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CALIFORNIA ENERGY COMMISSION

In the matter of:

2020 Integrated Energy Policy Report Update (2020 IEPR Update)	Docket No. 20-IEPR-02 REMOTE ACCESS WORKSHOP

IEPR COMMISSIONER WORKSHOP ON

TRANSPORTATION TRENDS AND LIGHT-DUTY ZERO-EMISSION

VEHICLE MARKET UPDATE

REMOTE VIA ZOOM

Session 3 – Vehicles Miles Traveled

FRIDAY, JUNE 12, 2020

10:00 A.M.

Reported by:

Martha Nelson

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PUBLIC COMMENT

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AGENDA

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P R O C E E D I N G S

10:00 A.M.

FRIDAY, JUNE 12, 2020

MS. RAITT: This is Heather Raitt from the California Energy Commission. I'm the Program Manager for the Integrated Energy Policy Report. Welcome to today's 2020 IEPR Update Commissioner Workshop on Transportation Trends and Light-Duty ZEV Market Update.

For today's workshop, we are holding it remotely, consistent with Executive Orders of N-25-20 and N-29-20, and the recommendations from the California Department of Public Health, to encourage physical distancing to slow the spread of COVID-19.

Please be aware that this meeting is being recorded. We'll post a recording and a written transcript on our website. Also, today's presentations are posted on our website.

We are holding this workshop in three sessions over today and yesterday. This is our third and last session for the workshop. And today's topic is vehicle miles traveled.

If you were in the previous sessions yesterday, you saw we were using the Q&A function

in Zoom with the capability to vote on questions posed by others.

So attendees may type questions for panelists by clicking on the Q&A icon at the bottom of your screen. And before typing a question, please check to see if someone else has already posed a similar question. If so, you can just click the thumbs-up to vote on it and that will move the question up in the queue. The questions with the most thumbs-up clicks are up-voted to the top of the list. So we'll do our best to respond to questions but are unlikely to elevate all due to time restrictions.

We also plan to conduct a poll towards the end of the workshop to get some initial feedback on how folks like the remote workshop relative to our pre-COVID in-house workshops at the Energy Commission or another facility.

I'll briefly go over how to provide public comments on the material for today's workshop. There's going to be an opportunity for verbal comments at the end of this session.

In Zoom, you can click on the raise-hand icon at the bottom of the screen to let us know you'd like to make a comment. And if you change

your mind, you can click it again and your hand will go down. For those on the phone not using Zoom, press star nine and that will raise your hand and let us know you want to comment. Alternatively, written comments are welcome after the workshop and they're due on July 3rd. Again, the meeting notice provides all the detailed instructions for how to submit written comments.

And with that, I'll turn it over of Commissioner Monahan for opening remarks. Thank you.

COMMISSIONER MONAHAN: Good morning everybody. Welcome to our third and final session for, at least, this discussion around transportation trends and light-duty zero-emission vehicle market updates.

I encourage, if there are other Commissioners, and I saw Commissioner Douglas, you can pop up your video if you want to make some opening remarks. Excellent.

So I want to acknowledge that, you know, we were on a certain trajectory with vehicle miles traveled before the COVID crisis. It's been a very different trajectory post the COVID

crisis, so I'm looking forward to that discussion.

And I think all of us, as we shelter in place, you know, there's some big challenges but there's also some interesting opportunities and we're exploring those, actually, here with this IEPR workshop. You know, how can we continue to engage folks? How can we, potentially, even engage folks that, you know, couldn't participate easily in previous workshops more effectively across the entire country, even the globe? Presumably, we could then have international participants in this that we couldn't have before.

So we're really trying to explore, how do we use technology to connect us and to help us to continue to move forward on clean transportation? It's our biggest problem in California. We are on the cusp of some major changes. And this discharges on vehicle miles traveled is one I'm particularly looking forward to. It's not what I would call a sweet spot of the CEC to work on vehicle miles traveled. Our partner agencies are the lead on this. And so we're just going to be listening and learning.

I will say that, you know, we're seeing a resurgence in VMT, not to the previous levels. There's some discussion about where we're going in the near term and also what the opportunity could be for more folks to work from home safely, but also to reduce VMT in the long term for more opportunities to work from home. So hoping that will be all part of the discussion.

So let me turn it over to Commissioner Douglas for any remarks that she would like to make before we start.

COMMISSIONER DOUGLAS: Hi. Just very brief remarks.

I'd just like to thank Commissioner Monahan and the IEPR Staff and the speakers today and participants. I am, mainly, in listen and learn mode myself. And I really look forward to the presentations and discussion.

Thank you.

COMMISSIONER MONAHAN: Great. Well, let's turn it over to Jim McKinney from our team who is going to be facilitating this panel.

MR. MCKINNEY: Great. Thank you, Commissioner Monahan and Douglas, and thank you, Heather.

Good morning everybody. My name is Jim McKinney and I'm your moderator today for our panel on VMT trends. I want to take a minute or two to kind of set this up because, as Commissioner Monahan said, this is not our wheelhouse normally but it's important to the work that we all do.

So prior to the COVID pandemic, you know, VMT in California had been rising steadily. And higher VMT levels affect us in many different ways, including more congestion on freeways and roadways, higher emissions levels that affect the public health of local populations, higher fuel consumption and carbon emissions, higher cost to consumers from higher fuel and vehicle use, and the loss of time from productivity, family and leisure.

