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Transportation Control Measures: Strategies for Reducing Vehicle Miles Traveled and Greenhouse Gas Emissions

Webcast Transcript

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Webcast Agenda and Meeting Logistics

Slide 1: Introduction Slide

Operator: Good afternoon, my name is Brandy and I will be your conference operator today. At this time I would like to welcome everyone to the Transportation Control Measures Webcast. All lines have been placed on mute to prevent any background noise. If you should need assistance during the call, please press star then zero and an operator will come back online to assist you. Thank you. Ms. Zinsmeister, you may begin your conference.

Slide 2: Title Slide

Emma Zinsmeister: Thank you, and welcome everyone to today's Webcast, our next installment of the EPA Local Climate and Energy Series. And it's going to cover Transportation Control Measures, Strategies for Reducing Vehicle Miles Traveled and Greenhouse Gas Emissions. Today, we will – my slides aren't moving, sorry. Here we go. Sorry about that.

Slide 3: Webcast Agenda

Emma Zinsmeister: Today, we will start with an introduction and a little bit of logistical information about how to use the GoToMeeting software so that everyone is familiar with how to submit their questions and to tune in today's Webcast. And I will provide a little bit of background information on our program here, The Local Climate and Energy Program at EPA Headquarters. I will also provide an introduction to today's topic, Transportation Control Measures, and then I will introduce our additional speakers.

And we'll hear from the U.S. Department of Transportation, the Federal Transit Administration, Tina Hodges and Andrea Martin will share information on the role of public transportation in responding to climate change. We'll hear from Commissioner Jennifer Roberts, Mecklenburg County, North Carolina on some programs that they've implemented in their community and also, from Matt Hansen in King County, Washington, about their commute reduction strategies that they're implementing in their community there.

So, to start off, Nikhil, from ICF International will provide a little bit of background information on using the GoToMeeting software.

Slide 4: GoTo Webinar Software Logistics

Nikhil Nadkarni: Thanks. Just a couple of quick logistical points here, you'll be muted throughout the Webcast to minimize background noise, and there is a way to submit questions, which we encourage you to do, that we'll get to in just a minute. The session will be recorded and will be made available for download in a few weeks on EPA's State and Local Website, the URL, that's shown on your screen. And if you have any logistical issues during the Webcast, please feel free to contact me at nnadkarni@icfi.com.

Slide 5: Questions (GoTo Meeting)

Nikhil Nadkarni: Next slide, please. So for questions, you'll see a question pane on the right side of your screen. Please use this to submit questions to our panelists throughout the Webcast today. Just be sure to include the name of the panelist that you would like your question answered by so we know how to direct it at the question and answer session at the end. We'll be taking all of the questions and asking them at the end of today's Webcast.

Slide 6: Optional Feedback (GoTo Meeting)

Nikhil Nadkarni: Next slide, please. And at the end of today's Webcast, a pop-up window will appear with a few questions. Please take a minute to fill these out as your feedback will be most helpful. And that's all for logistics.

Emma Zinsmeister: Thank you, Nikhil.

Introduction to EPA's Local Climate and Energy Program

Slide 7: Local Climate and Energy Program

Emma Zinsmeister: To start off, I'll just throw at you a little bit of information about our program here at EPA. The Local Climate and Energy Program, consists of me and my colleagues Andrea Denny and Neelam Patel, and we serve to provide an informational and peer exchange network for local governments to help support cost effective strategies at promoting clean energy and climate change mitigation at the local level.

We provide a lot of opportunities for peer to peer exchange, and showcasing case studies, the success stories in local communities, like we're doing today through this Webcast, and provide a variety of tools that you can access on our Website, which is listed here at the bottom URL. I'll talk about a number of our resources a little bit right now, and if you download the presentation after the Webcast, you can get to a lot of the things through the links that I've included for more information and to access some of the resources.

Slide 8: Local Climate and Energy Program Goals

Emma Zinsmeister: So, we work primarily with tribal, regional and local governments, focusing on greenhouse gas emissions reduction and helping to connect folks at the local level to technical expertise at EPA and elsewhere, and working just to promote programs that will achieve multiple benefits.

Slide 9: EPA Local Climate and Energy Program Approach

Emma Zinsmeister: And as you see here on the next slide, we work within a multiple benefits framework to help local governments align their programs with their priorities in their communities and to achieve a variety of environmental, economic, public health and social benefits, while also, reducing their emissions and improving their use of clean energy and energy efficiency.

Slide 10: Local Climate and Energy Program Resources

Emma Zinsmeister: And some of the resources that we offer here include our Website, Webcasts and other training opportunities, some informational resources for implementing any economic recovery grants you may have received. We have our own Climate Showcase Communities Grant Program and a series of documents on climate and energy strategies, and I'll go through each of these in a little bit of detail.

Slide 11: State and Local Climate and Energy Website

Emma Zinsmeister: Our Website, as you see here, offers a variety of information on topics related to climate change, as well as how-to information on various activities you may be engaged in, such as developing climate change action plans, greenhouse gas inventories, and we

list a lot of examples of what communities across the country are doing and case studies with results to these information. We also offer a lot of tools for quantifying some of the results of the programs as you can analyze their effectiveness. And also, we post the podcast and recordings of the Webcast which we're doing now.

Slide 12: Webcasts and Training

Emma Zinsmeister: In addition to our Webcast series, there's a number of others you may want to take advantage of. The Energy Star Program offers online training and the State Climate and Energy Technical Forum also offer regular Webcasts. And you can access these through the links here. DOE's technical assistance project also has information resources and Webcasts you may be interested in.

Slide 13: Upcoming Webcasts

Emma Zinsmeister: A couple of upcoming Webcasts, the EPA's Green Power Partnership is going to be offering in the near future are listed here and you can register through the link. This Thursday, our topic will be "Procuring Green Power through Reverse Energy Auctions." Later on we'll be partnering with the Green Power Partnership to provide a community wind Webcast. And then later in the summer, August 4th, there'll be a Webcast on "Improving Solar PV Results through Collaborative Procurement."

Slide 14: Local Climate and Energy Webcasts Widget & iTunes Channel

Emma Zinsmeister: After each of our Webcasts, we post them online. You can access all of the presentations and audio files. And there's two ways that you can stay up to date on the Webcasts that we're offering and access this information. We offer a widget which you see here on the right – top right of the screen that you can actually download and add to your own Website. Because when we update it with new things that we have going on, it automatically populates on your Website. And that's an easy way to stay up to date on topics that may be of interest to you.

And then also you can subscribe to our podcast series through iTunes and get them regularly delivered to you.

Slide 15: EPA ARRA Resources for Energy Efficiency and Renewable Energy Projects

Emma Zinsmeister: Also, some informational resources that we've developed to help support state and local governments that are implementing economic recovery programs are listed here. We have a Website – a Webpage on EPA's Website that may be of interest to you. You can access information that we've put together on how to implement projects related to climate and energy in the context of the economic recovery funding.

Slide 16: Climate Showcase Communities Grant

Emma Zinsmeister: And also, we have our Climate Showcase Communities grant which is a competitive grant program, focused on local and tribal greenhouse gas reduction projects meant

to build capacity within communities and target projects that can be replicated elsewhere, achieve multiple benefits, and are demonstrative of opportunities that lots of local governments can take advantage of. And we announced our first round of grantees earlier this year.

And we just opened up our second round of funding. And if you're interested in applying, applications are due July 26th and you can access more information about applying at the program and our current grantees at the link listed here.

Slide 17: Climate Showcase Communities & Transportation

Emma Zinsmeister: And one of our grantees, from the current – from last year's funding, Salt Lake City, Utah is implementing a project that's relevant to today's topic. Their program, "Sustainable Transportation for a Sustainable Future," is focused on using community-based social marketing to help advance their transportation program so that they can reduce vehicle miles traveled and improve air quality in the Salt Lake City area.

They've estimated that by implementing community based marketing strategies and sort of revamping the programs that they already have in existence, they can further reduce carbon dioxide emissions in their areas by about 63,000 tons and hopefully reduce vehicle miles traveled by about one percent per person.

Slide 18: Local Climate and Energy Strategy Guides

Emma Zinsmeister: Another resource that we offer are our local climate and energy strategy guides. These guides cover climate and energy projects and strategies for implementing programs in the areas of energy efficiency, renewable energy, transportation, community planning and design, and solid waste and materials management. We have one that will be coming out relatively soon on transportation control measures, that's highlighted here at the bottom of the screen.

I've also highlighted our guides on smart growths which we recently released a draft of, and also, energy efficiency in affordable housing. Because these are really relevant to today's discussion as well and I'll talk a little bit about that later on in my presentation; but most of the material that I'll be covering later on is – stems from this document that we'll be releasing.

Slide 19: EPA Partnership and Technical Support Opportunities for Locals

Emma Zinsmeister: And in general, we help to connect folks to various partnership programs at EPA to get technical assistance for achieving multiple goals related to energy, climate and other environmental issues.

Slide 20: Local Climate and Energy Contacts

Emma Zinsmeister: And here's our contact information for us here at the local climate and energy program. To stay in touch on resources and opportunities that come available, please join

our listserv where we announce all our Webcasts, put our announcements on funding opportunities and other things that we think may be of interest to our audience.

