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WEBINAR

STATE LEGISLATORS AND THE
FUTURE OF TRANSPORTATION

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Opening Remarks:

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Presentation:

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Panel Discussion:

SENATOR JEFF BRANDES (R)
Florida State Senate

REPRESENTATIVE SUSAN McLAIN (D)
Oregon House of Representatives

SENATOR FAITH WINTER (D)
Colorado State Senate

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P R O C E E D I N G S

MR. TOMER: Good afternoon and good morning, and welcome to the Brookings Institution's virtual event, State Legislators and the Future of Transportation. My name is Adie Tomer, I'm a senior fellow at the Institution's Metro Program where I help lead much of our infrastructure work.

Today we've got a really exciting program and in some ways I'm most excited because I'm not really involved in this. In a minute I'm going to hand it over to my colleague, Andrew Waxman, for a presentation on this really important topic, to be followed by a panel moderated by Gian-Claudia Sciara, who's also a nonresident senior fellow of our program.

Now the topic for today couldn't be more important. Obviously, infrastructure has been front-page news for well over a year now, in particular because at the Federal level who passed a landmark infrastructure bill. And the majority of that spending not only went to transportation, but specifically to roads and transit and other what's known as surface transportation all across the country.

But long before this bill we have known that surface transportation is in a precarious fiscal position. Most systems across the country, in particular at the state level, were the major investors in our system, rely on gas taxes. But those gas taxes are no longer keeping up with our investment needs.

Now where all this comes to play in real time is often times in state capitals where legislators on both sides of the aisle have to deal with this precarious fiscal position going forward in the tough act of making sure that our roads and transit systems are still moving yet doing so with potentially new sources of money.

And again, that's what makes our conversation today genuinely intriguing and exciting. What are state actors going to do about this situation?

So, with that I'm going to hand it over to my colleague, Andrew Waxman, who's an assistant professor at the School of Public Affairs at UT Austin to start the presentation in more detail. Thanks, Andrew. The floor is yours.

MR. WAXMAN: Thanks, Adie, for a fantastic introduction. Also, everyone, thanks for joining us this morning, or afternoon, depending upon where you are watching from. I'm going to briefly present an overview of a research initiative done at the University of Texas at Austin with myself, I am

Assistant Professor at the LBJ School of Public Affairs, I'm an Economist in Public Policy faculty member. And jointly with my co-author and colleague and co-panelist today, Gian-Claudia Sciara, who is an Associate Professor at the School of Architecture, and part of the Urban and City Regional Planning Program at the University of Texas, Austin, in the School of Architecture.

So, the focus of our research is trying to understand fiscal opportunities and challenges in the context of transportation in state legislators. And part of the impetus for this is to understand how this intersects with energy transitions and a broader shifting energy landscape.

I'm joining you today from Austin, Texas, and this is one of the hotter days of the summer and our grid today in particular is struggling to manage energy needs, so this is a very apt time to be talking about this topic.

So, first point to make is just that states are a key part of the transportation policy ecosystem. On the graph here on the left you see the division in terms of jurisdictional sort of ownership of U.S. roads and streets between counties, which are the majority, they're in yellow at 44 percent, states, which are at 19.6 percent, and then some other form of city municipal or other local road ownership, and 3 percent are Federal. So, while we often think of highways as being interstate and perhaps managed by the Feds, it's actually a collaboration of different forms of governments, and a major part of that is the states.

On the fiscal side, as you can see in the graph on the right here, revenues are by in large collected largely by state and local governments. The Federal government bringing in around a quarter of total revenues it's evolved over time. And as Adie mentioned, a large substantial portion of these revenues come from motor fuels taxes, taxes on gasoline and diesel. And as we see the price of gasoline rise in recent events, this is an important implication for thinking about both the revenues generated by these taxes as well as the burden that those taxes impose on taxpayers and those using the roads.

So, our research initiative was interested in understanding how state motor fuels tax policy affects how state legislators think about energy transition broadly as well as transportation investment. So, if, for example, the electrification of the vehicle fleet as we see more and more electric

cars and perhaps even electric trucks on roads, we're talking about transition away from gasoline-based energy and towards electricity-based energy, which lowers the revenue base for states and the Federal government to pay for transportation infrastructure and requires changes in thinking about how we pay for those infrastructure investments.

Second, we were interested in how lawmakers themselves perceived transition and how this impacts their process of agenda setting and prioritizing infrastructure finance itself.

And lastly, we were interested in thinking about how they perceive that process of agenda setting, so what types of transportation and transportation finance topics get highest priorities and how does that materialize in legislation. And the back end is thinking about these tensions in terms of energy transition and paying for infrastructure and how that they affect that agenda setting processing.

Before I jump into some of the findings and approach of our research, I just want to acknowledge our team. To begin with it was not just Doctor Sciara and I working on this, we worked closely with the team here at the University of Texas, Texas Politics Project, which has a broad set of activities trying to understand in Texas and across the nation how political attitudes among everyday people as well as politicians evolve and are shaped and in turn shape national policy priorities. So that's Jim Henson and Josh Blank. And also, we wouldn't have been able to do this without the support of the National Conference of State Legislators, and in particular I want to give a thanks to Doug Schinkel who helped, you know, helped us to leverage the influence and the importance that NCSL has among this group of lawmakers.

