Freight Industry Webinar for System Performance, Freight, and CMAQ Program Performance Measures

FHWA Office of Transportation Performance Management
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Webinar Recording

https://connectdot.connectsolutions.com/p540dn6prpu/

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Michael Kay: Thank you, Aaron, and good afternoon, everyone, and welcome to the freight industry webinar for system performance freight and CMAQ measures NPRM. My name is Michael Kay. I'm with the U.S. DOT's Volpe Center in Cambridge, Massachusetts and I'll 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 just want to point everyone to a few key features of the webinar room. On the top left-hand side, you'll find the audio call in information. You are welcome to listen through your computer speakers, however, for the best audio quality, please do use that dial in number. You'll also see an attendee list and the presentation download box, where you can download a PDF version of today's presentation. Simply click on the file name, click download files, and follow the prompts on your screen. And finally, on the bottom left of the chat box that you can use to ask questions. We will hold questions until the end of the webinar today. And I want to mention that we can only answer clarifying questions about the content of the NPRM. We encourage you to submit any comments you have to the docket there. As well, there's a close captioning pod at the bottom center of your screen if you require that. And I want to mention that today's webinar is being recorded. A copy of the recording of the presentation and the chat pod transcript will be made available after today's webinar. And with that, I'd like to turn the webinar over to Pete Stephanos from the FHWA Office of Transportation and Performance Management to begin our presentation and discussion. Pete, please go ahead.

Pete Stephanos: Thanks, Michael. Good morning or good afternoon, depending on where you're calling in from, and welcome to today's webinar. Today we're providing information about our Third National Performance Management Measurement Proposal. You may be aware that we've had two previous proposals. The first one covered safety performance measures, and that actually was issued as a final rule in March of 2016. And in our second rule, we proposed on pavement and bridge conditions in January of 2015, closed for comment, and that's being finalized right now. Today, we're going to be discussing freight measures, as proposed in this third rulemaking. And this webinar that we're holding today is the last in a series of webinars that we have conducted to discuss our proposal. All of the webinars have been recorded and transcripts provided and the slides presented are all available on our website, and we'll provide that link to you at the end of today's presentation. Today, again, we're discussing the proposed measures to assess freight movement on the interstate system, and we're particularly focusing this on from an industry perspective. And as Michael said, we'll open up the discussion to answer your questions you'll post in the chat pod at the end of the presentation. As with the other presentations, this one is being recorded. All of the questions and answers that will be addressed will be captured and posted to the docket. One point of note before we begin, this is to note that we do recognize that the measures required by MAP-21, the measures we'll be talking about today, only tell part of the freight story, as they only consider freight movement on the interstate. To better support freight movement in the entire United States, both MAP-21 and the past act require a number of freight planning activities and the development of tools and resources that help to eliminate freight movement from a multimodal perspective. So with that note, I would like to turn it over to Caitlyn Hughes Rayman, who is the Director of the Office of Freight Management and Operations. She's going to provide us with a quick introduction. Caitlyn.

Caitlyn Rayman: Thank you, Pete. I'm very happy to see a wide range of stakeholders on the web chat room today. I look forward to seeing the conversation you have there and reiterate what Pete said about please make sure that you make any formal comments on this proposed measure to the docket, so that we have a formal record of it. But I am pleased to be here today to be part of introducing the freight performance measure to the freight stakeholder community and freight industry. Today's presentation will offer you more information about the freight measure. This is a measure that will be used by state DOTs and MPOs. They'll be setting targets for portions of the interstate system. And we believe that the information that will come from the monitoring that they'll do on those segments of the interstate will be very helpful not just to the public sector in terms of prioritizing investments and understanding that-- the performance of their system, but also has opportunities for the freight stakeholder community and freight industry. You will find as we go through the presentation that some of the information that's needed will come from the state DOTs and MPOs through their use of a travel time data set that comes from the National Performance Management Research Data Set, which our Office of Operations has been providing to state DOTs and MPOs free of charge. They may use that or an equivalent data source. And that information will continue to be available as we provide technical assistance on the use of this data

throughout the rulemaking process. And for those of you who are wondering, that data set does include information gathered from trucking fleets and trucks across the national through the ATRI data that we use to round out the NPMRDS data set. We thank you for your participation today and look forward to hearing your comments on this freight rulemaking.