An Introduction to Transportation Control Measures

Slide 21: Title Slide

Emma Zinsmeister: So, with that, I'll jump into today's topic and provide a brief overview of transportation control measures and kind of set the stage for the presentations that we're going to be hearing later.

Slide 22: Overview

Emma Zinsmeister: Really, what I want to do is sort of tell the story of the role that transportation plays in climate change and what strategies can be taken at the local level to help reduce emissions.

Slide 23: Transportation and Climate Change

Emma Zinsmeister: To start off, this shows sort of the picture of how transportation fits into climate change. And if we look at the pie charts here we can see from the top right that transportation is the second largest source of greenhouse gas emissions in the United States. And by far, carbon dioxide is the most emitted greenhouse gas in the country which is shown on the left side.

And if we look at how the transportation sector contributes to greenhouse to – sorry, carbon dioxide emissions, shown in the pie on the bottom left, by the modes or different means of transportation, we see that light-duty vehicles really contribute the most of the emissions from the transportation sector, and those are the passenger vehicles that we drive to work, do our errands in, personal owned vehicles. And if we look at sort of the range of time from 1990 to 2008, U.S. emissions from transportation did rise by about 22 percent and the vehicle miles traveled by light-duty vehicles also rose by about 37 percent.

And just to note that from 2007 to 2008, there were slight decreases in both the total of emissions and VMT due to the high fuel prices that year, but overall over the past 18 years, there has been a pretty significant increase in emissions from transportation and the vehicle miles that were traveling. And so, we know that transportation is a huge source of emissions.

Slide 24: Transportation and Climate Change (2)

Emma Zinsmeister: And sort of thinking about like, why we have such high numbers in terms of emissions and vehicle miles traveled, this has a lot to do with our land use and development patterns. They influence the demand that we have for transportation and what modes we're using for transportation. And when we have spread out and automobile-centric development pattern, we tend to have a high reliance on cars and thus we're – have a lot of miles traveled and a lot of emissions. And as we look at – and this is significant because almost all of the energy consumed for transportation comes from fossil fuels, and in 2008, more than half of the transportation-related carbon dioxide emissions were from gasoline consumed by private vehicles.

Slide 25: Reducing GHG Emissions from Transportation

Emma Zinsmeister: So, it's vehicles that, you know, folks are driving around every day that are contributing the most of these emissions and so, when we're thinking about strategies for reducing these types of emissions, there's a three-legged stool concept that's really helpful for kind of pointing out the different ways in which this can be done and it involves sort of three questions. What are we driving? How are we fueling what we drive? And how much are we driving?

So, we're looking at ways to improve vehicle fuel efficiency, to reduce the carbon content of your fuel, and to reduce the miles that you're traveling can all help to reduce emissions. Now, the first two really apply to (serve) efficiency technologies and that's not really what we're talking about today. What we're talking about really is the demand for transportation. How do we reduce that demand overall and shift it to more efficient modes that have less for carbon dioxide, greenhouse gas emissions? And so that's where transportation control measures come into play. And as I mentioned before, we do have a draft guide that's going to be coming out on this topic. And we will, down the road, also have a draft guide on efficiency.

Slide 26: Transportation Control Measures (TCMs)

Emma Zinsmeister: And so, what are transportation control measures? In general, they are strategies that reduce VMT and improve roadway operations to help reduce air pollution, greenhouse gas emissions, and fuel use from transportation. They focus on, as I mentioned, the demand for vehicles, reducing the amount of vehicles on the road that only have one person in them, and to help provide less polluting alternative forms of transportation, and making transportation more efficient, so reducing congestion.

And it's this sort of broad definition that we use in our guide and that we're going to be using in our presentations today. There's also a legal definition that I'd like to point out. And the language here, condensed, is actually from the federal regulations, so that you have the specific language so basically – areas that are in non-attainment for National Ambient Air Quality standards submit good implementation plans.

And transportation control measures can be included in those plans as ways to help bring areas into attainment. However, these strategies are considered, you know, strategies that are included in transportation plans aren't considered for regulatory purposes, transportation control measures, unless they're also included in the state implementation plans. And the Clean Air Act actually lists specific strategies that sort of count under this definition of transportation control measures.

So, from the legal air quality perspective, there is a very specific definition. Today, we're going to be talking about these strategies in a little bit more of a broad context.

Slide 27: [A Quick Note on Conformity]

Emma Zinsmeister: And so, with that, it's important to just kind of – as an aside, a quick note on positive conformity. And, basically, conformities required by the Clean Air Act to ensure that when federal funding is used for highway and transit projects, that it's consistent with the air quality goals that you may have in your state implementation plan or SIP.

And this is required to ensure that transportation activities aren't going to basically worsen air quality or the way the attainment of the NAAQ. So it's going to be considered from a regulatory perspective as a transportation control measure. It has to be in those transportation plans and state implementation plans. And then it becomes a priority for funding, which can be helpful in promoting existing programs.

Slide 28: Examples of TCMs

Emma Zinsmeister: So, based on our broad definitions, here are some examples of different types of transportation control measures, promoting public transportation, centering development around transit stations in a transit-oriented development fashion, promoting bicycling and walking, providing options for commuters to help promote carpooling, vanpooling and other modes of transportation management improvement. For example, the intelligent transportation system uses real-time information to adjust signals in transportation systems to current conditions to help promote more efficient travels. And value pricing schemes help change the cost of transportation from sort of a stable cost to a variable cost, so that folks will take into consideration some of the true costs of outdoor travel.

Slide 29: Multiple Benefits of TCMs

Emma Zinsmeister: And so transportation control measures offer a variety of benefits in addition to reducing greenhouse gas emissions and other air pollution; they can also help to reduce cost of energy and travel, reduce congestion, and improve public health. However, it's important to note a couple of considerations when thinking about the benefits of these projects.

First, transportation control measures, if you take the same strategy and implement it in two different communities, it's very possible that you'll see different results and this is because the outcomes are really dependant on place-specific factors, what kind of development infrastructure is currently in place, what's the mix of vehicles that are on the road, what's the average sort of travel demands, habits and patterns of people in the area. So, there may be – so in that case, it's important to think of sort of potential results on a case by case basis.

And then also, there's this concept of induced demand. When modes – when demand for travel is shifted from, say, driving in a personal passenger vehicle to a different mode, what happens is it can make those roadways less congested. However, when this happens, other drivers who may not have driven otherwise may choose to drive because the road is now less congested and it's more appealing to them, so that offsets some of the initial congestion in air quality benefits. So, when thinking about sort of the magnitude and quantifying your benefits, it's important to take into consideration this type of an effect.

Slide 30: Opportunities for Local Governments

Emma Zinsmeister: So, how – what does this mean for local government? Well, since transportation is contributing a lot of greenhouse gases and we know that it's the light duty passenger vehicles that are driven in our community that are responsible for majority of these emissions, there are different opportunities that local governments can take advantage of in their transportation and land-use planning processes to implement transportation control management strategies and help to shift demand for travel. And so, what I've listed here is not a comprehensive, but a sample of some mechanisms that can be implemented at the local government level to help implement transportation control measures.

For example, mayors and county executives writing policy direction and allocating funding, part of their responsibilities – and they influence action to communication and outreach. And so, there's opportunities for initiatives from the mayoral or executive level to promote implementation of these strategies. And for example, in Los Angeles, the mayor, in 2007, implemented a 30-30 Left Turn Arrow Initiative which was to install 30 left turn arrows in 30 days in a highly congested downtown area to help alleviate some of the – some of the congestion.

So, that's an example of an initiative there that was projected to, I think, reduce congestion by about 66 percent. And the details of all these examples I just said here will be in our transportation control measures guide that we will be releasing shortly. And so, for example, city council can implement different resolutions to help promote these strategies. Local transportation agencies may actually be responsible for directly implementing transportation control measures.

Slide 31: Opportunities for Local Governments (2)

Emma Zinsmeister: Local and regional planning agencies such as NPOs and RPAs, they may have authority over development rules and zoning ordinances and may have the opportunity to implement their smart growth strategies which promote or encourage the promotion of variety of transportation options, different modes so that folks have the ability to choose between various means of transportation and promote the use of less polluting options. And also other local agencies can lead by example by adopting transportation control measures and promoting that further adoption throughout the community.

And the good example of this was, Bellevue, Washington subscribed to the Flexcar program, which is now Zipcar, and – for their local government employees. And by doing that, more of the Zipcars were available in downtown areas and this encouraged folks from the private sector, different companies to also subscribe to the system because the cars were now available and were easy to access. So, these are just some examples of ways in which local governments can directly get involved in promotion of TCM.

There are, however, additional key stakeholders that are important to engage, especially the drivers to promote their behavior change so that you see the results that you're intending with these programs. Local employers, other folks from the private sector and non-profits can be

instrumental, too. Often, non-profits promote a lot of biking and walking programs and are active in a lot of communities in those areas.

Slide 32: Strategies for Success

Emma Zinsmeister: So while implementing various TCMs, this is just a sample of some lessons learned that can serve as strategies for success. Not all of these approaches are required for implementing these types of programs, but this provides sort of a survey of ways in which to help ensure the effectiveness of your programs. Clearly, it's important to select the strategies that are most appropriate for your local transportation conditions.