And we had a large graduate student team as well as under graduates helping us here at the University of Texas work through all this research, so I want to acknowledge their contributions as well.

All right. So, there were really two major phases to the research that we've been doing on this topic. The first was just to, you know, understand, I'm actually going to skip the order of these slides and flip them, to understand the legislative progress that's gone on in the last 10 to 15 years in terms of new legislation to address motor fuels taxes, whether it's increase it or decrease it or change the way that motor fuels taxation is collected or adjusted.

And then we were also interested in trying to understand what the influence of those changes in motor fuels taxes does to state legislator incumbents when it comes election time. So, there's a perception that people may not like taxes, and in particular gas taxes or something that people might be very aware of when they go and fill up their cars, and they may hold their legislative representatives accountable for those increases, and so we wanted to understand whether there's an implied penalty associated with that.

And last in this list is that we initiated a set of focus groups with legislators across the country to better understand the set of questions that I mentioned a couple of slides back. And part of the impetus for all three of these initiatives was to design a national representative set of survey questions that we then administered electronically to state representatives across the country with the collaboration of NCSL.

So, I'm going to primarily present research almost exclusively from Phase One today. We are now sort of going to the process of analyzing our Phase Two results. And so, we'll hopefully speak to some of the themes in that later on in the session today.

So let me summarize the findings in that first set of studies. So first we went through, as I said before, and went to inventory state gas tax changes. And just to try and understand the last 20 years how it evolved. So, in the figure on the left here you can see the sort of stack of spaghetti lines are the evolution from 2000 to roughly the present in the excise taxes, so that's that charge per gallon of gasoline that states across the country have undertaken. You can see a wide variety. Some states have kept gas taxes largely flat this entire period, some have raised them substantially, others have decreased them and variation within those groups.

Lastly, sorry, in the panel on the right you can see that there's also variation not just in the amount of tax collected but also in how that tax is collected. So roughly 40 percent of the changes that we documented in this corresponds just adjusting that excise tax I just mentioned, so changes that we observed from the movement of the lines on that panel on the left.

The next largest proportion was a 31 percent corresponding to some sort of variable rate that the states were using to adjust taxes over time to respond, for example, to changes of population,

changes in inflation, like we're seeing now, or other indexes to adjust taxes.

And then another 26 percent to adjust that variable in order to make some changes in variable. And then another 3 percent were some other form of change.

A second set of research that we did was to try, as I mentioned before, understand whether there's a penalty associated with raising motor fuels taxes for state legislators. So, try and understand whether voters punished state legislators in the ballot box after gas taxes are raised.

So, this was done using statistical analysis over a period of 1990 to 2018. So, we collected data on the returns from state legislative elections. Every time they were done, we had a full sample based in part on the data that you just saw of changes in motor fuels taxes. And then we controlled for a host of other things as part of the statistical analysis.

And we find that a 10 percent increase in the tax rate on the motor fuels tends to reduce the incumbent vote share. So that's someone, a state legislator who had been in office when that tax increase happened. The share of people voting for them for reelection decreases by 2 percent. So, we noticed a small but meaningful penalty associated with the motor fuels tax increase. And this is accounting for a range of confounding factors because obviously motor fuels taxes, the increases don't happen in a vacuum, there are changes associated with political party, economic conditions, characteristics of people running for office, and then other taxes that are going on in the background.

And it's largely comparable with other sort of taxes or policy initiatives that may not be in voters, you know top, necessarily in their top three most important issues although in some cases fuel prices can be, but that are nonetheless have some sort of bearing on their voting patterns.

So that was our research on gas tax penalties documenting a small but meaningful impact of motor fuels tax increases on voting shares for incumbent state legislators.

And lastly, what I want to spend the rest of my time talking a bit about is focus groups that we conducted with state legislators which will help to motivate the discussion that we're going to have with our panel shortly.

So, this was in part to do two things. First to inform the design of a national survey that I mentioned before. We have since undertaken and are now analyzing the results from. And understand

how lawmakers talk about their priorities, the process of agenda setting for their policy priorities associated principally with two things we're interested in. How infrastructure and the transportation system at the state level gets paid for. And then also transitions associated with energy systems, whether that's changes in the types of vehicles that are being driven, or concerns about environmental impacts or a range of other energy related concerns.

So, we started with a group because we're based in Texas, of Texas House Staffers who work with legislators in the State of Texas on policy priorities and related transportation, just to get a sense of where their heads were at and what their priorities might be. And then we spoke with direct interview to three Texas legislators working in Transportation, again to help design the focus group methodology as well as to understand what are the larger priorities, we should be focusing on in our focus groups.

We conducted five focus groups last year with 23 state legislators who were working in some form, whether that's sitting on a committee, chairing a committee, vice-chairing a committee in Transportation, from around that issue.

And this is a table that sort of summarizes how we tried to distribute the participants so that we could get a representative enough share of states. We didn't have enough slots to get all 50 states in here, and as you can see in the case of Utah, Washington, and Hawaii, we even had in some cases more than one representative from a single state participating in a focus group. But we were interested in spreading across states that have more or less urbanized populations, as indicated by the column on the left here with the darker colors corresponding to states that have a higher share of their population in urbanized areas, and lighter colors in larger share in less urbanized areas. Also states where, again, based upon the analysis that I mentioned earlier, there had been more or less changes in gas taxes over the preceding 20 years.