Caitlyn Rayman: Thanks, Caitlyn. Now I'm going to go over real briefly what we're going to cover today. We have five parts to the webinar today. A couple of them are going to be very quick. The first one, I'll cover, a very, very quick high level overview of introducing transportation and performance management to you in regards to other federal programs. Then we'll get into part two and part three, which will cover freight trends, measurement and planning, and an overview of the public sector use of freight data, and Tamiko Burnell will be providing that presentation. Then part four will cover the actual measures we're proposing. Rich Taylor will be going over those measures and the data that's going to be used to calculate the measures. And then finally, we'll wrap it up with some discussion of additional resources, and then we'll answer your questions that you do post in the chat pod. So let's go ahead and get started with part one. So we're pursuing-- why are we pursuing performance management. In 2012, Congress passed the MAP-21 law that requires DOT to establish performance measures that would apply to the highway networks in all states and regions. The purpose of the measures and the overall performance measure framework in MAP-21 is first to transform the Federal-aid highway program so that we can identify the areas of greatest need in the transportation network and make the most efficient investment of Federal transportation funds. It's also to align transportation investments and improvements with national transportation goals, of which there are seven. In the case of what we're talking about today, one goal is for freight movement to support economic development safety and efficiency. To increase the accountability and transparency of the use of the Federal-aid highway program, and improve project decision making through performance-based planning and programming. Transportation performance management isn't new. Many states and MPOs have been practicing performance management for many years, but it is new for the federal program. We're very excited about this new aspect of the program. We know that-- we believe that it will help maximize the return on investment of public dollars that are entrusted to transportation agencies and planning organizations. As we proposed in the proposal we are talking about today, we're creating a new, a part 490 in the Code of Federal Regulations under Chapter 23. When it's complete, that part will have subparts A through H, as you see on the screen right now. So part A provides general information and applies to all the performance areas, including target establishment reporting, and the termination of significant progress. We're not going to talk about those today, as they relate to this proposal, but we did in our prior presentations, and they're all recorded and posted on our website if you want to review those. Subpart B is focused on the Highway Safety Improvement Program and safety performance management rulemakings. Those are final now, as I mentioned previously. Subpart C includes measures to assess pavement condition, and subpart D includes measures to assess bridge condition. C and D both form the content of the Pavement and Bridge Performance Management proposed rulemaking that was issued last year in January. And then subparts E, F, G and H were all proposed in the rulemaking we're talking about today. Today, we're going to be focusing specifically on subpart F, which are the Freight Performance Measures. And we're going to have a specific focus on the benefit and the impact our freight-- to our freight industry stakeholders. The freight measures would require the use of actual truck travel time data to identify where bottlenecks have the most impact on freight movement. Implementation of the measures, therefore, could potentially have an important impact on the industry. The NPRM we're talking about today was published in the Federal Register on April 22nd, 2016. As I mentioned, it proposed subparts E through H. And the comment period for providing comments on that proposal will extend through August 20th of 2016. So we do encourage you to provide any comments or input you may have to the docket. So that's a quick introduction. What I'll do now is turn it over to Tamiko Burnell, who will lead us through part two of the presentation. Tamiko.

Tamiko Burnell: Thank you. To start, we want to provide a sense-- Hello, this is Tamiko Burnell. Good afternoon. I hope everyone's having a good day. To start, I want to provide a sense of challenges that are arising in the freight movement, in the freight growth in the United States. So to begin, let's review the context of freight trends, measurements and planning in the United States. In 2012, the U.S. freight moved 19.7 billion tons of goods worth $17.4 trillion dollars. Although international trade and intermodal transportation gets much of the attention, over 90 percent of the tonnage is shipped by domestic shippers and they go to domestic destinations. Most of these goods are shipped by only one mode, usually trucks.

The map on this slide illustrates the average annual daily traffic and corresponding percentages of all road traffic that is truck traffic. The red and gold segments on this map show the national highway systems segments that carry at least 8,500 trucks per day. On the red segments, at least 25 percent of all vehicles traveled on the segments are trucks. The U.S. freight transportation system is enormous. Several millions of businesses and households-- Serve 7 million businesses and households across the country. Although the economic recession resulted in a decreased freight movement in 2008 and 2009, the industry has experienced moderate growth since 2010. For example, 2010 estimates show that tonnage increased 13.6 percent over 2009 values, reaching 20-- 97 percent in 2007 tonnage. Further forecasts indicate an increase in 14-- 1.4 percent a year. To accommodate that anticipated growth, we will have to continuously ensure our transportation system can handle an increased demand without increasing delay and decreased flow. The predicted growth includes two types of increase, both an increase in tonnage supply growing population in the U.S. and globally, as well as an increase in miles per ton in response to the longer supply chains, just in time delivery, and the higher value goods. The freight movement is vital to our economy. Freight moves especially-- Freight movements, especially trucks, represent a large value of both local and long-distance movement in the U.S., which indicates that we must take its needs in account when planning for transportation. Based on a freight analysis of freight movement, 50 percent of all trucks on the national highway system travel to local destinations. Meaning that more than half of the tonnage of those trucks is for shipments within local areas. So of absolute numbers of trucks, half of all trucks stay within a small distance of their origin. By contrast, only 10 percent of the trucks typically travel to a place more than 200 miles away. By distance traveled, it's important to note that trips over 200 miles account for 30 percent of all mileage. Ultimately, a small number of trucks travel a very long distance. To put this freight movement in perspective, the 2012 Urban Mobility Report estimates the economic cost of overall truck congestion to be $27 billion dollars per year. These inefficiencies increase the cost of production in consumer pricing and can contribute to businesses shifting their operations and jobs to locations where they can achieve more efficient supply chains, resulting in regional and national job loss. Federal Highway research estimates the truck bottlenecks cost users $8 billion dollars per year. Federal highway further estimates the cost of delays to truckers as $26.7 dollars per hour, or exceeding $6.5 billion per year. And in order to move increased amounts of freight, we need transportation systems that can effectively move and manage he expected growth in freight value. The map shows average speed of trucks on the interstate. As you can see, the map shows truck congestion is already significant on the interstate. Looking at the map, you'll note a few key findings. Metro areas and major corridors such as I-95 reveal most freight congestion. Truck traffic on most major corridors receives 12,500 trucks per day at least. In major metropolitan areas, truck traffic is between 25,000 and 50,000 vehicles per day. Further future flows are expected to increase significantly, largely in major metropolitan areas. As a result, the major corridors in metro areas will experience significant growth in freight congestion if no changes in the network are made. The growth in freight traffic will have significant impacts on peak congestion, assuming no changes in the network, and significant impacts to corridors connecting metro regions will be realized. As the previous slide has indicated, freight plays a vital role in our economy. Measuring and planning for current freight and forecasted freight traffic can help reduce delays freight base, which will reduce the costs in consumer and business alike. Measuring and planning for freight will help benefit our community by improving the freight industry's ability to move goods and create and provide jobs. Planning for freight occurs at all levels of government, using multiple tools. This diagram illustrates some of the goods-- some of the tools and means by which government entities consider freight in implementing infrastructure projects that impact movement of goods. At the national level, transportation trade parties guide the National Strategic Freight Plan goals, which sets investments. The Freight Condition and Performance Report also guides investment priorities. At the state and regional level, transportation and economic priorities guide the goals and investments outlined in the transportation and/or regional plans, as well as freight-specific plans. At the local level, economic development priorities are the primary guiding factors which influence local plans that incorporate transportation and how local entities use highway funds. Federal Highway works with agencies at each level to support their priorities and represent national priorities. Increasingly, this requires new data sources and analysis to support transportation decision making. We will review some of the data shortly. But with that, we conclude our review on the freight trends in planning. Part three. Public sector use of freight data. In this section, we cover some examples of the way Federal Highway and U.S. DOT are already using freight data to analyze performance. Federal Highway and U.S. DOT have been engaged in growing the practice of freight performance measures in tracking trucks data and the performance of-- for