Pursuing complimentary programs can also help promote their effectiveness; for example, if you offer a parking cash-out program where employers offer employees basically cash or financial transit benefits in lieu of their parking spaces in the garage at the office, you can also compliment those types of programs with something like a vanpooling or carpooling program. So that folks, once they are no longer receiving their parking space have means for getting to work and not needing that parking space.

Engaging stakeholders both internal and external is really key. And the rest of the book just describes some more options for helping to promote success of your programs. I've highlighted at the bottom, incorporate transportation control measures into land use plans because, as we noted earlier, land use planning and development strategies really influence the demand for transportation. And so I want to talk about that a little bit more in terms of integrated planning.

Slide 33: Integrated Planning for Comprehensive Programs

Emma Zinsmeister: As local governments are involved in their transportation planning processes, integrating those decisions with other planning processes at the local and regional level; in particular, land use planning can help to ensure the effectiveness of those types of plans and provide multiple environmental public health, economic, and social benefits.

And by taking an integrated approach and to do this it is important to ensure that there is a plan complimentary and also there's an opportunity to develop comprehensive plans for community – master plans to execute this kind of strategy.

And what I illustrated here are three guides that we've been working on. There's the transportation control measures guide in our local climate and energy strategy guide series that we'll be coming out with soon. But we currently on our Website have strategy guides on “Smart Growth” and “Energy Efficiency in Affordable Housing”.

And this is an example of three different approaches to climate change and clean energy that you can take and that you can integrate to take a more comprehensive approach to achieving your goals in your community and build more robust programs.

And at the federal level, there's a partnership that you may have heard of previously that was formed between the Environmental Protection Agency, the Department of Transportation, and

the Department of Housing and Urban Development to promote sustainability within community essentially through this type of strategy; combining transportation, smart growth, and affordable housing. And our speakers from FTA will talk a little bit more about that during their presentation.

Slide 34: Resources for Implementation

Emma Zinsmeister: So – and my next two slides is just a list of some of the resources that are offered by EPA and other folks to help you in implementing and evaluating your program. Here, EPA's Office of Transportation and Air Quality provides a number of policy and guidance documents, a list of grant and funding opportunities, and also a number of calculators and inventory tools that you can use for tracking the effectiveness of your program.

Slide 35: Resources for Implementation (2)

Emma Zinsmeister: And also outside of EPA, the – “It All Adds Up to Cleaner Air” program developed by a number of federal agencies and is essentially a public and – public-private partnership that provides free marketing materials to support and promote clean air programs. And underneath this, they include strategies that we include under the definition of transportation control measures. So there are a lot of good resources and tools that you can use through that program to promote your efforts.

And then also, the Center for Clean Air Policy has a Transportation and Emissions Guidebook that also offers calculator tools and informational resources on a variety of transportation strategies.

Slide 36: Contact Information

Emma Zinsmeister: So, with that, I – here is my contact information, if you have any questions for me that we don't get to during today's discussion. But we can move on to our next speaker.

Public Transportation's Role in Responding to Climate Change

Slide 1: Title Slide

Emma Zinsmeister: We have Tina Hodges and Andrea Martin from the U.S. Department of Transportation's Federal Transit Administration. Tina is a Program Analyst and a former Presidential Management fellow in the Office of Budget and Policy at FTA. She's conducting policy research and outreach on transportation and climate change. She also serves as the core team member of DOT's Center for Climate Change and Environmental Forecasting and she's the subject matter lead for the Center's report to congress on strategies for reducing greenhouse gas emissions from transportation. She has a Master's in Public Policy and a Bachelor's in Government and Politics both from the University of Maryland.

Andrea Martin is an Environmental Protection Specialist at FTA and she focuses on American Recovery and Reinvestment Act projects and issues. She has a Masters from the University of Phoenix and her undergraduate degree from the University of Rhode Island. She majored in Natural Resource and Environmental Management. Prior to joining FTA, she worked for AECOM in Phoenix as a National Environmental Policy Specialist and Environmental Planner. So, with that, Tina, I guess you can take it away.

Tina Hodges: Thanks, Emma. So this is Tina Hodges from the Federal Transit Administration and what I'm going to discuss today is how public transportation can play a role in responding to climate change. I'll also discuss tools and resources from FTA on reducing greenhouse gas emissions and improving air quality. And then, my colleague Andrea Martin will talk about some planning, technical assistance tools that we have as well as grant programs.

Slide 2: Avoiding Carbon Emissions

Tina Hodges: So, first of all, the basic concept that we're talking about is, of course, very simple. These photos show 40 commuters traveling by car and 40 commuters traveling by bus, so you can see visually that by moving more people in fewer vehicles, transit can reduce total emissions, and transit can maximize this benefit by minimizing its own emissions. But of course, it's always nice to see the data behind it.

Slide 3: CO₂ Emissions per Passenger Mile

Tina Hodges: So luckily, through the National Transit database, FTA, the Federal Transit Administration, collects data on passenger miles traveled and electricity, diesel and other energy consumption from transit agencies across the country. This, combined with standard emission factors from the Department of Energy and EPA, allow us to calculate transit's greenhouse gas emissions per passenger mile and compare it to that of automobiles.

So, as you can see on this graph, heavy rail transit such as subways and metros produce, on average, 76 percent lower greenhouse gas emissions per passenger miles than driving alone. For light rail, that figure is 62 percent less, 33 percent less for bus and about half for the average for

transit. But these are national average. They include near empty buses along with the standing room only ones, and as such, these averages mask considerable variability.

Slide 4: Pounds CO₂/passenger mile for US Heavy Rail Systems

Tina Hodges: This graph shows the greenhouse gas emissions per passenger mile for U.S. heavy rail systems, subways or metros, and they're ordered from the highest number of annual passenger miles to the lowest. So, those on the left, such as New York, D.C. and San Francisco account for a much higher percent overall U.S. transit than those on the right. So, you can see that some systems have higher or lower emissions than others.

Slide 5: From National Average to Local Specific

Tina Hodges: These three main variables that influence the carbon intensity of transit are the efficiency of the vehicle. So, that is the, you know, a hybrid bus versus a diesel bus for instance in terms of the miles per gallon that those buses are getting, or heavier or lighter railcars for the subways and metros, or regenerative braking, or used in both rail or bus, through using that, that will be more efficient.

The second variable is ridership, so, the percent of seats that are filled on the vehicle. And then the third is the carbon intensity of the fuel or electricity, so, are they using diesel, biodiesel, compressed natural gas. And then for the rail systems, which are mostly electric, is that electricity is sourced from coal, or hydroelectric, or nuclear, et cetera.

And, if you want to, you can go to this link down at the bottom of the slide here and check out the carbon intensity of the transit agency in your local area. So, the bus systems, because there are so many, I only have the top 50. But if you're not in the 50 largest systems, then you can email me and I can send you the results for all 400 or so bus systems. And you can find your particular one there.

Slide 6: Optimizing Land Use

Tina Hodges: The other thing to note is that studies show that transit land use effect have an even greater impact on reducing greenhouse gas emissions than transit efficiency over the private auto. So, transit-oriented development and the denser urban forms facilitated by having transit available, means that people don't need to travel that far to get to their destination.

So, combining transit and support of land use policies offers synergies that increase each strategy's impact. So in other words, by having transit around, you make the land use more effective. And by having land use policies, you make transit more effective because it's easier to serve the population. And there are some studies on these effects. So for instance, the Growing Cooler Study found that compact development reduces driving by 20 to 40 percent.

Slide 7: Optimizing Land Use (cont.)

Tina Hodges: And another study by the Center for Neighborhood Technology looked at households living in areas with access to transit and found that they produce much lower greenhouse gas emissions from transportation. In fact, those in the highest location efficient transit zone had an average household greenhouse gas emission level from transportation that was 78 percent lower than the average for the census block group.

Another study from the transportation, pardon me, the Transit Cooperative Research Program, study number 128, "Effects of TOD on Housing, Parking and Travel", surveyed 17 Transit-Oriented Development Housing Project – Projects. And found that they average 44 percent fewer vehicle trips than that estimated by the Institute for Traffic Engineers' manual. So, in other words, these types of development, they are sometimes required to provide a much higher level of parking than is actually necessary because people are looking at the ITE manual which over-estimates the amount of parking that's needed because it doesn't incorporate the fact that transit is available in these areas.

Slide 8: Optimizing Land Use (cont.)

Tina Hodges: The Moving Cooler Study, looked at a bundle of strategies, looked at combining land use, public transportation, and pedestrian and bicycle strategies, and found that this combination of strategies could reduce greenhouse gas emission by 9 to 15 percent below baseline in 2050. They also looked at several pricing strategies and adding pricing strategies, such as the gas tax, DMTC and Pay-As-You-Drive insurance, on top of those strategies, would actually double the impact.

Slide 9: U.S. Transit CO₂ Savings – ICF Report

Tina Hodges: A report by ICF for the Transit Cooperative Research Program found that when you take together all of these different effects of transit so the effect of transit use rather than driving, and then, add to that the land use effect, as well as, the congestion mitigation effects, and subtract out the greenhouse gas emissions from the energy used by transit, then the net savings are 37 million metric tons of carbon dioxide nationwide.