And lastly, we used a data base from the U.S. Department of Energy which characterizes sort of innovative energy policies, particularly around carbon or energy transition across state legislators. And used this to identify states that were, from a legislative or policy perspective, more or less ambitious in terms of the number of bills and regulations passed.

And so, the goal, again, with sampling legislators, the purpose of the focus group was to get a wide enough variety across these three margins of legislators so that they could speak to different conditions in different states or different priorities to give us a broader sense of what's going on.

So, I'm going to summarize our findings at a very high level and hopefully the panel and our subsequent Q&A will give us an opportunity to dig into these in a bit more detail. So, one of the things that we found is that across almost all the states that we talked to infrastructure degrades, it's just a sort of a fact of life when thinking about transportation. And, you know, in many cases it has to do with the aging of existing infrastructure, which in some cases even was due to not being up kept and some form of neglect, but also in many cases just because we're observing growth in population in certain parts of the country and increase due to economic activity and freight movements, and those put considerable strain on that infrastructure, bridges, roads, viaducts, etcetera.

Another major finding was just that this challenge of being able to pay for the repair and investment in this infrastructure is a problem that comes up for state legislators on a regular basis. It's just a challenge that's part of the job. And so, you know, one of the goals of the chairperson and committee members of transportation committees at state legislators is to really think about how they can ensure that the funds, as I mentioned earlier, much of which can come from motor fuels taxes, you know, are protected in a way that continues to pay to protect and invest in that infrastructure but that, you know, ensuring that those revenues come in and cover those costs. But infrastructure makes it challenging to extend ones focus to other topics, another more innovative policy, some of which we'll talk about in a second. In some cases, we do observe states making those, you know, building those metaphorical bridges to engage in those new innovative policies but it makes it challenging.

And lastly, the consensus was that this funding challenge is structural in the sense that it is defined in part by sort of the rules of the game, how state legislators need to raise money, how infrastructure is paid for. And so, the system kind of creates some of these challenges.

And lastly, you know, another common consensus for the reasons that I mentioned earlier is that motor fuels taxes at some point in the future are going to be unable to cover all of the transportation investment needs that states have because of this challenge with the tax base declining

because of increasing share of the vehicle fleet is becoming electrified or also just changing driving patterns are meaning that the revenue base associated with these taxes is not growing at the level at which investment needs in transportation infrastructure is.

And, lastly, sorry, another reason is just that states are not always able to raise the rates of those taxes because, as I mentioned earlier, there's a political cost to and their constituents are often, you know, are not happy about tax increases and so there's a tension there in being able to raise enough revenue from them when there's, you know, pressure to not increase those tax rates.

Lawmakers also shared an awareness of potential solutions and again, we'll try and dig into these in a bit. This includes charging for vehicle use on the roads. It includes, you know, in some cases building additional toll roads, managed lanes, like express lanes, fees to pay when someone buys an electric vehicle or when they're registering an electric vehicle to cover some of the infrastructure costs they are no longer paying because an electric vehicle is no longer, you know, a driver is not consuming gasoline. Or even in some cases taxing electric charging stations.

There is an agreement that the long-term solution must involve electric vehicles paying for infrastructure in some way, but there's a challenge in trying to think about what is the right way to do that. The policy innovation is uneven among states for a variety of reasons. But key stakeholders, you know, private sector partners, other forms of government, they can help to make or break funding policy initiatives to make things happen.

And lastly, an important aspect, as I said, we're interested in the energy transition. One of the things that we found across many states was that transportation policy priorities and energy policy priorities often don't get discussed as a joint issue despite the fact that we may think of these as being intertwined systems, an energy transition moving towards an electrical vehicle fleet for example is intimately tied to paying for roads but there's just not necessarily bandwidth to address that in many states at the comprehensive level one might imagine.

So, there's a host of themes sort of within the idea of agenda setting, including how our issues are prioritized, what solutions are available, and what sort of information were found. And I want to finish up by just touching on a few sorts of state specific context.

So, some states did have innovative policies, including pilot programs, trying out vehicle usage fees. In other states they're sort of a business community that's interested in moving, you know, having roads and mobility active, and in some cases that means that they are a key partner for state legislators in supporting tax increases to pay for road and infrastructure. In other states that's less of a feature. And as a result, they may not be able to increase taxes the way that they might want to.

And lastly, I'll mention Florida since we have a Senator from Florida on our panel. You know, they have a wide range of road usage fees and options. And there was some understanding as part of the focus groups that this comes out of some unique history of Florida in terms of the way that they have historically raised revenues through tolls.

So, I'll stop there. I'm going to stop sharing the screen and hand it over to my co-author and collaborator, Gian-Claudia Sciara, who is going to moderate our panel with the next portion of this event.

MS. SCIARA: Thank you, Andrew, that was a really phenomenal overview, a lot of dense information and research findings.

I'd like to now invite our panel of speakers to turn on their microphones and their cameras and to join me on the screen. Wonderful. Senator Brandes, if you would join us on the screen. There you are. Wonderful. All right.