the performance of over a decade. The following slide provides some background on the importance of freight measurements and efforts Federal Highway has underway. Federal Highway currently uses data from actual trucks to analyze who well freight is moving throughout the U.S. and North America. We use this data to do several things that greatly improve public sector's understanding of freight. First, we use the data to support Federal Highway's freight performance program. This data helps us identify how well freight is moving through freight-specific locations, such as corridors with the most freight traffic, urban areas, ports and intermodal locations, and known bottlenecks. We also use this data to understand what happens to trucks on the interstate when interruptions occur, interruptions like weather impacts or points of severe congestion, and also to help in the routing of trucks when challenges occur. Second, we use the truck data to look at origins and destinations of major freight flows and to understand congestion impacts on key supply chains. We do not look at trucks-- We do not look at truck travel information for individual businesses. We analyze aggregate freight movements so that we can identify most problematic bottlenecks and work to alleviate them. Third, we make travel time data derived from the probe data available for free to federal, states and MPO partners, as well as other local governments. It comes in the form of travel time data sets called the National Performance Management Research Data Set. This data supports freight analysis performance management and freight planning, and has been particularly helpful to states and MPOs in identifying critical bottlenecks, intermodal performance, and issues related to regional corridors of economic importance. We will describe this data set in more detail later in the presentation. This map provides a sense of coverage of the truck probe data we use for our analysis and planning. Federal Highways data covers a significant portion of the national highway system, as well as a number of highways in Canada and Mexico. Over time, Federal Highway anticipates that this will increase-- this data will increase in coverage and continue to provide Federal Highway and public sector a strong opportunity for analysis. Here are some characteristics of the truck probe data that we use at Federal Highway. The truck data we use comes from partners with the trucking industry which have been in place since 2002. Approximately 600,000 trucks with embedded technology primarily in the form of onboard computers provide a billion of position points throughout North America that we can analyze to support freight analysis and planning. We use the American Transportation Resource Institute, ATRI, as a trusted third party so that we do not hold the data in-house, and ATRI provides the analytics we need to understand truck-related congestion. This is an example of an index Federal Highway provides quarterly to understand freight congestion based on the truck data Federal Highway uses. Federal Highway routinely monitors freight movement using probe data for intermodal locations, known bottlenecks and border crossings in urban areas to produce an index. This index is primarily used to demonstrate performance over a given year, especially in setting strategic direction for U.S. DOT, and in communicating to leadership, state DOTs and local partners. As an example of the type of analysis that is possible with the same truck data, Federal Highway is able to look at freight loads out of a single port or within a region to monitor the performance of a highway system. For example, Federal Highway performed analysis on 1000 truck samples in the Baltimore area. Pro samples began with a sample of the national highway system within Baltimore. After 24 hours, those same 1000 trucks had begun to travel throughout the Eastern Seaboard and to some point west. The red lines on the map demonstrate the movement. The thicker the line correlates to the number of trucks that pass along the segment of the national highway. After five days, we see that the trucks have spread further. Many of the trucks pass into a large metropolitan area. A few of the sample trucks have even made it to points in California, Oregon and Washington State. It may be a little hard to see due to the size of the line. And after seven days, the intensity of the trucks passing west and to major metropolitan areas in the Midwest has significantly increased. A few trucks have also headed into Canada, as you can see just above New York State. Using an analysis like this, Federal Highway is better able to understand how freight vehicles flow across the nation's highways and to identify freight corridors that are particularly-- particular priorities for investment and resources. This also allows Federal Highway and other U.S. DOT agencies to better anticipate where freight growth is most likely to occur on the national highway system, and to help Congress set priorities with regard to policies and funding decisions. Moreover, this benefits you, the private industry, and those who are responsible for transportation decisions will be better able to make capital investments that direct improved freight movement based on the data available. Using probe data-- here's another example-- using probe data, we can see various geographics. Here we show a county level type of analysis. In this example, we took the number of trucks pinged in each county and divided that by each county area to normalize the level of intensity. For the select counties, Chicago and Detroit, had the highest intensity in freight traffic along those counties around Minneapolis, Kansas City and St. Louis. This is consistent with

what we found on the previous slide showing the highest intensity of truck traffic within the major metropolitan areas. This type of analysis can be done with a geographical scale, including census block groups, census blocks or census tracts. Now I would like to turn the presentation over.

