And so if the State does adjust it, it needs to be something that's agreed upon by all the States and MPOs at that two-year point with a four-year target.

**Jessica Baas:** Okay, thank you. The next question is from Peter Rafferty, and it says, "I was hoping you'd address filling in with the travel time at posted speed limit, since it introduces extra work, complexity and risk of error. Having found it meaningful versus arbitrary-- or have you found it as meaningful accuracy? Tracking down PSLs can be difficult than joining them to TMCs isn't trivial. Any thoughts and good PSL sources or methodology approaches to this? Also, PSLs sometimes change, which will affect results, and depending on where the travel time at the posted speed limit falls relative to the 50<sup>th</sup> and 80<sup>th</sup> percentiles, it will have different effects on the LOTTR."

**Rich Taylor:** Thanks, Peter. We actually, again, as we talked about with the outliers, we did look at the impact of filling in or not filling in the missing data with travel times as opposed to speed limit in that whitepaper. So again, I encourage you to look at that whitepaper, and to see if it gets to your question about did it really add any meaningful accuracy or not. You can sort of draw your conclusions from that and provide comment to the docket. And then regarding the different approaches to actually get the posted speed limit. We don't actually discuss that. We say the State would provide it. So we would-- if any challenges in that regard, they've already noted here, I encourage you to submit those to the docket, so we can consider it in the final rule.

**Jessica Baas:** Okay, the next question we have is from Sam, and it reads, "Where TMC endpoints do not coincide with the reporting area boundaries, MPO planning area or urbanized area, are we to only use complete TMC segments? This may come into play more often with urbanized area boundaries."

**Francine Shaw Whitson:** I think that's a very good comment, and if you could submit that comment to the docket, we will respond to it when we draft our final rule.

**Jessica Baas:** Okay, the next question's also from Sam, "We can determine whether or not TMCs are within urbanized areas or MPAs, but establishing subnetwork for MPA is not really covered in the NPRM."

**Francine Shaw Whitson:** Again, that's a very good comment, and we ask you to submit that to the docket for our consideration. Thank you, Sam.

**Jessica Baas:** Okay, the next question is from Karen Miller, "Who is responsible to issue a report when peak travel time does not show signs of progress, since it is set by multiple DOTs and MPOs? Does each State MPO have to submit a separate report on this?"

**Francine Shaw Whitson:** It's not a requirement for the MPOs to submit the progress reports to us, so the State DOTs have the responsibility of submitting the report.

**Jessica Baas:** Okay, thank you. The next question is from Peter Rafferty, and it reads, "What about tollways, toll roads, turnpikes, etc? The NPRM appears to be silent on this. Are State DOTs to include those interstates in their reporting, though they may have little or no influence on their performance?"

**Rich Taylor:** And we want to remind you that these measures are specifically identified in the MAP-21 legislation and law that they are to assess the performance of the interstate system, and the non-interstate national highway system. So if any toll roads, or roads that you identified there are on the NHS, then they will be a part of the measures that we are calculating. Otherwise, they will not be.

**Pete Stephanos:** Jessica, are you catching up here?

**Jessica Baas:** Yep, so the next comment we'll take is from Simon, and it reads, "Can MPOs and the State DOT, where applicable, work together to establish common targets and System Performance Measures for the State?"

**Francine Shaw Whitson:** Yes, we actually encourage State DOTs and MPOs to work together to establish those targets. And if you-- in the planning requirements, there is a requirement for coordination between the two.

**Jessica Baas:** Okay, thank you. The next question's from Lauren, "In a large MPO with a projected significant increase in population growth, travel time reliability will likely not improve over time. Is a target reflecting that concept appropriate?"

**Francine Shaw Whitson:** Yes, Lauren. As we've indicated before, we will accept declining targets. But keep in mind, of course, if that's one of the ones that's jointly done for significant progress determination, you would have to achieve that target if it's a declining target.

**Jessica Baas:** Okay, and the next question's from Victor, "How does this rule apply on multi-modal corridors? Were there any thoughts on this?"

**Francine Shaw Whitson:** The rule applies. As Rich said, MAP-21 called out the specific requirements for where these rules, in particular, these measures are applicable to. And so they are applicable to the interstate and the non-interstate NHS, and if they happen to be multi-modal corridors, then they're applicable.

**Jessica Baas:** Okay, thank you. The next question is from Ricardo, "How is at all are the movement of people through or within urbanized areas, via busses, light rail and other transit and non-motorized transportation taken into account?"

**Rich Taylor:** Yeah, we have some discussion in the preamble about other modes of transportation, but if it's on a bus, you know, we're likely picking up that in our probes through the NPMRDS travel time data set. But if it's a light rail or, you know, maybe non-motorized transportation that's off the highway, likely we're not picking that up, so we have some discussion in our proposal about-- that really is going to be discussed more in our next webinar on CMAQ about sort of the limitations we had in capturing that information and our desires to get to a future measure that would capture the people movement on all modes of transportation. So I encourage you to look at that, and attend our webinar next week to learn more.

**Jessica Baas:** Okay, thanks. The next question is from Sudier, and others at New Jersey DOT, "If the MPO is part of two different States, should all States and MPO use the same data set?"

**Francine Shaw Whitson:** Yes, that is a requirement that we've outlined in our proposal.

**Jessica Baas:** Okay, thank you. The next question is from Matt Hardy, "Following up on Peter Rafferty's comments, for NHS roads located in a State that are not under the control of the State-- for example, VW Parkway in DC-- did you discuss how targets should be addressed in terms of working with the asset owner?"

**Francine Shaw Whitson:** Yes, as we said in the NPRM, the NHS is applicable and it's defined in 23-CFR. So what we're asking is that you work with the asset owner in establishing your targets.