Well, I'm Gian-Claudia Sciara, I'm an Assistant Professor at U Texas, and have been delighted to collaborate with Andrew Waxman on this project. It's really been a phenomenal experience and we have a lot of people to thank, including Texas Politics Projects, NCSL, and our standout team of students.

I'd like to shift to this next portion and turn the spotlight on the incredible set of state legislators who have been working closely in this domain, have been really energetic in thinking about transportation issues and some of the funding challenges that Andrew has described in this environment of energy transition.

So, I'm going to introduce each of our panelists briefly and then turn to a moderated discussion. I know we're all eager to hear from these lawmakers who really have been in the trenches,

so to speak, thinking about these issues. So, I'll go in alphabetical order.

First, we have Senator Jeff Brandes, who was elected to the Florida House of Representatives in 2010, and in 2012 he successful ran for the state senate where he continues to serve Pinellas County District 24 in the Tampa Bay Region. And he's taken the lead on several pieces of legislation addressing transportation and technology.

Next, we have Representative Susan McLain, who is a fifth generation Oregonian who spent a long career as a teacher before running for election as Councilor on Portland's Metro Regional Government in 1990, significant responsibilities there for transportation at Metro. She served on Metro Council for four terms, and now represents Oregon's 29th House District where she focuses on land use and planning, transportation, and solid waste.

And finally, we have Senator Faith Winter who was elected in 2018 to the Colorado State Senate representing District 24 in Adams County, just north of Denver, and part of the larger Denver/Aurora/Lakewood region. She previously served in the Colorado House of Representatives from 2014 to '19 for District 35. And she currently is Chair of the Senate Transportation and Energy Committee and a member of the Finance Committee.

So, thanks to all of you for taking the time with us this afternoon. I'd like to start off with asking you to take turns and give us your reactions to some of the findings that Dr. Waxman shared. So, you all are in a tough spot, you have constituents to respond to, you have an in-depth understanding of this terrain and how difficult it is. What, from what you heard from Dr. Waxman, sort of really struck home and made you say "Yeah. Yeah." Maybe we could, you know, either, you know, somebody leap in first or I could go in alpha order.

MS. McLain: I'm willing to go first on that one because --

MS. SCIARA: All right.

MS. McLAIN: When you made that statement, the first thing I thought was well there was one I was really shocked with. And it was your last one about transportation and energy not being discussed together. I think that that might be an old-time response if you're from Oregon, but it's certainly not the response that you're getting now from across the nation, if not the globe.

And we talk about transportation and energy, and we talk about transportation and climate, and we talk about transportation and alternative energy sources all the time. And that's why we believe that the future of transportation is going to be more multi-modal, it's going to be cleaner and it's going to be safer, and we are not meeting our goals yet for carbon reduction, but we are working toward it with a heavy lift and with a very, very energetic heart.

And so, for me that was not true in our area, and I hope that you'll hear from others that they are also working diligently.

MS. SCIARA: Okay. Thank you for that perspective. You know, one of the limitations of focus groups is that you cannot capture all of the diversity of environments, and so it was good to hear that sort of pushback from you, Representative McLain, thank you.

Others, Senator Brandes, you have your mic on?

MR. BRANDES: Yeah, you know, I think if you look into Florida, we have a Transportation Committee and we have a Regulated Industries Committee, which includes utilities and rarely do the two meet. I think in the short term you're seeing these conversations go on independently. But we have transportation conversations, we have energy conversations, at least in our state. Over time I think those will merge together more.

But I think because EVs represents a small percent of the vehicles on Florida's roads while we're the second largest state with electric vehicles, obviously we have 22 million people, 150 million tourists every year. So it's a very small percentage overall of the entire fleet. It isn't showing up yet at scale to where those conversations are beginning to happen at the same time.

But they are independently happening, mostly through the Regulated Utilities that Florida has. They're kind of driving that conversation. But Florida's a growth state so largely the larger growth of electric vehicles just gets encapsulated in the larger growth of, you know, 700 people moving to Florida every day.

MS. SCIARA: Thank you. I may like to come back to that issue of the committees and what role does committee structure play here.

Senator Winter.

MS. WINTER: Yes. Well, I'll start with that a little bit because I am Chair, Transportation and Energy. So, we actually, in the Colorado Senate, look at these issues as integral. And I think from Andrew Waxman's findings the key word for me was "future." Because we have seen that relying on a gas tax is not sustainable for a whole variety of reasons. And so, we passed a landmark bill in Colorado that both looked to future proof how we're funding transportation but also what we're spending that funding on.

And so, when you look at how we're funding transportation, we know that the gas tax is not a sustainable force. And in Colorado we have not increased it since 1991. So, we did add a fee to the gas pricing. But we also added fees to how we are using the roads currently right now.

So right now, I am sitting in suburban Denver and I'm a mom with two kids. Which means I do plenty of Amazon packages, I order school supplies on Amazon, I order Door Dash and Grub Hub when I'm too busy. And I never get in my car to do that. I never actually paid a gas tax to make sure that I have good roads as bringing me the supplies and goods to my suburban home that I need. So, we started making sure that we were adding fees not just to electric vehicles, but to how we are actually using the roads. And we're using the roads through deliveries and TMCs, things like Uber and Lyft. So, we wanted to make sure how we're funding our roads as future proved, but also how we're spending our money. And that goes into the climate problem.