Rich Taylor: Thank you, Tamiko, and good morning and good afternoon everyone on the webinar. This is Rich Taylor from the Federal Highways Office of Operations. So I wanted to continue on talking about the National Performance Management Research Data Set, or NPMRDS that Tamiko already mentioned earlier in the presentation. So what is the NPMRDS? It's a travel time data set. It is actually provided for free to state DOTs and MPOs in a monthly delivery of historical data. It includes travel times representative of freight only traffic, as well as all traffic, which combines freight and passenger vehicles. So they're different data sets available within the NPMRDS. The average travel times are derived from all vehicles probes traversing each travel time segment every five minutes throughout every day of the year. The five minute time period is referred to in the proposed rule as a five minute bin. So in addition to recording travel times of freight, again, I mentioned already that it also includes a breakdown of travel times for all traffic, which includes freight and passenger vehicles. So just to give you a sense of the scale of the data that's included in this data set, there are over 100,000 five minute bins for each road segment over the course of a year. Now a road segment could be very, very short. In an urbanized area, it could be a tenth of a mile or something as short as that, and more likely, it would be five ten or even more miles in length in a rural area, typically between interstate-- interchanges on an interstate, for example. Now when there are no probes reporting travel times for any five minute period on a segment of roadway on the national highway system, there is no data included in the NPMRDS. So there is missing data in the NPMRDS. I just wanted to continue on with a wrap up of this section of the presentation. So currently, state DOTs and MPOs vary in expertise and focus when it's relating to freight movement. This results in inconsistent freight performance measurement and analysis that varies by state, and it does not necessarily include the full NHS, as illustrated in the first map on the left. Likewise, not all state DOTs have freight plans and state advisory committees, as recommended in MAP-21. FHWA is working to grow freight performance measurement and hopes that the required measures will be a way to engage state DOTs and MPOs in freight planning and to improve strategic investment in the freight network. For this proposed rule, FHWA is proposing simple yet meaningful metrics and measures of the freight system that can provide an indication of freight performance generally for the state or metropolitan planning area, and through calculation provides segment level detail that can inform freight plans and programs. The expectation is that this will result in a more consistent understanding of freight performance across the interstate system, illustrated by the map on the right. That also includes the full NHS, but the measures are only for the interstate system. So that concludes our review of public sector use of freight data. Next, we're going to focus on the proposed metrics and measures in the NPRM. So, now that we've reviewed some of the ways state DOTs, MPOs and the federal government might benefit from improved visibility of freight movement, let's review what FHWS is proposing under the-- in the proposed rule. The following slides review the proposed measures to assess freight performance on the interstate system. All right. As mentioned, FHWA is required under MAP-21 and the Fast Act to establish performance measures for state DOTs to use to assess the performance of freight movement on the interstate system. In the proposed rule, FHWA is proposing two measures. A travel time reliability measure and a congestion measure. The two proposed measures are listed on your screen, are a percent of the interstate system mileage providing for reliable truck travel times. And the second measure is percent of the interstate system mileage uncongested. The measures are aggregated in that states are determining the relative performance of freight on their interstates in total. However, to get to this aggregated performance measure, the states must calculate metrics for each segment of the interstate. In doing this, they get granular segment level detail to see where congestion is recurring and unreliable. They can take this information as value added and import it into plans and programs to better invest funding that supports the economy and jobs. It raises state and regional awareness of freight movement as well. On the next slides, we'll quickly review how to calculate these measures. Keep in mind that as we move forward, we'll refer to these as the truck travel time reliability measure and the mileage uncongested measure. All right. So the two proposed measures are each comprised of a metric, as you see on the left of the graphic on the screen, a threshold by which the metric is measured, and the ultimate measure. Each of these is defined in more detail below. As you can see on the slide, a metric is a quantifiable indicator of performance or condition defined by FHWA, and is applied to each travel time segment. For example, using a freight movement example, a metric would be average truck speed. So the definition of threshold