Slide 10: Tool for tracking GHG savings from transit

Tina Hodges: This is some information on a couple of tools that you can use for tracking greenhouse gas emissions savings from transit in your local community. The Federal Transit Administration funded the American Public Transportation Association to develop a recommended practice for quantifying greenhouse gas emissions from transit. This graphic here shows the different things that are considered in this recommended practice.

So, it looks at both the emissions produced by transit, so from burning the fuel, or using electricity, from keeping the lights on in the administrative offices, and also the emissions that's displaced by transit. So, the emissions that do not occur because public transportation is providing an alternative to a car trip and is also providing congestion relief and facilitating compact land use. The group is – the APTA Climate Change Working Group, that developed

this methodology, is now working on a method for determining the impact of transit on land use for different types of communities.

Basically, the study, that I mentioned earlier, developed a national average land use multiplier of about two. So that means that land – the effect of transit on land use is about twice the effect of just the emissions reductions from mode shift alone. But, this of course – the land use effects varies by community because some communities are obviously much more dense or have more extensive transit service than others. So the group is looking at specifying that for different types of communities.

Then, there is a Transit Cooperative Research Program Synthesis Study that came out just last week called Current Practices and Greenhouse Gas Emission Savings from Transit. And that synthesizes a lot of the existing literature and information and case studies on public transportation's role in responding to climate change.

Slide 11: Map

Tina Hodges: The Center for Neighborhood Technology's Housing and Transportation Affordability Index, has a really fun mapping tool. At least I get a lot of fun playing with – out of playing with it. And you can go on there and click on your – the name of your local community and they have a few, a large number in there. It's not just the big metro areas, but a large stock of the urbanized areas in the U.S.

And so, you can click on your area and then see a map of various things. But one of the types of maps that you can see is carbon dioxide emissions per household from household car use. So, this is the map for Washington D.C., and as you can see here, the red areas are those with very high carbon dioxide emissions per household from transportation and those tend to be the outlying areas or further from the core and the yellow areas are those with lower emissions.

And as you can see here, the dark lines radiating outward, those are the metro rail lines. So, you can see that those yellow, low emission areas tend to follow those metro rail lines, because people in that area are able to take the metro instead of driving. So that's a neat correlation that you can see with these types of graphs.

Slide 12: Minimizing its Own Impact

Tina Hodges: There's a lot that public transportation agencies can do to minimize their own carbon footprint in addition to minimizing the carbon footprint of their community as a whole. So, for example, the transit agencies across the U.S. are purchasing hybrid buses and they're also obtaining LEED certification for maintenance facilities and offices. The new Light Rail System in Phoenix uses regenerative braking to save energy. Another example, Boston's transit agency is installing wind turbines on some of its properties. So, there are a lot of exciting things that are going on.

Slide 13: Tool for Reducing Transit GHGs

Tina Hodges: Here are some tools that FTA has worked on for helping public transportation agencies reduce their carbon footprint. We're developing a transit carbon management compendium and this is a handbook for transit agency managers on local governments on how to reduce energy, and emission, intensity of transit.

So, this compiles the result of the FTA research on alternative fuel and fuel efficiency transit vehicles as well as outside analysis. It's being produced by Georgia Tech; and stay tuned, it will be out in the next couple of months. FTA has also just issued a call for additional transit agencies who would be interested in environmental management systems training.

FTA previously offered two rounds of this type of training and got a very good response and, so now, is offering the third round. Then there is the TIGGER program which was funded with \$100 million in 2009 under the American Recovery and Reinvestment Act and is funded for FY 2010 under general appropriations for \$75 million. And this is for capital grants to reduce energy and greenhouse gas emissions from public transportation.

So, at this point, I will turn it over to my colleague, Andrea.

Slide 14: Partnership for Sustainable Communities

Andrea Martin: Thank you. I'm going to talk a little bit about partnerships for sustainable communities as well as grant programs offered here through FTA. In June 2009, the Partnership for Sustainable Communities was formed by the U.S. Department of Housing and Urban Development, HUD, the U.S. Department of Transportation, DOT, and the U.S. Environmental Protection Agency, EPA.

Basically, what they've done is pledge to ensure housing and transportation goals are met while simultaneously protecting the environment, promoting equitable development and helping address the challenges of climate change. And the principles are: provide more transportation choices; promote equitable, affordable housing; enhance economic competitiveness; support existing communities; coordinate and leverage federal policies and investment; and value communities and neighborhood. And I'll talk a little bit about how we do that here at DOT.

Slide 15: Sustainable Communities Partnership Funding Opportunities

Andrea Martin: OK, Sustainable Communities Partnership funding opportunities, there's the HUD and, actually, the HUD has two main programs; Sustainable Community Planning Grants and Sustainable Community Challenge Grants. And the notice for funding availability has been announced yesterday in partnership with the U.S. DOT.

Through the American Recovery Investment Act, the Department of Transportation was able to have or initiate programs that support livability and sustainable communities. Through that, we have some that I'll talk about in just a minute. Here at FTA, we have TIGER One, which was at DOT, our Secretary Ray LaHood's program. The TIGER 2 capital and planning grant that was actually the notice of funding availability, yesterday, it was announced with the HUD program in the Federal Register.

We have an urban circulator program here at FTA as well as bus livability and our TIGER and Clean Fuels Program, and I'll go through them as well. And in the beginning of the session today, they talked a little bit about at EPA their programs, Smart Growth, Sustainable Communities Brownfields; Clean Water State Revolving Fund and Targeted Watershed Grants.

Slide 16: Recent Partnership Successes

Andrea Martin: OK, recent partnership successes, we have the HUD Affordable Housing on Brownfields, the DOT-FTA New Start Cost Effectiveness – and I'll talk a little bit about that in a minute – DOT which is FTA Affordable Housing Near Transit Guide that was put together. Then we have the DOT FHWA, which is Federal Highways and Federal Transit Administration Bicycle and Pedestrian Policies as well as the DOT, HUD and EPA Grant Announcements that are specifically designed for livability and promoting just Smart Growth.

Slide 17: Joint FTA and FHWA Programs

Andrea Martin: Joint FTA and FHWA programs that are great for the community. And the Website is down below here. We have the Transportation Planning Capacity Building Program and this peer program is a comprehensive training in assistance to the local government. They can – we can help you with the land use planning, scenario planning if you would like station development or transit-oriented development, as well as operations management, analysis methods. These are just some of the assistance that we can provide to you from FTA.

What you do is you go online and you can fill out an application. It doesn't just have to be these programs; it could be additional things like air quality. The – if that was something that you needed to work on, transportation control measures with your transit agency, we would – we could help you through this program to do that.

Slide 18: FTA Livability Programs Include:

Andrea Martin: FTA's livability programs include transit systems such as buses, subways, light rail, commuter rail, street cars, monorail, ferries and people movers. There's community development where neighborhoods are made more safe and healthy and environmentally sustainable through transit programs, and formula and discretionary which are competitive grants. And I'm going to talk a little bit about that further in the presentation.

Slide 19: FTA Formula Funds

Andrea Martin: OK, we have FTA formulas funds. What that means is money is set aside, put together in a formula through application and you're able – or the transit agency or the community, the MPO would be able to apply for the grant. We have urbanized areas formula grant program that is for areas of 50,000 or to 200,000 in – or urbanized areas between 50,000 and 200,000 in population.

Funding can be used for planning, engineering design, evaluation of transit projects and other transportation-related studies. Funding can also be used for capital investments in buses and bus-related activities such as the replacement, overhaul and rebuilding of buses. For urbanized areas with populations of 200,000 or more, at least one percent of the funding apportioned to each area must be used for transit enhancement activities such as your historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access with persons – for people with disability.

Rail and Fixed Guideway Modernization, basically, this program provides funding through the formula and the fixed guideway refers to any transit service that uses exclusive or controlled rights-of-way of rail entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, a trolley bus, an aerial tramway, inclined plane, cable car, an automated guideway, transit ferryboats, a portion of a motorbus service operated on exclusive or controlled rights-of-ways such as your bus rapid transit or high-occupancy vehicle (HOV) lanes. Funds can be used to modernize or improve existing fixed guideway systems, and you may have heard the term State of Good Repair.

We also provide assistance to rural and small urban areas and rural transit assistance programs where we hope the rural area – make the community more accessible to the residents.

Slide 20: Competitive Funding for Transit

Andrea Martin: There is also competitive funding here at FTA. We have several applications or the Notice of Funding Availability are out there and people have applied and these are just ongoing programs. We have a Bus and Bus Facilities program, and basically it provides capital assistance for new and replacement buses, related equipment and facilities as well as intermodal transit centers.

And we also have something called New and Small Starts, and this is a discretionary program that the federal government supports the planning and development and construction of major transit fixed guideway capital projects. These are areas that have not had transit before. They're either an urbanized area such as – Tina mentioned Phoenix, with the braking system; that was a New Start program, the light rail there. A Small Start is going to be a small area – a small urban area or rural area that has not had transit before. And so then application is out there right now and it's due July 12th.