Our high VMT is a result of land use patterns, long commute distances between job centers and affordable communities, and the lack of public transit options, like rail, light rail and buses. And as many of us native Californians know, many of the state's land use issues stem from Prop 13 and the way it reshaped municipal finance.

VMT is a tough issue to resolve. The state's major legislative efforts include SB 375 in 2008 which required 18 municipal planning organizations to develop sustainable community strategies for their regions. SB 150 required the Air Resources Board to report on progress to plan from SB 375. Their first report in 2018 found that, one, meeting the 2030 and 2045 carbon targets will depend on our success in reducing VMT and that, two, the state isn't on track to meet these targets.

Commissioner Monahan said we don't have jurisdiction on land use. Those authorities are with local and region government and state agencies, like OPR, Caltrans, and the Air Resources Board. Our authorities are with our Charger Program and electrification of larger vehicles, like school and transit buses and freight transport.

As with other parts of our IEPR investigations in transportation, we want to learn from our panelists how COVID-19 is affecting consumers, industry, and government? What implications are there for equity in accessing model, convenient, and safe

transportation options? And how can we lock in some of these VMT reductions?

In electrification with batteries or fuel cells, would electrifying larger segments of the light-duty vehicle population mitigate concerns on fuel consumption an emissions associated with higher VMT?

So today, we have five panelists, today, from government, academia, and the not-for-profit sectors to explore these issues. Each speaker will do a ten-minute presentation, followed by a moderator discussion from Commissioner Monahan and Douglas, and then myself. It's a very dynamic panel and I'm really excited to introduce our speakers.

So Dr. Elliot Martin from the UC Berkeley Center for Sustainable Transportation is a Research and Development Engineer in the Institute for Transportation Studies.

Chris Ganson is the Senior Advisor for Transportation in the Governor's Office of Planning and research.

Chris Lepe is a Regional Policy Director for Transform, a transportation advocacy group in the Bay Area.

Marco Anderson is Acting Manager of Active Transportation and Special Programs at the Southern California Association of Governments.

And Jeanie Ward-Waller is Deputy Director for Planning and Modal at the California Department of Transportation.

Again, I think this is a very exciting panel.

So I'm going to turn to you, Elliot. If you could turn on your camera and kick us off? I'm going to turn off my camera and mute myself. And lead us off.

MR. MARTIN: Sure. Thank you very much, Jim. Thank you for the introduction.

So in this presentation, I'm going to present some trends and policy considerations of VMT in mid-2020, which is where we are, just going over what we've seen in VMT, and talk a little bit about how it's measured and sort of what that implies, and then, also, show a little bit about how there are some public health considerations that directly correlate with those -- with our driving that's very closely tied to it, and then review some policy considerations that I think we should be thinking about with

respect to what we've learned from VMT and what we've learned from our experiences, given the pandemic.

So move to the next slide.

And this is an overall measurement of U.S. trends in VMT. Just one verbal correction here, this is the TVT trend from January 19, '71 all the way to April 2020. So it says there, "June 2019," it should be April 2020.

What this is, is, basically, the federal measurement of driving that is tracked over time on a monthly basis. It is a moving -- it is a 12-month moving sum. So, basically, it's a sum of activity that is measured over the last 12 months and it just kind of rolls as a window of sum going forward.

And so you can see that, over the course, since the early 1970s, this trend has been, generally, heading up the entire time. There have been a couple of disruptions, a couple of stagnations that have occurred during the energy crisis. And what the value of this trend really shows and the data shows is sort of what is going on today that is so unprecedented in the course of the last 40 years or so.

So you can see the early energy crisis, little bit of blips in that upward trend but, for the most part, VMT has just marched upward, until we hit the Great Recession. And then, when we hit the Great Recession, you can see that what at the time was pretty much an unprecedented slide in this particular time series of VMT, and then a stagnation where it did not grow at all. That stagnation you see, that flattening of the VMT, was the longest stagnation of VMT in the history of its measurement, going all the way back to the beginning of the 20th century. So that, by itself, was a very significant, significant measure and event within this time series.

And then, of course, we've been marching upward. And we've been at record VMT since in aggregate until the pandemic hit. We were at a record high of VMT.

A couple things to note about this trend. First of all, it is a national measurement. It is one that uses a combination of traffic sensors and the HPMS, and I'll talk a little bit about its measurement. And it is aggregate, so it is a measure that will respond to just increasing activity and increasing population. It also

measures all activities, so it's not just passenger activity. If we see an increase in freight activity, then that is considered and accounted for in this series.

And so when see that the drop is four percent, that is the largest drop for this type of measurement record since World War II. In World War II, it did drop. It was measured a little bit differently, so it's a different measurement series, but when you put it all together with the highway statistic series, it goes -- there was a drop of 20 percent back in World War II. But this four percent is a very, very large drop.

Now in putting it into context, the instantaneous drop of VMT has actually been quite a bit larger. So this four percent drop is a four percent drop in that moving sum. It is not just that we've only dropped four percent VMT, we've actually dropped quite a bit further than that. But as measured here, the utility of this statement and this graph is to show that, how large that four percent drop actually is relative to what we've seen in the -- over the course of the last 40 years in VMT measurements.