is the level at which the performance of a reporting segment is included in a measure or not. In this example, a threshold of 50 miles per hour is applied to each road segment so that when average truck speed is above the threshold for a given segment of the interstate's highway system, that segment is considered uncongested. FHWA is requesting comment on the thresholds used in each of these metric calculations. A measure is defined by Federal Highway as an expression based on a metric that is used to establish targets and to assess progress towards achieving the established targets. It applies to the entire applicable network, in this case the interstate system. So again, in this example the measure would be the percent of the interstate system mileage uncongested, which for this example is calculated as 75 percent. So in summary, the metric and threshold are applied to each travel time segment while the measure applies to the entire applicable network. Federal Highways proposes the metric, threshold and measure in the proposed rule. The state DOTs and MPOs would use this information in establishing their targets and evaluating if the targets had been achieved. In the next couple of slides, we'll review the proposed metrics, thresholds and measures for each of the two measures in this subpart. All right. So the proposed truck travel time reliability measure is again percent of the interstate system mileage providing for reliable truck times. Dated to calculate the metric, threshold and measure, and it would be drawn from the NPMRDS. State DOTs and MPOs would use the proposed metric and measure in establishing their targets and evaluating if their targets are met. So in this example for the truck travel time reliability measure, the metric is defined as the truck travel time reliability ratio for a single roadway segment. To be consistent with the industry measures of reliability, FHWA proposes to use the 95th percentile travel time in comparison to the 50th percentile travel time as the ratio of truck travel time reliability. FHWA is proposing a threshold for whether or not a segment is considered reliable, to be a truck travel time ratio below 1.50. This means that trips in the 95th percentile take no more than 50 percent longer than normal. Federal Highways recognizes that the freight industry does not find trips that take significantly longer than expected acceptable, and for the purpose of this measure, Federal Highways proposes that trips that are 50 percent longer than normal travel times would be unacceptable. And finally, the measure on the right would be the percent of the interstate system providing for reliable truck travel times. This would be the percentage of all reporting segments that meet the reliability threshold for the entire mileage of the interstate system within the applicable area. So this example includes sample numbers to explain how this calculation might work. So in the example a single segment demonstrated a truck travel time reliability ratio of 1:43, as you can see on the bottom right, which is the 95th percentile travel time on that segment for the full year, which should be 60 seconds in this case, divided by the 50th percentile travel time, which would be 42 seconds in this case. The ratio of 1:43 is considered reliable based on the proposed threshold of 1.50, because it is below that threshold. Overall, for all segments of the interstate within the applicable area, and this, again, a state or a metropolitan planning area, the measure was calculated as 81.3 percent reliable. All right. So now we'll move on to the proposed congestion measure, which is the percent of the interstate system mileage uncongested for freight traffic. Now as with the truck travel time reliability measure, this measure is based on the metric and the threshold for each individual segment of the interstate system. So the metric in this case would be the average truck speed for a single reporting segment over the full calendar year. Average truck speeds would be calculated using probe data as found in the NPMRDS. The threshold for this measure would be an average truck speed greater than 50 miles per hour. Again, this is over the full calendar year and for a single segment. Federal Highway aims to define a realistic threshold to consider speeds and viewed 50 miles per hour as appropriate for this measure. This is in part because trucks often have speed governors installed on them so that they cannot travel much faster than 55 miles per hour. Freight stakeholders also commented that 50 miles per hour or greater is where they would like to be in terms of average speed. As proposed, excessive delays occur when travel speeds are below 50 miles per hour. Federal Highways is looking for feedback as to whether 50 miles per hour is an appropriate threshold. And finally, the measure, again on the right, once again is the percent of the interstate system mileage uncongested. As before, the measure would consider all applicable segments of the interstate system within the state or metropolitan planning area. So looking quickly at the example on the slide, a single segment demonstrated an average truck speed for the full year as 52.3 miles per hour. You can see that in the lower right. This is greater than the threshold speed of 50 miles per hour, thus this segment is considered uncongested. So finally, throughout the whole reporting area, 75 percent of all miles were calculated as uncongested using this metric and threshold. So the mileage and congestion measure would be calculated as 75 percent uncongested. Before we move on, we wanted to clarify the difference between the measure and the target that is established by a state DOT or MPO. The measure definition is the same as on the previous slides, an expression used to

establish targets and to assess progress for the interstate system. A target, once again, is defined by state DOTs and MPOs. It is a quantifiable level of performance or 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 had established its target as 80 percent of the road miles defined as uncongested. With over 83 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. Federal Highways encourages state DOTs and MPOs to work together to establish targets that would support the national transportation goals while improving investment decision making processes. So a few summary points about the proposed measures. Freight performance measurement is still a growing practice for state DOTs and MPOs. Through this proposed rule, Federal Highways is aiming to raise the level of practice to something more consistent nationally. For those state DOTs and MPOs that are currently at the beginning phrase for freight analysis, the proposed measure calculation helps to provide the national level measures for the NPRM and segment level data that reveals where congestion is occurring. This information can be used directly in plans and project development. Federal Highways is still working to grow data options for freight. Currently, we have strong truck probe data and Federal Highways has made a national data set, again, the NPMRDS, available to state DOT and MPO partners that can be used in a variety of ways to support freight analysis and planning. From there, our program aims to expand to measure freight more comprehensively through multimodal measures and improved measurement techniques. As this proposed rule creates a national assisted level of freight analysis, Federal Highways can work together with the private sector to develop new ways to measure freight and inform public sector decision making. So that concludes our review of the proposed freight performance measures. If you would like more detail on how the proposed measures would be calculated, please refer to the docket, or review the detailed presentation on the subpart F measures. And at this time, I'd like to turn it back over to Pete.

Pete Stephanos: Yeah, we're actually, Michael, we're going to go to questions right now, if you can pull those up. There haven't been a lot in the chat pod, so.

Michael Kay: Sure.

Pete Stephanos: There haven't been a lot in the chat pod, so if you have any more, please go ahead and start putting them in the chat pod. We've answered a couple of them that were pretty straightforward, but others, we'll answer over the phone here.

Michael Kay: Yup. Thanks, Pete. So as Pete mentioned, we have answered a few of the questions over the phone already, and provided links to the docket. Please use the second set of links posted by Federal Highways. The first question we'll take over the phone is from Deb. "Does the 50 mile per hour take into account steep slopes? So will there be a sliding scale depending on topography?"

Pete Stephanos: I'll start, Rich, and you can pipe in if you want to add anything. The 50 mile per hour is using all the data in the NPMRDS. As Rich described, it's an average speed over the year for each segment. It does not filter out situations that may occur in steep slopes or work zones or extreme weather. All of that is in the average. So if you have any comments you'd like to provide to us in terms of how that might be considered, I encourage you to post that to the docket.

Michael Kay: Great. Thanks, Pete. Next from Laura. "Do state DOTs suffer a penalty if segments are considered unreliable or congested, or if targets are not met?