We also have the TIGGER program which is Transit Investment for Greenhouse Gas Reduction, and they're awarded to public transit agencies for the implementation of new strategies for reducing greenhouse gas emissions and reducing energy usage from their operations. And the TIGGER application for this new round of applicants, there's \$75 million to be disbursed among applicants, and it's going to be August 11th.

There's also the Transit in the Parks program. And this program protects sensitive areas, the national parks, forest, wildlife refuge and other federal lands; basically improves the visitor experience for public transportation and alternative transportation. And it's a partnership that we have with the Department of the Interior and the Forest Service, and it funds expenses for

alternative transportation systems such as shuttle buses and bicycle trails in our national parks and public land. And, basically, you can look for the funding availability of these types of programs at the Website on the Webinar here as well as the program descriptions at our Website at FTA.

Slide 21: Transit Serving Target Populations

Andrea Martin: And basically, through public transportation, we provide transport for elderly persons and people with disabilities. We provide the Job Access and Reverse Commute Program and New Freedom Formula Grant Program. And the New Freedom Grant Program, it's a program that provides additional tools to overcome barriers for Americans with disabilities. So these are all areas to help that population.

Slide 22: Center for Transit Oriented Development

Andrea Martin: OK. Earlier, we talked about transit-oriented development. It's development along transit and it provides best practices, research tools and support market-based, transit-oriented development, partners with both public and private sectors to strategize about ways to encourage the development of high performing transit-oriented development projects around transit stations and to build transit systems that maximize the development potential. It's a program funded through FTA and you can get that information from the Center for Transit-oriented Development at reconnectingamerica.org.

Slide 23: Thank You!

Andrea Martin: This is our contact information if you have any questions or any – on any specific program, whether it be a grant program or the Department of Transportation's Climate Change Initiative and livability. Thank you. Anything else, Tina?

Emma Zinsmeister: Thank you, Tina and Andrea.

Local Programs for a Regional Issue

Slide 1: Title Slide

Emma Zinsmeister: Next, we will have Commissioner Jennifer Roberts from Mecklenburg County, North Carolina. Jennifer Watson Roberts is currently the Chair of the Mecklenburg County Board of County Commissioners serving her third term in office. She's a native of the Charlotte area and a graduate of East Mecklenburg High School.

She attended UNC-Chapel Hill and holds two Master Degrees in International Affairs from John Hopkins University and the University of Toronto. She's won many community awards and serves on numerous boards and advisory groups in the region. Her main interests centers around education, children's issues, alleviating poverty and homelessness, and environmental protection. She has long been an advocate for legislation that supports clean energy and energy conservation and is helping Mecklenburg County become a leader in its environmental practices. So, thank you, Commissioner Roberts. Go on ahead.

Jennifer Roberts: Well, thanks for having me today and I appreciate all the information that we've been hearing so far. I'm going to talk about several of the programs that we're doing here in Mecklenburg County along the lines of a lot of what you have talked about.

Slide 2: Who We Are

Jennifer Roberts: And first, I want to just give folks a sense of where we are and who we are and this is a slide that just gives our population. You can see the city of Charlotte is a big part of Mecklenburg County. We're approaching a million and our Metropolitan area is sort of the – look at the green counties there, almost 2 million people, and projected to be 4 million in about 20 years. We are around the border with South Carolina, so some of our regional programs have that added challenge of working with two states.

Slide 3: Local Programs and Partnerships

Jennifer Roberts: We're going to – I'm going to talk about some of the partnerships that we have in four major areas. I'll be fast because I know we've got limited time. Clean Air Works is a Transportation Demand Management Program. I'm going to talk a little bit about public transportation and our transit success, our greenway programs and then a program that we have for replacing diesel engines on some of the off-road equipment that we have.

Slide 4: Our Air Quality Challenge

Jennifer Roberts: This is just a slide to show you that we are a non-attainment area and we are finally getting close to the old standard, but we're not - as you can see, the green line is the new standard that has been set for ozone, and we are still having challenges in approaching that new standard. So it's an issue that the business community is aware of, the county is aware of, and the surrounding counties and municipalities are very aware of.

Slide 5: Clean Air Works – Another Solution?

Jennifer Roberts: The first program that we have done in coordination with the business community is a program called Clean Air Works. And this really started as being funded from Mecklenburg County with some state and federal grant money as well with the intent to really have the private sector taking it on. And it is trying to focus on the positive outcomes, trying to give citizens who are part of this program some notice through awards, ceremonies, lunches, articles in the paper, et cetera.

And it really works with energy audits and energy efficiency as well as the transportation demand management and some of the operational changes that businesses can do to reduce the vehicles that are, you know, coming in to sort of look at their whole operation change of when they refuel, of when they have deliveries, et cetera. And it really tries to get employees engaged as well to make them feel part of that process and to have them feel some of the ownership in that.

Slide 6: Clean Air Works – Funding

Jennifer Roberts: It began – we had two years of public funding and we worked very hard to encourage private industry to also step up to the plate. And then in the last two years, it has been totally funded privately with foundation grants and contributions from business and it's now in its fifth year of operation.

Slide 7: Clean Air Works – Administration

Jennifer Roberts: It is governed through a regional air quality board which is a group of elected officials, some public officials, and some business leaders in our region. And in a minute I'm going to show you a slide of who is actually included in this region. And it has reduced the expense of operating the program from about 1 million in the first year to about \$250,000.

And as you can imagine, we are trying to get people to change their commuting habits and their operation habits. It takes quite a bit of hand-holding and of specific information that's tailored to each company to really get those habits to change.

Slide 8: Clean Air Works – Results?

Jennifer Roberts: Here's a map that shows the EPA non-attainment region that I was talking about. You can see we have one county that's in South Carolina, that's York County, and then Mecklenburg right there in the center, and Charlotte. We have an – we're pushing to have more. We have 116 active partners. There are quite a few more that we have spoken with and given information to that are not actively signed up for the program but certainly the information outreach has gone much more broadly.

And we've also been using partners like the Centralina Council of Governments which is our council of governments were created by the states to work in regions around regional issues and

things like air quality; and water quality has been a big focus for our COG. And so they've been a big partner there – and our school systems, not just in Charlotte Mecklenburg but also in the surrounding areas.

We actually have one school system in Gaston County that's entirely using biofuel for its bus fleet and they actually make it themselves. And we are continuing to focus on trying to use those programs that really get the best returns for the investment. You can see the red stars on this map are all the different partners we have.

We actually have some very active ones in South Carolina. That's interesting in our region, our prevailing winds actually go, sort of, from southwest to the northeast, and so we have even partners up in Rowan County who are seeing some of the pollution come their way just because of where they are geographically.

Slide 9: Clean Air Works: Commute Reductions

Jennifer Roberts: So our statistics to date, we have removed over 45,000 commuting trips, just in the current year. 4.8 million miles of vehicles taken off the road since the beginning of this program four and a half years ago. And that's 280,000 pounds of NOx emissions. The graph just shows the different – what we've achieved through the years in terms of taking cars off the road.

And we do try to give the businesses the actual numbers and how much they're reducing. We get businesses to work with each other and sort of do best practices and showcase their own ideas. We have had some manufacturing companies completely change their delivery schedules because they know that trucks idling, et cetera, in the middle of the night, it's better than doing it during the high ozone hours.

And we've even had some workplace morale that's been improved through things, like we have one company that offered – they're a company that's not located near many restaurants and so they have a company restaurant and then they have people getting in their cars everyday to go out to lunch. Well, they started offering free dessert on Fridays. And what they found was that employees stayed in, they got to know each other, they had some down time together and they got free dessert and, you know, morale went up and air pollution went down. So that was – it's fun to hear the different companies sort of sell their own unique and individual solutions to some of these challenges.

Slide 10: Expansion of the effort – Interlocal Air Quality Compact

Jennifer Roberts: So we continue to spread the message. Some of the COGs are listed there that are other parts of the state of North Carolina. And then we have the connect partnership which works actually with a North Carolina COG and a South Carolina COG. We've gotten Chambers of Commerce engaged, those non-profits that have been extremely helpful in getting the message out. And, again, colleges, universities – we find that our – some of our biggest bicycle commuters are at our local universities. That they really – we have one greenway in particular that connects to UNC Charlotte. And we have really worked to get all of them engaged in this

very successful program. And we continue – I would love to see a lot more partners than the ones we have so we continue to work to spread that message.

Slide 11: Transportation Alternatives

Jennifer Roberts: Now, of course, when you're trying to get people out of the cars, you need some transportation alternatives. And we have our Charlotte Area Transit System which has had the citizens' vote on a half a cent dedicated transit tax – sales tax. We've had to vote twice because we had a challenge in 2007 from some folks who want to – said that transit was – that we weren't ready for transit, that it was too expensive for what you get and that it didn't really – didn't really help air quality after all. But we came – 70 percent of our residents voted to keep that tax in 2007.

The first light rail line opened a month after that vote and we've had tremendous success with it, and I'll talk about those numbers in a minute. The challenge we have – our challenge is revenue decline. We've had our half cent sales tax go from 71 million at its height to 56 million the current year. So we are seeing some challenges and trying to build that system out.