So it is significant. And this drop will continue to maintain itself for a little while until that moving 12-month window moves past this period.

So if I can go to the next slide?

To put a little bit of context as to what this means of terms of VMT per capita, so what this graph is, is basically the measurement of VMT in July, that same TVT series that I just showed, divided by the census population, the census population in July of 2000, whatever the year is, with the exception of this year where that number is calibrated to April 2020.

And so here you can see that, in terms of VMT per capita, we were actually doing better nationally. So we've never passed -- we hit a peak in 2004, so -- and in the middle of last decade, and then we dropped. And we were increasing again but now we've fallen off significantly, so we're about 6.5 percent off of the peak. And, similarly, this is also the largest drop that we've seen since World War II.

So in terms of VMT per capita and in terms of overall VMT as measured nationally, these two trends show that, indeed, we've had a

significant drop and that they are showing up in our national data collection and measurement of this.

So if I could move to the next slide?

I'll speak a little bit to the measurement of VMT. So this TVT, the TVT reports and the data derived from it is pretty much the most dynamic and responsive dataset on a national basis for VMT. It's available 60 days after -- or it's available for 60 days back, so that's why we can see April at this point. And it's used -- it's measured using a combination of HPMS data, the Highway Performance Measurement System data, which is data that each states report to the Federal Highway Administration, and sensor counts that are constantly measuring sort of counts of vehicles, and there's about 5,000 sensors that are across the country measuring these counts.

So while it is the longest running time series, I do want to point out that it is not a direct measurement of VMT. It is approximation. It is subject to constant revision. Eventually, those numbers do stabilize and they stay fixed. But as new information comes into the series, we get more information and better information about

VMT. So the numbers that I just showed will change. They will be revised going back some period of time. And then, eventually, the series stays fixed in terms of its value.

And it's important for us to understand that, while we talk a lot about VMT as being, you know, something of a high focus, it's very important, it is relevant for policy, we actually don't have a mechanism to measure this comprehensively, either at the state level or at the national level. It is derived from measurements of road segments. It is based on averages and what we can discern from those movements based on vehicle counts.

And so something like collectively measuring things from odometer data or other means that include both passenger activity, as well as freight activity, would constitute something that's more direct, a direct measurement, but we don't have it to date that's, at least, publicly available.

Let me do the next slide.

I'd like to show, this just reflects more of an instantaneous measurement of what has happened in terms of VMT. This is a plot of

weekly product supplied for finished, and then also an analogous plot for jet fuel. Gasoline is on top. Jet fuel is on the bottom. And here you can see the instantaneous drop and how dramatic it is. This makes the Great Recession look like nothing. The drop has been so significant in gasoline that it is the largest drop that we've seen in the last 30 years.

And so you can see that, basically, that the drop falls, that we're still well below our previous levels of consumption and that we're still well below -- and this is updated through the end of May -- well below our consumption, even during the Great Recession. So for gasoline, there's still a significant drop that has occurred. And for jet fuel, we're nowhere near, also, recovered from in terms of our previous level of consumption. So a significant drop in fuel consumption instantaneously.

There is a recovery that is ongoing right now in gasoline. You can see that, just in the small data point, all the way to the right. But this does give sort of perspective as to how stark that change is.

So moving to the next slide, I wanted to

just note that there are significant public health impacts to this. And so in terms of the VMT, I do want to -- this is a plot of U.S. motor vehicle fatalities from the FARS data, from the NHTSA FARS data. And you can see that here, this, we did have a drop in fatalities that occurred, basically, during the Great Recession, and then an increase that also occurred as a result of the increase in VMT.

And this graph, if you look, if you compare the movements of this graph and this plot to the movements that we see in the TVT data, you can see that our rate of fatalities and our aggregate fatalities are directly correlated to how much we drive. That sets -- this ties public health, the public health impact, directly to that fatality rate. For every 100,000,000 miles we drive we get at least one fatality. And so it's very likely that we'll see a drop in this, just as a result of the drop in driving that has occurred overall.

So I'm getting an instruction to complete the presentation, so I'm going to skip over the policy slides, and then I will discuss them during the panel discussion.

Thank you.

MR. MCKINNEY: Great. Thank you very much, Elliot.

So I want to remind our audience that we'll take questions afterwards. And I'm sure there's going to be a lot of questions on Elliot's methodology.

Again, thanks very much, Elliot.

I'd like to turn now to Chris Ganson with the Governor's Office of Planning and Research.

Chris?

MR. GANSON: Hi there. Thank you. Thanks for having me and giving me the opportunity to speak to you all. I'm going to talk a little more about trends but focus on implications of those trends a little more, and then talk some about what we have been doing about vehicle miles traveled in the state.

Next slide please. Go ahead to the second slide. Thank you.

So a couple pictures of Los Angeles a month-and-a-half ago. This is L.A. in April. Oh, I guess we missed one picture but that's fine. We can stick with this. You can look at the air quality in this picture, and this one as

well. You don't normally see those mountains quite so clearly in Los Angeles.

Okay, we can go ahead and advance to that second picture. Thanks.

And we know the reason, you guys know the punchline already, that people weren't driving during this time.

And so let's go ahead one more slide.