We know we have a climate emergency in Colorado, it's a top priority for us to address. We have climate goals, and right now our transportation sector is the number one emitter of carbon. Now when you look at the electric utilities, you're dealing with a couple dozen actors to get them to reduce their carbon input. But in the transportation sector it's millions. And so, we have to figure out how are we actually addressing that and changing behavior. And, yes, a big part of that is electrification. Some of it is automation, a lot of it is reducing vehicle miles traveled and making sure we are funding public infrastructure to support public transit, making public transit easy to use.

So, in our landmark bill we made sure that we were addressing both our funding transit, how we are spending that money, and then also taking into effect disproportionately impacted communities. We know our infrastructure has disproportionately impacted communities of color and low-

income communities for decades. And so, as we transition, we have to make sure that we are doing that in a fair and just way.

MS. SCIARA: Thank you. I really appreciate that overview. I know that's been a pretty big deal in Colorado that you were able to get that done.

We have some specific questions here that we're going to work through. But I'd like to just follow up on one thing there, Senator Winter. You mentioned that this, you know, recent initiative was both an opportunity to rethink how to fund transportation as well as how to spend your transportation revenues.

And I think as we look at this future of energy transition and this future of revenue transition as well, as we move to new different sources of revenue at the state level, it really does open up an opportunity, a legislative opportunity to think about how we've traditionally allocated funds and how we should allocate them in the future.

And so, I wonder, you know, if maybe Senator Brandes, Representative McLain, if you could reflect on that. Representative McLain, you have your hand up, so I'll go to you. I'd love to hear your thoughts about that opportunity to revisit the, you know, sort of traditional means of allocation.

MS. McLAIN: Thank you very much. That's the big picture today, that's the big question. And that's where we should be spending our time. And we've known for 12 years, before I was even at the Legislature, that the fuel tax was going to fade and that it should fade because we want to go to alternative sources. But it's important for us to recognize that the public doesn't like to move quickly, and they really want to make sure they understand what the ramifications are, and that's fair.

Right now, we have a pilot that's gone on for 12 years for user fees in the State of Oregon. I feel like a 12-year pilot is long enough to have some recognition that it's time to go forward and do it in a big way. And I appreciate Colorado helping out with the bill that they talked about.

It's one of those things where the user fee is going to have to be looked at both for EVs and for the new types of transportation that we're going to be involved with, whether it be hydrogen, whether it's a combination, whether we're changing how the grid's used, whether we try to change behavior as far as when the roads are used. But we are going to have to look at both user fees, we're

going to have to look at congestion pricing and variable pricing, and different types of use of the road.

And that is where we are in Oregon right now. We have a bi-state bridge and I'm the co-chair of both the Joint Transportation Committee and the Bi-State Bridge Committee. And we're looking at two states trying to figure our differences and how they see themselves and what their future taxing or type of payment for transportation is going to be.

And we're going to see some of that in this discussion of replacing the I-5 bridge, which is a crumbling bridge that is over 100 years old on one side and 56 to 60 on the other and is important to the West Coast for our economic vitality. So, it's going to be extremely important that we continue, and we continue in a way that is solid and is leadership for the nation and the world as we go forward.

And we're looking globally to see what's happening. The type of congestion pricing you can do, the type of tolling you can do. And protect our low-income families and protect our bi (inaudible) families is really important.

I could talk about this for an hour, and I hope you'll have a second hour where you'll talk only about this because I'll be back.

MS. SCIARA: Okay. Thank you. Senator Brandes.

MR. BRANDES: Well, I think we've got to break this problem up. You've got a short-term problem and then you've got a longer-term problem. I think any discussion about mileage-based user fees is really the longer-term problem. And while I would support mileage-based user fees, effectively that's what a gas tax is. It's a user fee, right? You don't drive the car, you don't buy gas, you don't pay the fee.

And so, we also have this cost to collection problem that goes into it as well. Today we don't collect from individual gas pumps and gas stations or, frankly, individual car owners, we collect from distributors who then collect. So the cost to the state of collecting a gas tax is extremely low compared to going out and trying to find 15 million Floridians and, you know, probably another 15 or 30 million tourists at any one time and try to collect the gas tax on the rental cars and the personal cars, or have to chip every car or I have to teach some type of, you know, trust them for their mileage or they have to come into a station and get their mileage checked every year and then I send them a separate bill.

I mean we get into really complicated questions about personal privacy, how much the government's going to track us, everything else, in the longer term. I think in the shorter term the best way for states to handle this is to simply add a fee for electric vehicles on top of the registration. That is moving towards being comparable with the gas tax.

So, in Florida that's about \$190 would be the gas tax that an average vehicle pays in the state. But I think it's important that you establish a fee, not that it be perfectly parody up front. Because I think you still, it would be kind of a sticker shock to just go in the next day and have to pay for, you know, a year registration, have to pay an additional \$190. But I think moving people in that direction in the short term.

I think really that's the solution until about 2030. And then 2030 and beyond we're going to see a lot more ability to get the data out of these vehicles and frankly I think there's going to be third-party providers that pop up that will allow us to have that cost of collection continue to be very, very low. And there'll be a middleman between where I'm driving and what the government knows about me.