Other alternatives, we have vans that actually operate within that transit system that folks can sign up for it. Those go into the surrounding counties, by the way, as do some express buses that we have. Some of the calls from people saying, "Why is there a Mecklenburg County van up here, and you know, in Rowan County?" But that's all part of the program.

Telecommuting, we have encouraged employers to use and of course our greenway system.

Slide 12: 2030 Transit Plan: 5 corridors and streetcar

Jennifer Roberts: This is a map of our eventual plan to have built out by 2030 right now that with the funding challenge has been extended by several years. But you can see the first line that's open is the one that goes southwest, which run mostly south the dark blue line, and that's a 10-mile commuter rail, a light rail, sorry. The commuter rail is the red line going north. So, the blue one will extend eventually to the University of North Carolina Charlotte. And we have a line to the airport and then one out in the southeast and the street cars sort of more, inside the city of Charlotte. You can see it sort of light green to dotted green.

Slide 13: South Rail Line Opened Nov. 2007

Jennifer Roberts: That's our eventual plan and then this is just the line that has opened. By the way, part of the Transit-Oriented Development, part of the plus that we've seen is about \$1.4 billion in investment along that corridor including some public housing that is accessible at the transit line. So we have had tremendous tax benefits as well as air quality benefits.

Slide 14: Light Rail Success

Jennifer Roberts: Ridership is 16,000 daily trips. We were predicting to have about 9,000. We forgot about weekend events and during the day commuting which has been – been tremendous

usage. And it's stayed even during the recession, even though a lot of folks – and we've had a lot of job loss in the county area but we've continued to have heavy use of our transit system.

Our overall system including our buses, vans, et cetera, is daily usage of about 81,000. And you can see our goal to eventually have 25 miles commuter rail, 21 miles of light rail, street car, and then the bus rapid transit, buses, and the van pool, car pool.

Slide 15: Mecklenburg County Greenways

Jennifer Roberts: One of our other alternative methods, of course, our greenways and we have a very active program and that we actually did a community-wide survey that put greenways at the top of the list of things that people want to be near to.

Slide 16: What Are Greenways?

Jennifer Roberts: And we have focused on, to really try and connect neighborhoods, businesses, shopping areas, parks, and schools. They've also serve a great environmental benefit of protecting our streams, or even to our drinking water supply, one of our lakes and providing those natural buffers along with the health benefits.

We want to thank especially our federal government for some grants that we've gotten, over \$10 million in the past several years. And DOT has been a big supporter because of the transportation alternatives and that people – we have done surveys and seeing that people are actually using bicycles to commute to work and set up a whole bicycle commuter club that meets regularly in Charlotte to try to work with getting more bike lanes, getting more greenways, and getting them in the right places.

Slide 17: Mecklenburg County Greenways

Jennifer Roberts: This is a map of our greenway system. We have 30 miles that have been paved or are gravel and can be used for commuting and for health. And we have plans to develop an additional 42 miles in the next five years. And we have about 147 miles that are undeveloped.

Slide 18: Choosing the Next Greenway

Jennifer Roberts: Quickly, I just wanted to show some of the things that we consider in looking at where to expand the greenway system is connectivity to schools, parks, other greenways. They're being part of larger plans or studies. We have a regional greenway trail plan that's called the Carolina Thread Trail connecting 16 counties.

And so greenways of ours, that are part of that, get priority. And obviously, project partnerships and funding partnerships, so we can leverage our money and get those established quickly.

Slide 19: In the Middle of It: Design and Construction

Jennifer Roberts: This is a slide of one of our most famous greenway sections. It's about to open right near uptown. This is within walking distance of our big banking in the uptown area. And it is – goes right in front of our community college. It used to be a sewer when I was growing up; at least it smelled like one, and we had part of it capped with a parking lot that we've uncapped – that a lot of partnerships in the area. It's cost us over \$30 million to buy back from businesses to get rid of a gas station, et cetera. But again, we've seen the property values around the greenway go up significantly and this is going to be a major connector between one of our – between uptown and one of our large parks in the area.

Slide 20: Elizabeth Park

Jennifer Roberts: And this is just one segment of that along one of our major streets.

Slide 21: Little Sugar Creek Greenway: Freedom Park

Jennifer Roberts: I don't know why this someone's wearing a Pittsburgh Penguins shirt, but he's here in Charlotte, so all you hockey fans, we play hockey down here, too.

Slide 22: GRADE+ A Local Solution to a Local Problem

Jennifer Roberts: Finally, the GRADE program and this is what we've used to help, again, replace some of those aging diesel engines that we know have very high pollutants. And one of the great side benefits of this is that we are administering this regionally. We have discovered this has led to other collaboration along air quality and transportation issues it's because that we're, you know, actually serving as the group that hands out these grants to communities around us.

Slide 23: Grants to Replace Aging Diesel Engines Plus

Jennifer Roberts: And this has been in place since 2007, modeled after programs that have existed in Texas and California and it can be for public or private diesel equipment owners. We have been very successful in working with both and, you know, that some of these construction companies and these farmers, you know, keep their heavy equipment for years and they really have engines that are polluting quite a bit.

Slide 24: Grants to Replace Aging Diesel Engines Plus (2)

Jennifer Roberts: This is just some of the parameters of the program – we do administer it in seven counties – 25 horsepower is the minimum size, and all diesel sectors are eligible; non-road, stationary and on-road. And actually, now it's called GRADE+ because we've added it to even more counties.

Slide 25: North & South Carolina Coverage Area

Jennifer Roberts: All of the counties with a plus are the ones that we have added, and this is because we have continued to receive some federal money to administer this.

Slide 26: GRADE+ Project Types

Jennifer Roberts: And this is, just we've defined, both re-powering and replacing of the engines with cleaner, more emissions – sorry, more emission-stringent engines, and that makes a tremendous difference.

Slide 27: GRADE+ Regional Project Distribution

Jennifer Roberts: You can see the actual projects, the actual engines that we have replaced and re-powered. The numbers in this slide show that the majority are in Mecklenburg, but through the advertising that we have done, through the connecting with the different municipalities and counties, we've actually had pretty good success in reaching every single county. Union county to our east, heavy commuter traffic and heavy development going on in that area, so we've had 21 different engines replaced there for a total of 165 individual projects.

Slide 28: Keys to Success for an Incentive/Sub-grant Program

Jennifer Roberts: And this promotional campaign had to include both Website, telephone. We made the application as simple as possible and we defined that selection criteria very well and our staff has just done tremendous outreach to get to those customers.

Slide 29: Marketing & Outreach

Jennifer Roberts: Again, you can imagine some of the construction companies and the farmers are a little suspicious about what this program actually is.

Slide 30: Telephone Campaign

Jennifer Roberts: But we had over 125 applications and a lot of visits to the Website, and now we have a database of diesel equipment and vehicle owners for the future. And, you know, again, along with the transportation demand management, we have found that it really does take a lot of personal follow-up, a lot of personal phone calls, and exploration of how different businesses are operating and what they're using to really make those programs work.

Slide 31: Screen Shot of Promotional Website

Jennifer Roberts: This is just a sample of the promotional Website which tells folks how to apply and what it really means and what it's all about, and it gets the counties there involved as well.

Slide 32: Project Activity

Jennifer Roberts: And just to look at the growth of the program, starting off with nine projects in 2007, we've done 108 in this fiscal year and have awarded more than \$1.7 million in funding, which again adds that regional collaboration, and again, because it's available to public and private entities, has been tremendous in connecting us to school districts, to cities and counties,

as well as to private companies. So, we then have access to the Get Involved and our Clean Air Works program. So, it has – again, we're very grateful for the Federal grant for that and we think it's been tremendously successful in this region.

Slide 33: GRADE+ Metrics

Jennifer Roberts: And this is just a slide of the importance of federal funding and also the NOx reductions in tons per year, and you can see it's grown since its initial year as we continue to get the message out.

Slide 34: A Real Solution for Regional Attainment

Jennifer Roberts: So, we think it's been a tremendous success and added to the other area of things that we're doing in reducing vehicle miles traveled, in getting people out of their cars, we feel like we're making a positive step forward in working on our air quality issue and also on being better at planning around transportation issues and the development that goes with those.

Slide 35: Questions?

Jennifer Roberts: And I've just, again, left my contact information as others have. You can tell it's the slide that I did because it doesn't have a nice little Mecklenburg County seal in the corner, like we would've done if I'd had one of the staff do it. But this is – I'm happy to take questions in the future from folks who want to hear anything more about all those programs that I ran through awfully fast but I wanted to make sure that we have time for questions at the end. So, thank you very much.

Emma Zinsmeister: Great. Thank you, Commissioner Roberts. We appreciate your presentation.

And for folks on the line today, if you have any questions, please just to remind you to submit them through the Go To Meeting panel so that we can get to them at the end of the presentations today.

Commute Trip Reduction in Washington State

Slide 1: Title Slide

Emma Zinsmeister: So up next, we have Matt Hansen from King County, Washington. He's going to be talking about their Commute Trip Reduction Program.

Matt Hansen began working for the Market Development Section of the King County Metro Transit in October of 1994 and in August in 2002, he became the supervisor of that group. Market Development demonstrates innovative approaches to building ridership and partnership in the community.