It used to be thought that vehicle miles traveled varied with the economy and, actually, that we had to have more vehicle travel in order to have a better economy, or that higher VMT was fundamental to a better economy. And that has been thoroughly debunked over the past 15 years as we've watched those two numbers diverge fairly sharply in the economy and vehicle miles traveled.

We've also seen more recently, just in the last few years research, and that's posted on OPR's website on the SB 743 webpage, if you'd like to take a look, there is research showing that our efforts to keep vehicle speeds up as a way of getting people around has, in fact, instead, caused our development to be more spread out and that the spreading has actually hurt more

than the keeping speeds up has helped in-so-far as our ability to get people to the places they want to go.

So we've actually, it turns out, from a lot of our efforts to keep -- to accommodate the automobile, actually worsened our ability to get places, the fundamental thing we're trying to do in transportation.

There's also research showing that highway capacity increases, which were previously thought to increase economic productivity overall, in fact, don't increase it overall. They've merely spread it out geographically.

Next slide please.

And then there are, on the flipside, there are a number of issues, environment, human health, and function of the transportation system that more VMT cause.

But just first off, for greenhouse gas emissions, transportation is half of our greenhouse gas emissions in the state of California once you consider oil and gas extraction, petroleum refining, and piping.

Next please.

And the California Air Resource Board has

observed that we're going to need to reduce or at least contain growth in VMT in order to hit our future climate targets. They pointed out that we're going to need significant changes in how communities and transportation systems are planned, funded, and built.

Next please.

Aside from climate, there are -- a number of environmental factors pivot from VMT, energy use, not the least of which, but not only transportation energy, also building energy. There is academic research showing that high VMT development also tends to be higher in building energy use because you have buildings that are larger and with fewer attached units, so less energy efficient. Also, of course, air pollutant emissions.

Water consumption, as well as development further afield, tends to have more landscaping area, and so it would require more water. And there needs to be more paved area of impervious surface to get to those places and onsite, including the buildings driveways, et cetera. That leads to more water runoff which causes flooding risk, as well as additional pollutant

transport into our waterways. And, of course, developments built in the greenfield loses its open space.

Next please.

There is also a lot of connection between how much we drive and how and what our collective public health looks like. We're designed, as human beings, to get around on our own power. And when we don't we see consequences in health. In fact, physical inactivity in the state of California causes over 21,000 deaths per year.

California Public Health studied the health affects of our mode shift targets. We're looking to increase biking and walking, reduce vehicle travel, increase transit use, which includes bike-walk trips to stations and stops. And doing so, hitting those targets, saves us 2,000 or more deaths, premature deaths, annually. That's billions of dollars in premature death and disability monetized. And that's one of the biggest things that the folks in Public Health -- that Public Health can do for us, on par in magnitude with smoking cessation, for example.

Next please.

We also invest billions of dollars in

safety improvements for our transportation facilities, roadways in particular. Yet, because we have so much vehicle travel in this country, we see traffic fatality rates that are double almost any other industrialized country, almost four times some countries.

Next please.

And we know why that is when we look at, as this academic paper does, compares the most compact low-VMT counties in the United States to the highest VMT, most sprawling counties. You can see, there's a difference in traffic fatality rate, a factor of five. Now this is long been one of the top ways if not the top cause of death for people age 1 to 35 in our country.

Next please.

We also have a housing crisis and it's a housing cost crisis for anybody looking for housing. And there are those that propose building high VMT development on the urban periphery and beyond to solve that in hopes that the units might be a little bit cheaper to build out there. The problem is that once you factor in transportation costs, which rise, for development on the outskirts, you find that

you're not actually solving the affordability crisis at all. You're worsening it.

Next please.

So I'm going to shift to talking about a couple of the major policies and just briefly touch on them. There's going to be more talk, providing more details from other speakers, but I wanted to hit the two big policies, SB 375 and SB 743.

So 375 has the California Air Resources Board set greenhouse gas per capita targets for regional transportation plans, and then has MPOs, metropolitan planning organizations, develop a regional plan. The regional plans have transportation infrastructure improvements plan and a land use plan that's somewhat of a vision and have them reach to achieve that greenhouse gas per capita target.

So how has this been going?

Next slide please.

Well, we've certainly seen changes in the conversation around land use. And we have seen advances in some regions and some locations. But as the progress report that CARB issued a couple of years ago shows, looking down at the graph,

we're not on track to where we need to be on this.

So CARB has looked at, given the improvements we think we'll be able to make for vehicle -- on vehicle electrification and fuel carbon reduction, how much VMT we can still drive and hit our climate targets, and we're, unfortunately, not on track. This echoes the graph shown in the previous presentation.

But looking at the blue-green line, you can see that to hit the SB 375 targets, it's supposed to go through those green dots and it's not headed in that direction. But those green dots aren't actually sufficient. We need to hit an equivalent in 2035 of 25 percent reduction -- you can see a line a little bit below -- in order to a actually hit our climate targets because -- and go on to the next slide please -- the target set for 375 have been set with politics in mind and it hasn't -- we haven't managed to squeeze those targets down far enough to match our climate goals. So inadequate targets is one of the reasons we're not where we need to be on 375 implementation.