**Jessica Baas:** Okay, the next comment is from C. Danza, "Are there any penalties for not completing a plan on time, or for not meeting a stated target?"

**Francine Shaw Whitson:** I'm assuming you're saying-- asking us, "If you don't make significant progress, or if you don't submit your target or plan? Is that correct?" I want to make sure I'm clear. Is it not submitting your target on time? Or not submitting your reports on time for significant progress?

**Jessica Baas:** The question reads, "Are there any penalties for not completing a plan on time, or for not meeting a stated target?" So both.

**Pete Stephanos:** For the plan, we do not have a penalty. There's nothing in the regulation that has a penalty for late submittal of a plan. For not meeting a target, it's not expressed as a penalty, but there is a consequence for not making significant progress to achieving the target, that Francine talked about is reporting, the steps that you would take to more effectively achieve the target.

**Jessica Baas:** Okay, thank you. The next question is from M. Kadumy, "Should the reporting on managed lanes be separate than the general purpose lanes?"

**Pete Stephanos:** Can you say it again? Rich was--

**Jessica Baas:** "Should the reporting on managed lanes be separate than the general purpose lanes?"

**Rich Taylor:** That's a great question, right now we are just having the metrics developed for each direction of a facility, so that means all lanes in the facility in each direction, and the travel times associated with that would be recorded as a reporting metric. So the simple answer to your question is, "No, the rule does not specify that managed lanes should be reported separately."

**Jessica Baas:** Okay, thank you. That looks like all the questions we have in the Chat Pod, so maybe we'll give everybody another moment to enter any last questions.

**Francine Shaw Whitson:** Okay, so while we're waiting, let's go ahead and do a quick wrap-up of this presentation. So. All right, so we want to make sure you know that there are also some resources available for you. Again, we'd like to refer you to the Office of Transportation Performance Management website, you see it here, the link here. We also have some fact sheets and other good information on our web page. And lastly, you can register for the CMAQ Webinar, which is scheduled for next Tuesday, and there's a link there, if you click on the link, on our webpage, you'll be able to register for that particular webinar. If you missed any of our previous webinars, you can also get recordings off of our website. And then the last thing is that we do plan on having one more webinar on Freight Industry. And that has not yet been scheduled. But as soon as it is, we'll make sure it's posted to our website. Last but not least, all these wonderful comments that you've given us today, we ask that you submit comments to regulations.gov. We're using the FHWA 2013-0054, when you go into regulations.gov. If you have more clarifying questions, you can submit those to me directly, or you can submit to the Performance Measure Rulemaking at dot.gov. So Jessica, before we closeout, let's see if there are any more questions came in. And then we'll close completely.

**Jessica Baas:** Okay, it looks like we had one more question come in from M. Kadumy, and it reads, "Will data from the managed lanes, higher speeds, impact speeds on the GPL?"

**Rich Taylor:** I would have to speculate, but all the travel times on all the lanes in a single direction would be averaged together. So if the speeds on a managed lane are higher than the general purpose lanes, then they would all be averaged together. So that's how it would happen.

**Francine Shaw Whitson:** Okay. So thank you.

**Pete Stephanos:** There's more questions coming in.

**Francine Shaw Whitson:** Got a couple more questions coming in.

**Jessica Baas:** Okay, the next question is from FHWA, Idaho Division, and, "Recommendations of important next steps towards establishing targets?"

**Francine Shaw Whitson:** We do plan on issuing some guidance on establishing targets, particularly targets for long-term targets, we'll be issuing some guidance on that very quickly, sometime this summer. We also will be working with our FHWA Division Offices on their goals and responsibilities on target setting.

**Jessica Baas:** Okay! And it looks like we got another question, "What about managed lanes that switch direction in the a.m. versus p.m.?"

**Rich Taylor:** Again, the managed lanes discussion relates to the data set, and you know, travel times are provided to the NPMRDS. So mainly I'm saying that for the NPMRDS, managed lanes are not--

**Francine Shaw Whitson:** Any different.

**Rich Taylor:** Considered differently than general purpose lanes. So unless a managed lane is somehow designated differently as a separate highway on the NHS, then you're not going to have the travel time data necessary to do anything separate with the managed lanes. However, you can certainly make note that certain reporting segments include managed lanes and that the travel times might be influenced by that. I mean, that's the kind of thing you can do to address that. But hopefully the resulting improvement of all travel times, even from that one managed lane may make a difference on that particular segment. So. We can certainly discuss more about the data side at the next NPMRDS clearly technical webinar, if you'd like to do that, on May 10<sup>th</sup>. The registration is, again, in the Chat Pod.

**Jessica Baas:** Okay, thank you. And we have a question from Nathan, and it reads, "Is there a listing of the applicable requirements for MPOs under one million?"

**Rich Taylor:** Yes, and there actually is. We have a listing-- we have two documents on the docket that one refers to the measure we're talking about today, peak hour travel time is only applicable to MPOs that support urbanized areas that are greater than a million. It actually does, based on current census, it lists out the MPOs that would be responsible for setting-- or applicable to the measure for peak hour travel time and setting targets. So if that MPO-- you know, to really know for sure, the best thing you can do is look at that document. And so an MPO could contribute and have some mileage in the one million population area, but that's not entirely it supports and still be American Express applicable. So the best thing to do is look at that whitepaper document.

**Jessica Baas:** Okay, it looks like that's all the questions we have in the Chat Pod right now. So thank you to our presenters, and this concludes today's System Performance Webinar. And we invite you to close out of the web room at this time. Have a good afternoon.

**Francine Shaw Whitson:** Thank you, Jessica! Thank you everyone for participating.

**Operator:** Ladies and gentlemen, that does conclude our conference for today. Thank you for your participation and for using AT&T Teleconference. You may not disconnect.