Pete Stephanos: I'll start with that one again. Laura, in the-- we had a webinar earlier on freight. That was actually our first webinar we did. It's recorded and posted on our website. That we went over how we would, how we're proposing we would determine if a state has made or has not made progress towards achieving their targets. I encourage you to look at that, but it's just in quick summary, the target that would be established for freight moving on the interstate would be assessed by FHWA to determine if the state has made significant progress in the achievement of those targets. If determined that they have not, then the consequence is that they would need to report to us on how they would take steps to improve to better achieve that target. So it does look at the, in regard to the congestion measure, the measure of

percent of the interstate that's uncongested, it just looks at that target. It doesn't look at each segment. It looks at whatever the state has set for the percent of the interstate to be uncongested and if that's being achieved or not.

Michael Kay: Thanks, Pete. The next question is from Peter. "Sections of I-35 posted at 45 miles per hour come to mind. I think if all trucks were traveling at 45 miles per hour, those segments would still be considered congested and lower the measure. Correct?"

Rich Taylor: Peter, I'll take this. This is Rich.

Pete Stephanos: Thank you.

Rich Taylor: That is true in this case, and that would certainly in the way that proposed rule is the threshold is 50 miles per hour for whether truck traffic is congested or not. So in this case, you would want to consider, you know, those segments where truck speeds are below 40 miles-- 50 miles per hour, due to posted speed limit when you're-- when you would be establishing a target, you want to consider that kind of information, the way the current rule is proposed. If you want to propose some different threshold than 50 miles per hour, and you can definitely make a comment on the docket for that.

Michael Kay: Great. Thanks. The next question from Walt. "Could you provide examples-- a couple of examples-- of the five minute bin travel times. What can you learn from this? Average speeds?"

Rich Taylor: So the five minute bin travel times are basically developed from probe data. And the probe data is actually reporting the speed of the vehicle at a specific location. So what we do in these average five minute bins over a segment of roadways-- and to answer two questions in one, I'm going to mention again what a segment is-- for the in our NPMRDS, our performance management research data set that includes the truck travel times, the segments are defined by what we call traffic message channel codes or TMC codes. And there's a way that the navigation services provided by companies, in this case the provider of the NPMRDS is here, they provide-- that's how they segment the road. So typically, the segments are between interchanges or between long interchanges between ramps, even, so that can be the shorter distances in urban areas. But at any rate, it's a set segmentation of the National Highway System, And we are basically, for whatever the length of the segment is, you can use a half-mile length segment for this example, all the trucks that report travel times during a-- speeds in this case-- speeds in a five minute period are then multiplied by the length of the segment to develop travel times. And those travel times are all averaged throughout that five minutes period on that half-mile segment of road. So all the trucks traveling and reporting a speed are then averaged together into the travel times reported for a five minute bin. So that's how it works. So I hope that explains and answers a couple of the questions there.

Michael Kay: Great. Thanks. And if Walt or anybody else requires any clarification, please feel free to provide another question. And Walt says, "Yes, that clarifies his question." The next one from Oregon. "What defines a segment?"

Rich Taylor: I think I just answered that.

Pete Stephanos: Yeah, Richard just covered that.

Michael Kay: Great. From Kelly. "Has Federal Highway considered creating a central dashboard that all 50 states and MPOs could refer to, rather than having multiple individual unique algorithms?"

Pete Stephanos: I'm not sure I entirely understand the question. So Kelly, if you could maybe provide a little bit more clarity on the question. We, we're providing the data, as Rich talked about. The travel time data for every five minutes for your entire NHS network. That will be available and is available now to states and MPOs. Then they are to process at that or to calculate the metrics. And there aren't really unique algorithms. It's one standard way that we are proposing that that be done. So unless I'm--

Kelly: The target. If you could explain why the targets are different.

Pete Stephanos: Yeah. The next question kind of gets the targets, but maybe we'll get to the-- if it's related to targets, we can get to that one in the next question.

Michael Kay: Pete, I think that question was referring to analysis tools.

Pete Stephanos: Okay. Well go ahead, Rich.

Rich Taylor: And again, I was just going to say, well, I mean, the question about the national dashboard, so the way this is actually working is that the state DOTs and MPOs are required to report their metrics. So they calculate that we just talked about in the presentation. And they're supposed to report those metrics to Federal Highways every year. And then Federal Highways will actually develop the measure, calculate the measure and then determine if significant progress has been made. So technically, the state DOTs and MPOs only have to calculate the metrics. FHWA is not providing an analysis tool to do that. However, there are a number of-- some groups in AASHTO are looking at ways of working on that together, so not every state DOT has to do all the work individually. There are consultants who will provide that service, and also the University of Maryland's RITIS online tool is also providing some assistance in calculating the proposed measures. So there are a lot of different options out there right now.

Michael Kay: Great. Thanks. And on the subject of targets, from Johnny. "I'm not sure I understand the purpose of establishing targets. Aren't the targets implied, given the way that the proposed measures are different-- excuse me-- are defined in the NPRM, e.g., a ratio of less than 1.5 and average truck speed of greater than 50 miles per hour?"

Pete Stephanos: Yeah, just to clarify, Rich in his presentation went over the difference between a metric, a measure-- a metric, a threshold and a measure, and then how that's used to establish a target. So Johnny, what you're referring to here is what we're calling a threshold. So a threshold is absolute with regard to the measures we're talking about today. For a particular segment of roadway, we are proposing an absolute threshold that would be used to determine if that segment is either congested or uncongested or is providing for reliable truck travel times. The target is, after the measure is calculated, which is basically the percent of the entire system, the interstate system that is either uncongested or reliable, that target is set by the state. So let's say the percentage was 90 percent reliable. The state would then make a decision, should that target be-- to move the 90 percent to 93 percent. And we have a previous presentation on sort of how all that works. The timing, the time horizon for setting those targets. So that part of it is state and MPO-defined.