There's also a few other issues. One is

that those land use visions are not binding, so a local general plan need not follow them, and neither need development. So those plans are not typically the first consideration a city has when it's approving development. And development does, in fact, not -- often not follow those plans, although it's difficult to tell sometimes because, in many regions, not all, the plans for political reasons are made, shall we say, somewhat blurry, so you can't actually tell too easily whether the -- or, perhaps, at all in some cases, whether a particular project is aligned with a regional plan or not.

Another issue is that those land use plans are used in assessing the effects of highway projects, highways capacity investments. Highway capacity investments, of course, have an effect on land use patterns, tend to spread them more out, causing more VMT, but they're analyzed with fixed land-use patterns. And so it prevents us from seeing part of the effect of those projects.

And travel demand models, the tool, which is used to show outcomes, are complex and opaque. There are probably hundreds of parameters that

can be shifted. And even if each of those is shifted within a reasonable range, if they're all shifted in a direction, the travel demand model can show an outcome that isn't too close to what we would actually expect to see.

Next slide please.

I'll wrap.

MR. MCKINNEY: Yeah, and Chris, if you can move to completion here? Yeah. Thank you.

MR. GANSON: Yes. I will just spend a moment on this slide.

SB 743 is a policy that our office has been working on for several years. I'll just touch briefly on it. And if there are other questions, I'm happy to answer them. It simply updates the metric of transportation assessment with CEQA to vehicle miles traveled. So VMT is the problem to solve in our environmental review. It applies to transportation and land use projects. And we have about a fifth of the state that has made the shift early. The rest goes shortly. Full implementation is due July 1, 2020.

I'll stop there and thank you again for having me. I'm looking forward to questions.

MR. MCKINNEY: Great. Thank you very much, Chris. You really covered a lot of ground, I think, with your professional expertise and the work that OPR does. And thank you for those pictures of Los Angeles. I think most of forget just how beautiful that region can be on a clear day.

With that, I'd like to turn to Chris Lepe. Again, he's Regional Policy Director with Transform in the Bay Area.

Chris?

MR. LEPE: Hello everyone. Can you see me and can you hear me?

MR. MCKINNEY: We can hear you well. Now we can see you. Very good.

MR. LEPE: All right. Great. So Chris Lepe here, hailing from the -- sorry, the L.A. of the north, here in the Bay Area, San Jose, California, the Mini L.A., as some have dubbed us. And I work for an organization that is focused on transportation funding and planning at the intersection of climate injustice. And I'm going to start off with sharing a little bit of the work that we do because some or many of you have not likely heard of our organization. The

rest of the time I'm going to spend talking about some of the context as it relates to VMT, equity, and COVID. And then, about the second half of the presentation, I'll dive into more actions and solutions from our standpoint.

So some of the work that we do is really focused in on agency watchdogging and coalition building to influence government policy and planning, including transit funding advocacy, so we've pushed for and helped form quite a few funding measures in the Bay Area, including sales taxes, bridge tolls, and a recent conversation that had been brewing until recently about a regional transportation funding measure.

We've also been very engaged in equitable road pricing advocacy, trying to push agencies to focus on moving more people with fewer cars and doing so in a way that provides more benefits to low-income commuters and communities.

And as some of you may know, we also are engaged in state legislative policy and advocacy.

One of the other things that we do is, in addition to watchdogging and advocacy, we also collaborate and consult with public agencies and the private sector. So, as an example, we are

partnering with L.A. Metro, Portland Metro, the Oregon Department of Transportation even, and agencies along the Highway 1 corridor between San Jose and San Francisco on a mobility action plan. And so all of those are really kind of road-pricing oriented advising that we're providing.

We also do engage in affordable transit-oriented development policy. For those of you that are interested, we have a Green Trip Certification Program, which is sort of a LEED-style certification program for residential and mixed-use development that focuses on increasing the number of affordable units, reducing VMT, and decreasing parking spaces.

And, finally, we do provide programming and services in the community, including our Safe Routes to Schools Program.

So in terms of the connections with VMT or between VMT equity and, effectively, how it affects low-income people of color communities, one of the obvious things is transportation access. If you're a transit user, most of whom are low-income people of color throughout the state, you have quite a big gulf between access to opportunity with those that drive, are able to

own and operate an automobile. So that is a significant challenge, not just in California but across the U.S. where, in terms of time competitiveness across the board, you typically have transit at much lower speeds.

So that's one of our focuses as an organization is trying to speed up transit, make it more convenient and more accessible.

In addition, transportation and housing costs are borne more heavily on low-income communities. And so, again, that's one of the areas that we've been, as I referenced before, pushing for is affordable TODs so that you can have more folks that can live more of a car-free car-like lifestyle and not have to bear those transportation costs, and also be able to live affordably [sic] in these areas, most of which have been seeing steep increases over the course of the last decade or so.

Air quality-related health impacts are also borne more heavily on many low-income communities. A lot of low-income folks live next to major highways, highways and major roadway facilities. I had an environmental justice advocate once tell me that low-income folks are,

which I think, for the most part, rings true, are sort of the buffer between air pollution, higher pollution zones, and everybody else.

Health implications related to sedentary lifestyles, that's already been covered but, again, most of our low-income POC communities are suffering from diabetes and high pressure disproportionately higher than the general population.

Traffic collisions also. I'll give you one example. In the City of San Jose, half, about half of the bicycle -- severe bicycle and pedestrian injuries and fatalities are Latino, even though Latinos only represent about 33 percent of the population there.