Matt has a Bachelor of Arts from Reed College and a Masters in Public Administration from the University of Washington. He currently serves on the Washington State Governor's Commute Trip Reduction Board, the transportation demand management committee of the transportation research board, and the Association for Commuter Transportations Next Authorization Task Force. All right. Thank you, Matt. Go ahead.

Matt Hansen: Thank you very much. Really interesting presentation about North Carolina; I think it's really great to see the partnerships that are developing there and that's really a big sort of core of what I'll be presenting here.

Slide 2: CTR Basics

Matt Hansen: There. So, Washington State passed a Commute Trip Reduction Law in 1991. And we did it to support three policy goals; it's to improve air quality, to improve the performance of the highway system, and to reduce reliance on fossil fuels. And, really, the main reason that we got this legislation passed where it was a reaction to the passage of the Federal Clean Air Act and not wanting to have to enforce a really sort of strict regulatory framework to control emissions, and also reaction to what we're seeing happening in Alaska in the wake of the Exxon Valdez.

And so the legislators really rallied around the idea that, you know, if we collaborate with local government and with the employers, we think we can head off some of these problems. So the targets that were originally put out there was that, between 1991 and 1995, employers affected by the law would reduce SOV trips by 15 percent. The second target was in 1997 as a 25 percent reduction; and finally, by 1999 when the law was scheduled to sunset, there would be at 35 percent reduction. None of that happened, needless to say. I think they were aggressive goals. It was a good start.

When the law was renewed in 2007, we set a target for 2011 of a 10 percent reduction in SOV and a 13 percent reduction in vehicle miles traveled. The law affects the nine most populous counties in the state. There's about 1,100 employers affected by the law and then just over a half million employees. When the state puts out a 2.5 million annual budget, most of that is dispersed to the local jurisdictions to implement the law.

Slide 3: CTR for Employers

Matt Hansen: So, CTR basics. The law is pretty simple. It requires employers affected by the law to appoint an employee transportation coordinator to provide commute information to employees, report to the local jurisdiction what exactly it is they're doing, and to participate in an every-two-year survey that the state basically runs and administers.

That's not a particularly daunting regulatory framework in terms of what's required. In terms of who these employers are, the affected employers are – they have 100 or more employees that arrive to the worksite between 6 and 9 a.m., 12 months of the year. And what that does, that really exempts schools and certain seasonal workers where a CTR program wasn't really appropriate at the time.

So the requirements are pretty clear and simple. It's easy to be in compliance. Where we see the real progress, though, is once the employer takes that first step, just gets their program out there, appoints a go-to person for employees to go to, then the decisions start to happen about how do they want to build their program. So, it's not required that you spend money on transit or ride share subsidies. It's not required that you actively manage your parking. It's not required that you allow flex time, but employers have found that those are very effective things and they choose to do them. I think I've frozen up here, folks. All right.

Nikhil Nadkarni: Matt, do you want to try see if the arrows in the lower-left works?

Slide 4: How CTR Works: Partnerships

Matt Hansen: All right. Thank you. So, how does CTR work? Basically, it works on the level of a partnership. What the state does is it gets the policy and the funding out there and enables local governments and employers to do what they do. Local government acts on the basis of ordinances that they're required to write so that the cities and the counties really have to buy in to being successful here.

Basically, they provide the direct assistance to the employer. They manage the survey and reporting on behalf of the state, and there's a lot of promotional work that goes on. And there's a bit of a difference between if a city is doing it, a county is doing it, or a transit agency is doing it. I happen to work for King County Metro Transit, and the employer market is a huge piece of how we get riders and how we sustain our system.

Finally, the employer actually develops and maintains the program, the information distribution survey and reporting, but I wrote – I put these arrows out there really because WashDOT does what it does to affect the behavior of a commuter. Local government does what it does, in part, because the state tells them to, but we're trying to affect the travel patterns of individuals.

And, finally, the employers are trying to get their employees more able to travel to work in a different way. There are very few employers that put out mandates to their employees. A couple have, and a couple have been very successful at it. But really what we're trying to do is acquaint

people with their options. And we really rely on the ability of the employer to be in effect, the hands-on implementer of the program.

Now, earlier, I said that the state budget for this program was 2.5 million a year. For every dollar that the state puts in to CTR, there's a local match and I don't have that off the top of head, but the employers are putting in \$18. That's, I think, a 2007 statistic but it's holding true; in terms of the employer accounts that Metro manages, we're seeing over 90 percent retention rates in those programs even though the economic – you know, the recession has hit. So, employers are committed to this.

Another thing that we do to affect the behavior of the commuter is to compliment what we operate in terms of fixed-route transit here at Metro. We have a very extensive public vanpooling program. I was excited to see other presentations earlier referencing it. It's not just buses. It's not just trains.

Finally, in terms of policy, when you, as a local implementer, are thinking about how would I develop a program that could be effective, be creative and reach out on every lever that you can; for instance, a lot of employers here in King County and in Washington State subsidize fares; well, that's great but not all employers do. And so, another way that you can affect the decision-making of the individual commuter is on the tax treatment of what they spend on their commute.

So, there's very important tax treatment benefits at the federal level. Many states have tax credits for employers that invest in these programs. Pull on every single lever that you can and, you know, let your elected officials know that there are things that we can do to help people make these choices, then we should try to do them.

Slide 5: 2006 Update to CTR

Matt Hansen: So, the CTR Law in Washington State went through a very significant update in the 2006 legislature. We focused the program on the urban growth area, and in a very significant way, this is where Washington State really made a tangible example of how you can link transportation and land use.

Specifically, I capitalized Urban Growth Area in that bullet. In Washington State, we have a Growth Management Act. And when I say growth – urban growth area, counties affected by the State Growth Management Act know exactly what that means. That means it's – in King County, it's really a line in the forest essentially that says, beyond here, you have farms and you have forests, and you have very little development. Really what we want to do is want to focus growth in the already urbanized area, and in the Central Puget Sound, this concept will come up a couple more times. We made a decision in the four county region here to focus growth in what are called urban and manufacturing centers, and that is a really important strategy that when we finally get to results, we'll see, in fact, that it paid off.

The updated CTR Law also shifted accountability from the employment site to the jurisdiction. So, that is to say, on the first slide, I said by 2011, we wanted to see a 10 percent reduction in

SOV rates, that's for a city and with – that was designed to give local implementers more flexibility in how they got their results.

Which is to say, if you had a cluster of employers with very high SOV rates and very low levels of transit service and low participation in programs, why should we expect that they should have the same goal as an area of where you do have services and people are more engaged? So, it really gave the cities the flexibility to figure out, how do I achieve that 10 percent reduction?

The acronym there, is one of the more unfortunate acronyms that I've come across in my professional life, stands for Growth and Transportation Efficiency Center. That's related to those growth management tools that I referenced earlier.

It allowed cities to focus resources on all of the employers, not just the large employers in an area, and that, that limitation on the market by the original CTR Law focusing on employers with a hundred or more employees. Really means you could do a lot with one employer and right next door, do nothing, and so really, what it did is it really opened up a lot of doors to reach more people.

Finally, the GTEC program also required a 50/50 match on the part of the locals. In the case study that the EPA will be distributing subsequently, it focuses on a city in King County, Bellevue. Bellevue did a really great job of taking this opportunity with the Growth and Transportation Efficiency Center to help link what they wanted in their growth plan for their downtown, what the development and business community wanted to see as the area grew with a tangible CTR program that it could bring to the entire market. And also, simultaneously, there's some fairly significant highway construction going on in downtown Bellevue to mitigate the effects there. So, I encourage you to take a look at that. It's actually a great write-up.

Slide 6: CTR Works

Matt Hansen: So, CTR works. I'll very quickly walk through what these bars mean. What this is measuring is reduction in drive alone rate for the period of 2007 and 2009. For the first two bars, however, we're measuring 2007 to 2008 because that's what we had data on. And so, you know, less than a percent reduction in drive-alone rate amongst all commuters in the U.S., so then, Washington State, for all commuters, not just CTR affected two percent.

CTR sites in King County. So these are the original 100 or more employee sites, six percent reduction. It's pretty good. Then, when you look at the sites that are affected by the CTR Law in those designated Growth and Transportation Efficiency Centers, whoa, 11 percent. That's a significant number. It's significant in part because most of these employers have been affected by CTR since 1991. It's significant because those centers are the most densely developed. They have the best infrastructure and an argument that was conventional wisdom for a long time was that, "You've got the low-hanging fruit in these areas." Well, I think, this pretty convincingly refutes the 'you've got the low hanging fruit'.

And then, within King County, there are three Growth and Transportation Efficiency Centers. There's downtown Seattle, downtown Bellevue, and the Overlake area in Redmond which is

really the home to Microsoft's main campus, 16 percent reduction in drive alone from 2007. What we're taking away from this is that, in fact, focusing the program on where you have the infrastructure, where you have the local partnerships is really key.

And in addition to the reference to Bellevue, we would not be successful with the GTEC program if it weren't for the Tacoma Chamber of Commerce, the Bellevue Downtown Association, the Downtown Seattle Association, the Greater Redmond TMA. I mean, they're all important implementing partners. We don't have the manpower to put all that product out there and they have a real interest in helping people get to work in a more efficient way.