Michael Kay: Great. Thanks, Pete. The next question from Wisconsin. "Will all MPOs that contain NHS routes regardless of population report TTTR and percent uncongested on a subset of the same segments that the DOTs include in their results?"

Pete Stephanos: That's a very good question. The state is the entity that actually reports the TTTR and the percent, oh, and whether a segment is congested or uncongested, as a metric to the HPMS annually, as Rich talked about. So, you know, that roadway on the interstate would be in potentially in a national-- in a metropolitan planning area that an MPR is responsible for, but the state is the one that actually reports that information to the national database, which is the HPMS. And then both the MPO and the state use that information that's reported to assess performance and to set target. We actually do even discuss in the proposal or actually require in the proposal that the state demonstrate that the MPO has agreed with them on what they're reporting.

Michael Kay: Thanks, Pete. The next question from Sebastian. "Could the DOT please provide documentation about how it assigned the probe data to the network and/or vehicle truck tour model used to interpret the GPS data?"

Pete Stephanos: Rich?

Rich Taylor: Sure. Sebastian, this is Rich. I'm going to put a link in the chat pod that links to the freight performance measures website. On that website we have what we call our NPMRDS quarterly technical assistance webinars. We have their recordings. We've been holding them since late 2013. And in those webinars, we actually describe how, basically how the dataset works and how the TMC code location referencing system works. And also we've discussed in previous webinars, and if you want to send me an email offline, you can do that as well, that sort of go through how you would link the NPMRDS location referencing or TMC codes with the state DOTs location referencing system. So we have a lot of those DTLs. It's a little too complex to get into in a webinar without presentation materials. But I'd also like to mention that state DOTs and when they're reporting the metrics to-- through our Highway Performance Monitoring System, or PHMS, they can provide the metrics either via the NPMRDS location referencing, which is again, those TMC codes. Or they can provide it through their HPMS location referencing which they're already familiar with. So there is that option in there as well.

Michael Kay: Great. Thanks, Rich. The next question from Eric. "How will the measures using annual periods account for highway construction project delays?"

Rich Taylor: The measures, I mean, they'll account for them in the sense that any delays from highway construction will be included in the data that's collected and used to create the measures. So if you're having a highway construction project and assume that they're going to be lower speeds or higher travel times, then that's something that you'd want to consider when you're setting a target, because you may not find the improvements until after the project is completed. So, you know, those are the type of situations that I think the states need to be aware of when they're establishing targets. I don't know if Pete, you wanted to add anything to that?

Pete Stephanos: No, I just-- Maybe in clarifying, Eric, if you're referring to delays in the delivery of a highway construction project, or delays that are resulting to the traveling public as a result of a work zone for a construction project. I would assume it was the former, and if that's the case, I think Rich's question got into that in response.

Michael Kay: Great, thanks. And Eric may be typing to clarify, but while we wait for him, we can move on to Mike. "What's the deadline for states to set freight performance measures? What are the ramifications if they fail to meet the deadline?"

Pete Stephanos: Again, earlier we went over the specific proposal we have for establishing targets and reporting those. What we're proposing is that one year from the effective date of this rule when it becomes final, states would be required to establish targets. And they would report those targets to us in the baseline performance report which would be due on October 1, 2018. So it would cover those targets that would be reporting. It would cover a period from January 1, 2018 through December 21, 2021. The last part of the question was, what happens if they fail to meet the deadline. Then, we don't have anything in the regulation that actually states a consequence, but it would be not in compliance with the Federal Regulation, so yeah, we could take some progressive steps, you know, if you've not following-- if a state is not complying with regulation that are subject to overall Title 23.

Michael Kay: Great. Thanks, Pete. And Eric clarified that his question was pertaining to delays to the traveling public, and Rich also provided a link to the previous freight webinar with more details on target setting and reporting. Our next question from Nathaniel. "When calculating the segment length, is each direction measured separately or combined?"

Rich Taylor: The segmentation in the NPMRDS is directional, so it's for both, there's separate TMCs and data for each direction of the roadway.

Michael Kay: Great. Thanks, Rich. Next from North Carolina DOT. "It was mentioned in a previous webinar that HPMS is the tool that would be used to report the metrics on an annual basis to Federal Highways. Federal Highways noted that they previously posted a document on the NPRM site that

showed the proposed revisions to the HPMS for this reporting. However, only the current HPMS manual is posted, and not the HPMS manual with the proposed revisions."

Pete Stephanos: Yeah, and that's we're providing actually guidance, I believe. I'm looking at the statute to help me out. The NPRMS revision-- the field manual for the HPMS is what we posted on a second rulemaking. We incorporated that document by reference into that regulation for the second rulemaking which deals with pavement. So that was posted on the docket at that time to say this is what the manual will look like in terms of how you report the HPMS if this rule goes forward as we proposed. For this rulemaking, although we're requiring the reporting to the HPMS, how that reporting is going to happen will be handled, and guidance after this rulemaking is finalized. Though, so there isn't-- the field manual right now does not include the reporting for the metrics you're talking about here today.