Community cohesion, the climate crisis are other examples I won't go into. But let's just put it this way, the transportation system that we've built out bears disproportionate impacts in many different ways on low-income communities, and people of color neighborhoods, and commuters and residents.

In relation to COVID and the situation that we have at hand, I really welcome this conversation because it's something that we're

grappling with as an organization, as individuals right now, is how does this all fit in? We've got chronically congested roadways that are now, relatively, very much empty, you know, less air pollution. On the other hand, we have transit ridership that is way down, in some cases 95 percent among some agencies. Many agencies are facing unprecedented financial challenges. And yet we do have a rise in active transportation use; right? A lot more people walking and biking right now. And so lots of different tradeoffs. More working from home. Companies committing to longer-term changes in terms of working from home.

But then, you know, I think a lot of these changes do beg -- it begs the question as to long-term implications, are we going to see fewer vehicle miles traveled? Are we going to see prices for transportation, housing transportation per households decline, and are we going to see new forms of sprawl, potentially, and mega commuting result from the ability to, for example, work from home or work remotely?

I'll just kind of touch on three primary strategies as it relates to the current

situation, not just on the COVID kind of angle, but also from the racial economic justice context and the movement that's happening right now.

First, there are a few short-term solutions within the context of the pandemic that may be implemented. And I can talk more about those later in the conversation. But for the most part, a lot of the solutions in the VMT Reduction Toolbox will be really important in a post-pandemic world and in getting us out of this recession that we're in with a green and just recovery. So, again, I can talk more about that, more about those at a later context -- or a later time.

Secondly, it's really critical that, you know, despite the kind of desire to implement quick solutions right now that can touch down in communities, we really need to make sure that we're doing so with significant, meaningful community engagement, and with a ratio economic justice lens.

And so just to give you one example, there's a lot of kind of pushes for quick build solutions but, in some cases, what we're finding is that community is like, whoa, whoa, hey, we

didn't ask for this. You know, why weren't we consulted? And so just kind of making sure that we are continuing to focus not just on outcome but, also, procedural equity is really important.

One final note on VMT as it -- VMT reduction as it relates to equity and implementing strategies on the ground is that in the context of the Black Lives Matter movement, we've, I think, all become very much aware that, depending on who you are, there's a different kind of feeling of comfort in being in public spaces, including our streets and our public transit systems.

And so we need to make sure that, when we go out there and we're listening to communities, we are taking in that input and developing strategies and approaches that allow for everybody to be comfortable because it is a barrier. You can't just put scooter-share systems and bike lanes and expect, you know, Black and Brown communities to use them unless you address some of these underlying issues that we know we're facing as a nation.

Finally, cost effectiveness is going to loom large. Agencies across the board right now

are facing unprecedented financial challenges. And that affects not just the ability to delivery projects but, also, even simply being able to plan for our future, plan for different kind of transportation improvements.

And so we can't afford to spend the way that we've spent in the past on boondoggle projects, very expensive projects. We need to make sure that we're really honing in and focusing in on the most cost-effective bang for our buck projects and programs and services at this time when, you know, there's just much fewer revenues to go around.

So with that, I'll stop there, and happy to dive into other examples in further conversation.

Thank you.

MR. MCKINNEY: Great. Thank you very much, Chris. Much appreciate it.

Our next speaker, I want to turn to Marco Anderson with the Southern California Association of Governments to give us the view from the Los Angeles area.

So Marco?

MR. ANDERSON: Sure. Great. Can you

hear me, Jim?

MR. MCKINNEY: Just fine.

MR. ANDERSON: Can you hear me? Okay. Great. Thank you.

Yeah, I really appreciate following Chris Ganson and Chris Lepe. Chris Ganson, I've met a number of times.

Chris, it's nice to be on a panel with you.

So coming from Southern California -- you can go ahead to the next slide -- I really appreciate the opportunity. I used to be involved with our electric vehicle planning, and so I've made a number of trips up to the CEC building. And I always appreciate all the bikes parked out in the lobby. But I like to show this slide because it really shows a very different picture of the challenges facing MPOs in California.

So the SCAG region us 38,000 square miles, we're 19.1 million residents, represent almost half the population of the state of California, and six counties, 191 cities. So it's a very challenging environment. And as one of the speakers mentioned, the regional

transportation plan and sustainable community strategy is not a binding plan on local jurisdictions. So we are not an implementing agency. We work, primarily, through influence and funding pilots and demonstrations.

Next slide.

And so the Connect SoCal is a compass, not a roadmap, and so we have to be very clear that this is a long-term vision for the region and it is not a guarantee that any of the challenges that we face are necessarily going to be solved but really is the platform for collaboration between the county's Transportation Commission, the 191 cities in the region to look at the challenges we face and what we need to do moving forward.

Next slide.

And so the -- so through our plan and through investments in transit, through implementation of laws, like SB 743, through influencing priority growth in -- growth in priority growth areas, we do achieve the targets. We do have a significant reduction in land consumption. And one of the important things to note is that our plan does not exceed any of the

local jurisdiction's growth, general plan growth capacity. So all of this is done within the envelope of preexisting general plans.

And so what, really, we're pointing out here is that the goal is to influence the growth in the areas that have the capacity to reduce VMT by increasing residential and office development in those areas. And we do meet the GHG reduction targets and all of the co-benefits of meeting those targets.