MS. SCIARA: So, I'm glad that you put a number out there, 2030, as kind of the time horizon you see for using these interim measures, like EV fees, you know, as a way to bring in revenue in the short term but also be thinking about the long-term restructuring of revenue sources. I feel like that oh, you know, there's a short-term situation and then a longer term, you know, that argument has been out there for a really long time and it's important to put some numbers on, well, when are we going to shift. We know it's going to be tough but when are we going to do it?

MR. BRANDES: Yeah, I mean I think it's going to be the start of the shift. It's not going to be "the shift." Listen, people are still going to be driving around in their 2007 Toyota Corollas and, you know, the technology is just not going to be in those vehicles. And is the government going to force them to chip the vehicles. Or are we gonna have this kind of dual system where certain people pay the gas tax and other people who drive EVs or other vehicles that are not gas powered, pay an additional separate fee to kind of encapsulate what they would have paid similar to the gas tax. I think that's how states have to think about it in the short term.

And then, you know, a decade from now some future legislature will have to wrestle that

they have a problem of the privacy issues and everything that goes along with the issues re paying.

MS. SCIARA: Well, I feel like that was kind of part of the, some of the take aways at the National Revenue Commissions that were impaneled, you know, in the late oughts and where, yeah, we're moving slowly.

MS. WINTER: I'm going to jump in here. So, a couple things. I feel really strongly that instead of talking about vehicle miles traveled we need to talk about road usage fees. One of the reasons that's really important in Colorado is that rural places probably drive more mileage but if you're in an urban area you probably spend more time on the road. So, who's to say that how you are calculating what you pay for should be based on miles only, right? And that's really important to our agricultural community and rural community. And it takes us back to what is our use of the roads. We use roads in very different ways that we didn't even think was possible 10 years ago.

I've been working on public transportation for a long time and the last mile traveled has always been a hurdle and then we started having TNCs like Uber and Lyft, right? And I talked about delivery fees on Amazon and Uber and Door Dash and Grub Hub. And so, we're not waiting in Colorado until 2030, we're actually taking that on.

And the reason our bill worked is we asked everyone that relied on the roads to pay in a little bit more. Because our roads are falling apart. So, if you were a company that relies on good roads to deliver services, we're asking you to pay a little bit more. If you're a passenger that's relying on good roads to get something delivered to you or to ride in a TNC, we're asking you to pay a little more. We also asked the legislature to pay a little more in as well, so we did a general fund commitment as well.

So we went out to all the stakeholders, we had 137 stakeholder meetings and said, okay, everyone's in agreement that we need better infrastructure, whether you are the most progressive climate activist that you have that wants more public transit and electrification of the whole system, or you're the Chamber of Commerce and you want to make sure that you can deliver your goods safely and securely and efficiently to your consumers. And so, the bill wasn't perfect for everyone but what we did is we brought everyone in, including our general fund, and we started collecting those fees this year. And so, we understand that the future of transportation's already changed and we're already behind and we are

now working on catching up.

MS. SCIARA: Thank you. That's really notably to hear about the range of road users that you targeted and engaged with on that initiative. Different from say just looking at an EV fee as a way to kind of deal with some of the challenges that are existing but really thinking more broadly about how road usage is changing and the set of users are evolving.

I'd like to shift and ask if you could think about this, you know, this policy arena where we're looking at a new future in transportation where the vehicle fleet's evolving, we have lots of reasons to want that evolution to continue so that we move away from a transportation sector that's reliant on fossil fuels, and yet we are also needing to think about how to sort of adjust the revenue system to go along with that change.

I'm wondering how each of you interpret Federal policy as shaping the environment for states to address some of these challenges. So, Representative McLain, you've got your hand up.

MS. McLAIN: Well, the last conversation that we just had, and this conversation relate again not because energy policy and transportation policy and then funding energy policy and funding transportation policy are connected. So, we can divide that up, but it's all related.

I think that we have to acknowledge that the Federal infrastructure package that we have in front of us right now is a once in a lifetime, at least in our legislative careers, it's a once in a lifetime type of situation. And we better take advantage of it in our states where we need it the most.

It's very clear that the money that's coming into Oregon, we are only spending 4 percent of the new infrastructure dollars on highways, new highways. But we are spending a lot of money on maintenance, a lot of money on making sure that we're carrying the infrastructure bridges and culverts and roads and all of the other elements of our infrastructure's spine, that we are really working hard on making sure that we're maintaining it and that we're catching up in places where we have not maintained it.

And so, the infrastructure package was also based in climate policy and transportation policy. And I think they did a pretty darn good job, and we need to take advantage of that and carry it forward.

MS. SCIARA: Okay. I'm going to stop you there. That's a really clean point about this, as you said, once in a lifetime opportunity presented by the significant funding that came out of that bipartisan infrastructure law.

Others, Senator Winter, Senator Brandes, you know, how do you see the role of Federal policy in sort of shaping the ability of states to act in this environment?

MS. WINTER: I mean something that we're very proud of in Colorado is that our transportation bill provided a national model that we've spoken with Secretary Judy Dijon (phonetic), and a lot of it's being implemented. So, for example in Colorado we don't build a new lane mile without making sure that there's mitigation measures both for greenhouse gas emissions and for disproportionately impacted communities.