Slide 7: CTR Works: Reductions

Matt Hansen: Some information pulled from a document called the CTR Board Report to Legislators for 2009, in the period between 2007 and 2009 – actually, that's from 1991 to 2009, excuse me, 20,000 vehicles off the road each morning; from 2007 to 2009 now, reduced 12,900 hours of delay in Central Puget Sound; 61 million VMT for that two-year period; three million gallons of gas and 27,000 metric tons of CO₂. Significant numbers, and significant also relating back to the presentation by our colleagues from the FTA.

In Washington State, we're a hydropower state. We're not a coal power state. So emissions from transportation represent 50 percent of CO₂ emissions in this state. And when you look at our state's climate plan, when you look at the King County climate plan, when you look at the city of Seattle's climate plan, encouraging people to travel by alternative modes is a significant and frequent strategy. And that – I think people very clearly see that link.

Slide 8: Why Do We DO CTR?

Matt Hansen: OK, so my daughter Julia did this. And it's not because I'm brainwashing her, I think she just picks this stuff up. Why do we do CTR? Well, according to Julia, because cars are bad for the environment. I think it says "moving machines very bad."

Well, yes, kind of. The point of having the slide in here is that norms are important. When we started with CTR, the norm was, it wasn't really any of your business how I get to work.

I got to say that I was so encouraged by Commissioner Roberts' presentation on what's going on in North Carolina, what we're learning is that if you approached people with a positive instead of a negative, you get a good chance to get them on board.

I put this also because I think one of the things that we're seeing is that attitudes about how you behave day to day and the quality of – and impact on the quality of life, in particular, some of the bigger problems, it's getting out there. To support that, I'd say that I saw recently that the rate of ownership of driver's licenses amongst very young demographic is going down, and down significantly.

And so I think, you know, one of the things that will happen as we keep raising this issue, as we keep alerting people to their options and to the consequence of our behavior, that over time, it will become the norm. And I think that's significant.

Slide 9: Really: Why Do We DO CTR?

Matt Hansen: OK, really, why do we do CTR? When I saw the statistic, it kind of blew me away and it took me a while to read it. But really what its saying is the gray area, if its past the red line, means that there was an increase in delay in your region.

And this said something pretty significant to me. It says that Los Angeles held steady in the amount of delay between 1997 and 2007. Seattle reduced it. Whoa, what's going on there? Well, it's not all CTR. We had some pretty significant additions to the transit network. We've seen a lot of growth in vanpooling. There have been some highway expansions in certain bottle neck in choke-point fixes, but delay went down. And I think if you ask anybody who provides transportation services in this region, they would add CTR to the list of things that helped enable that to happen.

Slide 10: Lessons Learned

Matt Hansen: So, what I would hope that people would take away from this? You have to leverage local policy and resources. If you're operating at the state-wide level, provide mandate but also follow up with resources and a challenge for locals to step up and have a role, both in defining the goals and the objectives but in doing it.

CTR would not work if the state and local linkage were weak. It would not work if transit was not engaged. And I think by and large, in the counties affected by CTR, the transit agencies are very much attuned to what the commute patterns are to the major employment site's and how they can serve that.

But most of all, it wouldn't work if the employers didn't care. If you walked into any of the corporate giants in this region, you would find in their trophy cases their Diamond Awards and their Governors Commute Smart Awards. They care about this, and I think that really helps make it work.

It's important also, I think, it's very inefficient to go out and reach all, you know, 2 million commuters in Washington State. However, if you focus on the 11 hundred largest employers, you're going to reach a significant share of that market. I think also that one of the things we learned is that people have options that they're not aware of. You've got to provide information about what you could do today to change what you do.

And you also need to provide an incentive to get them to get over that first hurdle. You know, when I was out, sort of doing the employer support work, early in my career. Once you got somebody to kind of look at it a little differently, once that door was open and you have something to offer them, you could get them – you could get them to start a program, you could get them to try the bus, you could get them to register into the ride matching program.

For me, finally, whether I'm wearing my State CTR Board hat and my customers are employers and jurisdictions, or I'm wearing my Metro hat and my customer is the community or an employer, put yourself in the customer's shoes. Is what you're doing something that they will see to be relevant to solving a problem, they may or may not think they have? Is what you're designing user friendly? Is it something that people will want? We're asking in, what the EPA's calling Transportation Control Measures, to have people, in essence, do something that is very easily considered to be a take away. Do less of this is a hard sell, but you can get them to do things if you're careful about how you designed your programs and so forth.

Slide 11: Contact Information

Matt Hansen: So, that's kind of it quickly. I very much encourage you to go to the WashDOT Website to look at the information on the Commute Reduction Program. You know, it's been around for 20 years. It's been quite successful and hopefully, it's something that provides some examples for implementation on your own end. Thanks a lot.

Emma Zinsmeister: Thank you Matt for your presentation. We appreciate the lessons learned that you've been able to share with us. And thanks to all of our speakers.

Questions and Answers

Emma Zinsmeister: I think we'll open up the floor now for some questions.

Emily Rowan: OK, great. So our first question is for Commissioner Roberts. The question is, how are you collecting data for your Clean Air Works Program to measure performance?

Jennifer Roberts: We are – we are actually collecting the data. We have an air quality department that is working with the employers to help them sort of count the number of trips reduced and we help them figure out what that means and looking at the commuting mileage, et cetera, what that means in terms of those ozone and NOx and VOCs taken out of the air. And we work with clean air works to help count the number of participants and again the commuting trips that are reduced. I hope that answers the question.

Emily Rowan: Yes.

Jennifer Roberts: OK.

Emily Rowan: So, our second question is also for you. And the participant was interested in what the seed funding for the grade plus project was.

Jennifer Roberts: OK, the seed funding for that program was actually the County Commissioners voted on putting a half million dollars into air quality programs and that got that started and then we had that supplemented with the federal money.

Emily Rowan: Great, thank you so much. So, our next question is for Matt and a participant was wondering why a law was needed to get companies to become an ETC. Why not simply ask them and provide incentives and tools?

Matt Hansen: Well, that's an interesting question. Interestingly, in designing the CTR law, the state did a very interesting – it was the State Energy Office that was in the lead; it wasn't state DOT. And we asked the Association for Washington Businesses to be a participant in design of the framework. And, actually, they ran a parallel task force and then we reconciled things. And so that was the consensus of the group.

You needed a mandate to make sure that there were certain things that happened across the board. Beyond that mandate, and that's why the bar was so low. Then it was discretionary. So, you know, a passed law gets people's attention. It also obligates other levels of government to implement. So that's my best answer.

Jennifer Roberts: OK. If I...

Emily Rowan: OK, and we have another – oh, sorry.

Jennifer Roberts: I was going to add to that. It's interesting in terms of mandating; we actually looked to do that in Mecklenburg County. And it did not get support from the business community; it did not get support from the commission, and there was a lot of resistance to that. And so we decided to try the carrot approach first but it's something we have considered and I think if we were not trending down, we would probably be considering it again.

Emily Rowan: OK, that's really helpful. And we have another question for Matt. And the participant was wondering, for the Growth Management Act, did private land owners agree to have such restrictions placed on their lands? And the participant also noted that many land owners in urban centers want to cash in on growth.

Matt Hansen: Well, I think that the Growth Management Act – it's a state level, there was – there's an amount – there's a substantial amount of opposition to Growth Management Act because it in essence says what you can and can't do within certain parameters with your property. The rural land owners I think reacted more strongly against it.

So I think, if I understand the question correctly, the closer you are in the urbanized area to the dense areas and then in this particular region within the state where we set up these urban centers, there's a lot of support for density. And there are a number of places that sought and got urban center status. So that they could, you know, increase building heights, so that they could create the market to justify the metro for more transit services.

So, yes, land owners do want to cash in. I think what we've done now is that we need to grow up and not out. And not everybody is supremely happy with that.

Emily Rowan: OK, so I – our next question is for Andrea. I think it was on Andrea's portion of the FTA presentation. And the participant was wondering on the transportation capacity building program slide, what the planning Website listed was?

Andrea Martin: Sure. Its www.fta.gov – oh, I'm sorry, that's wrong. It's www.planning.dot.gov. And the application and the information is right there on the Website.

Emily Rowan: Great, thank you.

Andrea Martin: No problem.

Emily Rowan: And our last question of the day is for Emma. And the question was when is the TCM guide going to be available?

Emma Zinsmeister: We are in the final stages of wrapping up the draft and we're hoping to have that posted within the next couple of weeks. We're going to be posting it in draft form before it's final because we've been collaborating with some of our partners at DOT and HUD in review of document, and has some additional pages to go through in that process. But we do want to share the information with folks since there so much interest in the topic. So I anticipate it should be about a couple of weeks.

Emily Rowan: OK, and that's it for our questions.

Emma Zinsmeister: All right, well thank you to all our participants for tuning in today and for all of our speakers for sharing their experiences and what they have for resources available and the lessons learned. We hope that this has been informative for everyone. And we will be posting all this information to our Website within the next couple of weeks.

Please feel free to contact me and any of the other speakers if you have additional questions. And we hope that you will join us for future Webcasts. So, thank you very much and we hope you'll tune in again.

Operator: This concludes today's Webcast. You may now disconnect.

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