Next slide.

And so I'm going to spend most of the time on this slide. How we implement the plan, it gets back to that influence that we have on our local jurisdictions. One of the things I like to say is that local control is a very important value in Southern California. And so what we're really trying to do is facilitate and enable the jurisdictions that want to implement more aggressive greenhouse gas reduction processes and development and without putting a mandate on other jurisdictions that want to continue to grow the way that they are currently growing.

So looking at our core vision, this is

kind of an extension of all the previous plans, we have sustainable development, a lot of transit-oriented development, higher density, which doesn't necessarily mean 12-story towers spread across the region. It's really about increasing density in all different types of context.

System preservation and resilience, the SCAG region has truly come to understand that it cannot continue to grow and build new infrastructure that it will not be able to pay for in the future. And so the regional counsel, and one of our members even, said they're going to -- they're not going to like me back in my home county for this but we cannot continue to just pay for new highways without being able to afford them in the future.

We look at the transit backbone. We spend a lot of time looking at complete streets and active transportation. SCAG has funding for a program called Go Human which is an education engagement program that is very popular across the region, with an advertising campaign that has millions of hits, impressions. It has a 25 percent recognition rate in the region.

We also do pop-up demonstrations of bike lanes and facilities near Safe Routes to Schools and things like that.

The other area that we're looking at is key connections. And these are areas where technology and existing planning and transportation methods kind of overlap. And so we're looking at smart cities and job centers. With the scale of the region that we have, it is not realistic to assume that transit is going to be the solution for the entire region. And as a person who is steep in transit planning and active transportation planning, it's just an acknowledgment of the situation that we're in. Transit ridership was declining well before the pandemic. And the primary reason for that is not TMC, it's not telecommuting, it is the growth in vehicle ownership. Cars are just cheaper to buy and families make more money. They make the rational choice to purchase a car that expands their economic opportunities vastly.

And so what we need to do is we need to beef up the transit backbone that exists in the core areas, in the more denser urban parts, but we need to look at a way of not just eliminating

trips but reducing VMT. And so we're looking at drop centers. Although it is a sprawling region, it is not just kind of infinite sprawl in every direction. There are a number, in fact, about 42 different job centers throughout the region of varying sizes where, due to the forces of economic accumulation, there are a number of jobs in particular areas.

So how can we increase residential development near those employment centers so that we're not eliminating trips but we are reducing the length of those trips?

We also look at go zones, which are a congested pricing or, I prefer to call it and a number of other advocates have called it decongestion pricing. And so this is looking at particularly congested areas in the region and how do we implement pricing tools in a way that makes sure to address equity and in areas where there are alternatives to driving?

And so we also look heavily at accelerated electrification. And I have to thank the CEC and the Department of Energy. In 2010, we received a combined $500,000 and $300,000 grants in order to study EV planning. And we

approached it from the land use side, which is what are the barriers to charging? What are the best areas for charging? And it's a Gordian knot of challenges. We have addressed a number of issues with residential charging, with employment charging. However, we still face innumerable challenges when it comes to getting charging into high-density buildings and to multifamily housing.

And so what is the next step? How do we provide a network of public charging that people can access?

And we also look at shared mobility and mobility to service. So this is a trend. Plus, how do we get into micromobility? How do we get into all of these areas?

And I do want to make sure to also address what one of the previous speakers mentioned is that we have to do all of this, and this has become incredibly clear, especially now, through a lens of equity.

We -- the status of our current plan is that it was set to be adopted in April. And, obviously, the pandemic has really changed everything. Now a number of critics of the plan

have advocated for extending the period and revisiting the entire plan. But the fact is, this is a two-and-a-half year long effort, and so we are not going to understand the impacts of the pandemic in six months. However, we have taken a pause.

We adopted the plan for federal conformity purposes. And we will be returning in September to review any inconsistencies between local general plans and our plan, and also look at and reach out to vulnerable communities and disadvantaged areas to say, what we can do? How has this pandemic impacted you?

As Chris Lepe mentioned, a lot of transportation planning, we're thinking, oh, great, this is a great opportunity to build popup bike lanes and really kind of expand that kind of thing. And disadvantaged communities and vulnerable communities said that's not our priority. That's not on the top of our list. Getting to essential jobs is on the top of our list. Safety and reduced transit fare are on the top of our list. Deprioritizing enforcement when it comes to complete streets and active transportation is on the top of our list. And so

it's very eye opening, I think, for every single public agency to kind of see, where are the priorities?

And so during this 120-period, we're looking at all of our implementation efforts, like the key connections, and our various programs that provide demonstration funding and reexamining them. How do we target them for where the need is? And we've done a lot of -- we have a technical report on environmental justice which analyzes those impacts. But, really, we need to move beyond environmental justice and just analyzing the impacts and say, how do we influence future decisions through a lens of equity for all?

So the other -- some of the other things I'll quickly address, because I'm just running out of time here, are SB 743. What we're doing, we are funding a number of pilot projects for local jurisdictions and for subregional areas to examine SB 743 and apply it within the region. We've also looked quite a bit at goods movement and the impacts, how to improve goods movement on the urban streets.