So just last week Secretary Judy Dijon announced \$1 billion in funding to make sure that we're taking care of disproportionately impacted communities through these infrastructure dollars. And what does that look like? That means both making sure that when you live next to a highway you're not disproportionately impacted by pollution, it means you're having access to more bus rapid transit to get to the places that you live and work because you live next to that highway.

And so having the conversation on transportation and climate separately I think is done in this country because we will not meet our climate goals, we won't address the climate crisis without tackling transportation, nor will we have an infrastructure that keeps up with those goals if we don't combine those. And that means talking about mitigation, how we engage communities, and how we're reducing our greenhouse gases. And that's everything from more public transit to how are we dealing with automation. In the future I could live in a world where there is an empty car in front of me and an empty car behind me and I'm still stuck in traffic.

MS. SCIARA: Yeah.

MS. WINTER: Or we can price automatic autonomous vehicles to be cheaper when they're full and real expensive when they're empty.

MS. SCIARA: I'm going to stop you there because I want to give Senator Brandes an opportunity to respond to this question about Federal policy. I think my takeaway from your point was

that as is the case in this domain, a lot of the innovation and energy is coming from the state level and so maybe feeding that back up to the Feds and ensuring that the Federal partners are helping to transmit the policy innovations that are happening down below to other places across the country.

Senator Brandes, this is going to be our last response and then I'm going to hand over the microphone, so to speak, to my colleague, Dr. Waxman, who's going to open it up to our audience Q&A.

MR. BRANDES: Yeah, I think I would say that listen, relying on the Federal, I mean we would call Federal policy glacial if glaciers weren't moving so fast. It's how they adjust. And I think what we've discussed here is really the problem with the Federal guidance, which is it's all over the board.

Listen, most of us just want to fix our roads and bridges. But we have to work on all of these other transportation related issues at the same time in the same bill and carve dollars away from fixing roads and bridges and building new ones, then ultimately, it's like, you know, a scene of taking a break to work on other problems. At the end of the day, we've got to address roads and bridges.

And when we're talking about adding gas tax or user fees, which I believe were highly regressive on, you know, people who are using Door Dash and other things, look, at the end of the day let's focus on the main thing. Which is we want a transportation system that's function and that is well maintained. And we can't be shifting all of these other dollars to other places where, you know, where we are and for a transportation system like our revenue from the fare box is like 15 percent. And yet all of these other dollars are coming into that system to keep it afloat but frankly, somebody believes that half the time they cover the windows just, you know, with advertisements so they don't show how few people are actually riding in the vehicles.

So, we have lots of issues. The Federal government tends to focus on the political ones, as all politicians do. But at the end of the day what people want is their roads and bridges fixed and they want the potholes filled. And are we making sure that we're doing that job first before we start syphoning off all of these other dollars to, you know, legislators' pet projects. Which is always my concern.

MS. SCIARA: All right. Well, I thank you for that perspective. You know, I'm glad you touched on the ever-popular metaphor for, you know, filling the potholes, because we all know there's,

you know, potholes in every district. So, something you are all grappling with.

I'd like to hand over the facilitation right now to Andrew Waxman, who's going to take us to the audience. So, I'll ask, I think our panelists will stay on and I will turn off.

MR. WAXMAN: Yeah. Thank you, Dr. Sciara, thank you to all the panelists for all your really important points. It's immensely valuable to have all of your experience shared here, especially to expand beyond what we summarized in the research results.

So, I have a set of questions from people watching at home. And we'll whittle these down. You know, we've got a little under 10 minutes so I'm going to hand pick a few things that I think were either touched in part but maybe we could develop a little bit further, that are in some cases is stuff that we didn't even have the scope to talk about in our research, but I think everyone would be interested in your all's perspective.

I think this is touched on by both Senator Winter and at least in part by Senator Brandes. So, let's see.

Philip Wilcox at NDP in Washington, D.C. asks, how will the development of autonomous vehicles impact the future of city and state transportation plans? Maybe we could start with Senator Brandes because I know this is something at least in the past we briefly chatted about, and I know the other panelists might have an opinion on that.

MR. BRANDES: Yeah. There are three main trends effecting transportation right now that policy makers are dealing with, and frankly people are dealing with.

As the world is getting more shared, we see this with the rise of Uber and Lyft, it's getting more electric, it's getting more automated. If we break these into decades, 2010 to 2020 was the decade of the shared economy, 2020 to 2030 will be the decade of electrification, and 2030 and beyond will really be the decade of autonomy.

And as these kind of bend diagram that it creates as they merge, it makes sense for shared vehicles to be electric and electric vehicles to be automated. And so that's the kind of world that we've moving towards.

Automation will largely take place in three areas first. Port operations, your long-haul

trucking, and your agriculture facilities. And so that's where I would look to see that long before you get robotaxis and your burrito delivered by Chipotle for, you know, \$1.50 via, you know, some robot. It's going to be your combine harvester, all your port operations, and, frankly, your groceries are going to be delivered around the country via long-haul trucking.

That's where you should expect it first, but largely those vehicles will be electric as well. And so that megatrend will play into the overall discussion about electrification.

MR. WAXMAN: Excellent, thank you so much. Senator Winter, I'm not sure you had anything you wanted to add. I know you touched on this several times in your previous comments.