Michael Kay: Thanks Pete. We'll take the next question in a moment from Deb, but I did want to note that as we are soon to be exhausting the number of questions, I'll encourage everyone, if you do have additional questions, please do submit those in the next few minutes. We're happy to hang on as long as there are questions to be answered and information to share, but if not, we'll probably end a little bit early. So if you have questions, please do submit them in the next few minutes. And now we'll take that question from Deb. "Will STPBG funds be required to improve freight routes on NHS if they are failing? If so, how can we also meet the other performance measures like safety or goodness of the road surfaces? It seems our tiny little STPBG funding will now be prescribed by FHWA or FTA to fix our worst first. This may cause all to degrade. Has there been a hierarchy set for which performance measures to be applied and where does freight fit into this hierarchy?"

Pete Stephanos: Yes, and so the funding that-- we actually are not proposing, nor are we required through statutory requirement that would result in an action that would force a state or an MPO to invest in a particular performance area. Unless, and this isn't covered in freight but in the safety rule, there is a consequence that if the safety targets, there is not significant progress made towards the achievement of safety targets, the HSIP funding would need to be obligated for the purposes of safety-- for the projects that are eligible under HSIP for safety improvement. And there is a minimum condition requirement for pavement, interstate pavements and for NHS bridges. If those conditions are not met, which we cover in a different rulemaking, then a portion of the NHPP and a portion of the STPBG funds would be targeted towards those particular areas, NHS bridges and interstate pavements. So, and I guess in the framing of the law there is some consequence in terms of how the funding is used if those conditions are not met. But outside of that, there is, for example, if the freight targets are not being met, there is not a requirement that funding be obligated specifically to improve freight movement on the interstate.

Michael Kay: Great. Thanks, Pete. Let's wait a couple minutes to see if additional questions do come in. In the meantime, we'll remind everyone if you have comments to please submit them through the docket. And feel free to use some of the links that we provided in that chat box to obtain additional information.

Pete Stephanos: Michael, we did get a suggestion in here in the room we are right now, to make sure everyone understands what directional travel means. Rich, I think, referenced it that directional travel would be for both directions of the road. So if you have north and southbound directions on a roadway, it would cover both the north and both the south. So the TMC segments are set up that way. To get more information on how the TMC segments are set up, again, Rich has a length there to get to the NPMRDS website and the quarterly webinars.

Michael Kay: Question from Mike. "Is it correct that the rule will establish the measures and then the states and MPOs will set the targets?

Pete Stephanos: That is correct. Yes.

Michael Kay: Great. Well, seeing no other questions, and I don't believe anybody else is typing, I think we're set to conclude momentarily. I wanted to offer any of our presenters any opportunity to provide any

additional questions. And I think we wanted to go back and provide a summary in Q&A. So why don't we go ahead and do that, provide the summary.

Pete Stephanos: Okay. That's a different slide here, but that's all right. So we have a website for transportation and performance management that you can see on the slide right now. The link to that is going to be on the next slide, I believe, as we move forward on the slides. On this website, you could see there is a-- there's a link there for the rulemaking. If you could go back one slide. They have a link for the rulemaking on the bottom left. And if you click on that link, it will take you to where we have all the webinars published and all sort of fact sheets. I think they're called fact sheets. Good information for you about these rules. We do have an overview presentation that we provided. And then there's in-depth proposal-- webinars on each of the aspects of the proposal for this rulemaking. Sorry. I'm getting lost a little bit here. Those are just the links to the website and to the webinar registration links. And then all the comments, as we already mentioned several times, should be directed to the docket, and the link to the docket is shown right here. You can get through there on regulations.gov with the docket number FHWA 2013-0054. Be sure to check our website often. You actually can subscribe to email notifications on our website, so you can be alerted whenever we do publish anything on our website that we think would be good material for you to look at regarding this implementation effort. If you have any following up questions that are clarifying questions, or just want to know more about sort of the rulemaking process, you can contact Francine Shaw Whitson, and her email address there is shown on the slide. So with that, Michael, do we have any more questions?

Michael Kay: We did have a couple more. One from Laura. "Someone spoke about road segments defined in data. But don't the DOTs and MPOs define the segments?"

Pete Stephanos: Rich.

Rich Taylor: Sure. This is Rich. So again, we're referring to the segments as part of the travel time data set, and in this case it's the NPMRDS. And they are different from the way the state DOTs and MPOs define their roadway segments. So there is some what we're calling conflation that needs to go on if you want to combine the travel time sets and link them to the road segments that the state DOTs and MPOs have. We're not requiring that to be done since the metrics can actually be calculated using the NPMRDS data set and reported to the HPMS that way. So conflation is an option for people to do. Typically, it's done on a GIS, a geographic information system program. But it is a bit-- it can be a bit complicated, so that's why we were not requiring it to occur and letting the metrics be reported just using the NPMRDS segmentation.

Michael Kay: Great. Thank you, Rich. Next question from Kim, "Is the freight target measure of each state the same or different?"

Pete Stephanos: The target-- because the word target and measure are both in this sentence-- the target that the state sets for using the measure is defined by the state. So that could be different for every state. It's their decision. The measure, how we will define what is uncongested in terms of freight, that definition is going to be the same as we proposed in this rulemaking. So the measure is a consistent way to measure. And the target is set by the state and that could be different for every state. That's their decision.

Michael Kay: Great. Thank you, Pete. Any last words from our presenters or from our Federal Highway staff?

Pete Stephanos: I appreciate everyone's time today. Again, I encourage you to look at the resources we have on our website and to provide comments to the docket, and we'll make sure that we address and look at every one of those comments before making the final decisions and the final rule.

Michael Kay: Great. Thanks, everyone. I think we're set to conclude, and hope you have a great afternoon.

Tamiko Burnell: Thank you.