MS. WINTER: I'll just add to what I said earlier, that I think a lot of this depends on local planning. The last thing we want to happen is automation to occur with a lot of empty vehicles driving around because there's no parking spots and they're driving their one driver to and from work and actually doubling vehicle miles traveled.

And so how are we creating that pacing structure that incentivizes full autonomous vehicles when not actually increasing traffic, increasing TMCs in a way, and we should establish those policies now before there's a bunch of users on the road that really rely on that technology. And so, we have to make sure, and a lot of local planning with your city councils and planning commissions.

MR. WAXMAN: Thank you so much. And I see, Representative McLain, you had your hand up. Do you want to jump in as well, please?

MS. McLAIN: If I could. I want to indicate that I think that automation absolutely is just on the tip of really changing the world here as we know it. Whether it's flying drones or flying cars, because we have some automobile companies that are telling us we're only five years out before they're going to have what they're call flying cars, but sound like people in drones or a little bit larger drones.

But that automation is important. And it's important because we get better efficiency out of an automated vehicle, we get better ability for capacity of automated vehicles because they can travel closer together.

We have even a trucking company in the State of Oregon that we are blessed with, a Daimler that's working on all kinds of automation and different types of things with their trucks. So, it's

going to affect light vehicles, it's going to affect heavy vehicles, it's going to affect air space, it's going to affect road space, and we better get ready.

And I agree with Senator Winter that it's important to have local control. We need some regulation for both the drones and for automation on the streets for safety reasons. But we started that, you know, all of us have been talking about that for 10 years and been going to conferences on it so it's not new but it's coming.

MR. BRANDES: Let me just jump in and disagree. One, I don't think you should be taxing at the local level. So, you know, I represent 23 different municipalities. If every municipality had a different tax, you would crush it, you know, day one.

This is what happened when Uber and Lyft first came to Florida. We had these different municipalities that wanted to stick different fees on whether the Uber or Lyft was coming or going into their territory. It didn't work. You've got to have a state-wide policy.

Two, discussing a tax on a technology that frankly doesn't exist yet and may not exist for a decade seems ill advised. So, let's not do that because we don't want to crush it in the cradle, all right. The way that you will get AVs to not come to your community is to put tax policy in place that snuffs them out before they begin. None of these companies are profitable, they won't be profitable for years, right? So, let's not push to put in place a taxing system that makes them less profitable or more unprofitable.

So, we've got to be thinking through this. We need to be encouraging this technology. The way that you do that is keeping things steady for a while. And then not addressing it until it really becomes a problem. If we do it that way, then all of a sudden, these companies will grow, and they will innovate. But they will flee from communities, and they will flee from states that put an oppressive thumb on them. And they will go to states like Florida that are not going to raise taxes on them, that are going to have state-wide policies, and they're going to make it easy to operate in.

MR. WAXMAN: Thanks, Senator Brandes, I appreciate. And, you know, this is one of the interesting things about studying this topic is to understand different perspectives of different states and how it creates incentives in one state versus another and companies moving across borders.

Just in our last few minutes I wanted to follow up with a slightly different question. This is

from Lea Sham from Division Euro Network in California. She was interested in a topic that's become I would say a higher priority during the pandemic. Are there suggestions on how to increase state level attention and action towards roadway safety, a leading cause of preventable deaths in the U.S. yet an issue most states are willing to challenge the status quo of speed over safety policies, funding, and practices. Federal government is shifting to a safe system approach and setting goals for zero traffic deaths as are many cities and counties, but states are generally slow to change on the safety front. Thoughts on why and how to make it change. Thanks.

We're going to leave it open if anyone wants to jump in there and talk about safety on roadways.

MS. McLAIN: I'm going to simply say that safety has to do with multi-modal transportation being successful in the future. A lot of the deaths include pedestrians and it's a situation where we have to make sure that all of our infrastructure and all of our pathways and all of our interaction of users has a safer landscape.

And so, I think that in Oregon right now we are in a situation where we feel like we are, our safety numbers have gone down versus up, and we're really looking at it, but it has to do with peds, it has to do with electric bikes, it has to do with a lot of other items that we have on different users on the same space. But it's a crisis.

MR. WAXMAN. Thank you so much Representative McLain.

I realize we are now out of time. So, I just want to take a second and thank the panel very much for all of your really keen insights and different perspectives.

I'm now going to hand over back to Adie Tomer who is going wrap us up. And then if I could ask you turn off your cameras and mics for the wrap up.

MR. TOMER: Yeah. Thank you, Andrew, and a huge thanks to our elected legislators here today. I think the biggest single take away I have from this panel is we have a lot more to talk about and there are a lot more details that folks need to go through. This crisis is not going to be solved today, it's also not going to make front page news, right, this is in the weeds.

But these are the kinds of extrastential investment questions that we need to be asking

all across the country and our future really depends on it. Not only from in terms of environmental sustainability but in terms of asset quality too.

So, again, I want to thank the legislators, Professor Sciara, Professor Waxman for being here, and for all of you tuning in.

We will of course have more events around infrastructure issues but continue to come back to the Brookings Institution for the regular IV drip of events touching on the major issues, facing the day.

Thank you.

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