Every city in our region has a truck

route plan which is completely ignored. And so one of the things we're trying to do is really look at those existing plans, rationalize them across city boundaries, and really start to say, is there something we can do to influence truck traffic so that it does follow routes that avoid residential low-income areas?

And lastly, as I mentioned, we are looking a lot at zero-emission vehicle planning. We are also looking at multiple different types of urban forms, so denser neighborhood areas that may not be served by transit, but also areas in which you can reduce the length and number of trips.

And so my time is up. There's a lot to cover that SCAG does but I appreciate the time.

Next slide, I think, is just questions.

MR. MCKINNEY: Great. Thank you very much, Marco. Excellent presentation.

I'd like to turn now to Jeanie Ward-Waller with Caltrans. And when I first heard Ms. Ward-Waller speak on a panel, like a couple of months ago, I thought -- I just thought, this is not the Caltrans that I grew up with in California, so a lot of exciting developments.

So, Jeanie, we will now turn to you.

MS. WARD-WALLER: Thank you, Jim. And thank you to the Energy Commission for organizing this. You saved, clearly, saved the best for last with Caltrans. No, I'm just kidding. It's really an honor, also, to be with the Chrises and Marco and Elliot on this panel. There's so much exciting work that's been shared already that I'm going to try to go fairly quickly and so we can get to the discussion because I think that's really what's going to be the interesting part.

But if you'd jump to the next slide, I think what I want to highlight on, you've already, obviously, heard a lot about why VMT reduction is so important to the state and all of our state goals. But I want to just hit on, you know, what specifically is important about VMT reduction to Caltrans as an agency and as the owner and manager of the state highway system.

So Chris Ganson talked about this already but, you know, we cannot keep accommodating travel just in vehicles and on our highway system. We have, you know, particularly in our metro areas, our existing system is really at capacity. And we can't carry more vehicles. You

know, it takes so long to plan, design, build major capital projects in the state that, you know, by the time we've added new lanes and gotten them built and they're open, you know, there is so much latent demand that these projects sort of immediately fill up, you know, within -- there's famous examples, like the 405 in L.A. where, you know, we opened new lanes that have taken decades to build and, you know, they're immediately already at capacity again.

And Chris, you know, talked about the induced demand effects, which is really important to acknowledge. We certainly are acknowledging at Caltrans.

So, you know, over both the short term, you've got this latent demand, and then over the long term, you know, the land use changes that result from adding new capacity sort of farther out on the edge of metro areas, also, over the long term add even more demand to the system.

So I want to start by just acknowledging, you know, we're at capacity. We can't keep building highways. And in the meantime, you know, the maintenance of the system that we have built over the past many decades is juts a massive

burden to the taxpayers of this state. And a lot of that infrastructure is kind of entering the end of its useful life. We're having to rebuild bridges and some of our major infrastructure.

And we did increase the gas tax under Senate Bill 1 in 2017. But, you know, even that pretty major increase, huge lifts by the legislature and the governor, are not fully meeting the needs that we're seeing long-term for maintenance of our existing system. So if we keep adding to the system, that's just adding more maintenance burden and, you know, we're going to have to keep going back to the taxpayers and asking them to pay for more maintenance on the system. And, of course, you all, I'm sure, are aware, the gas tax -- the value of the gas tax declines over time as vehicles get more efficient.

And then Chris Lepe talked a whole lot, and Chris Ganson talked a whole lot, about co-benefits. I'm not going to hit on all of them but I do want to really stress that the equity impacts that Chris Lepe talked about are critically important. And I'm really excited to say that Caltrans is increasingly thinking about

what our role is in terms of addressing the inequitable impacts of our highway system and, you know, so much driving how that impacts on low-income communities and communities of color.

You know, particularly now with, you know, all the attention that we're seeing nationally around the protests for racial injustice, I think it's really for us in government to acknowledge that the disparities in transportation from the transportation system are a result of purposeful decisions that were made about where to build that system. It's really a systemic issue that we're still grappling with today, so it needs an urgent and earnest focus by the state, and that agencies, like Caltrans, can play a really big role.

So let's jump to the next slide.

So just a few things that Caltrans is doing. And I'm going to try to run these quickly and then we can talk about the ones that the Commission and the audience are most interested in.

Active transportation, Caltrans has a huge role to play. The state highway system is often a barrier to walking and biking. And in,

you know, small towns, a lot of rural parts of the state, the state highway is actually the main street of those communities. So this is a mindset shift for Caltrans.

I want to acknowledge that there's sort of a huge organizational culture change that needs to happen for us to really embrace our role but we are doing it, I'm excited to say. We are making some significant commitments to investing in what we call complete streets on the state highway system and making sure every time we're doing maintenance, doing repaving or rehab to our highways, that we're actually adding, you know, improvements for sidewalks, bike lanes, and connectively to local streets.

We also help administer the Active Transportation Program which is grants to local agencies all over the state, about a $200 million a year program, that really provides critical funding support to build out local system.

And, of course, we play a big role in kind of guidance, technical assistance, support to local agencies, especially in disadvantaged communities.

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Caltrans also have an important role to play in rail and transit. We develop and adopt the State Rail Plan, which is a vision for, you know, intercity rail connections, including high-speed rail. So we kind of set the vision, working with the State Transportation Agency, for building out rail in the state.

We also support both rail and transit agencies through a couple of grant programs. Both of these on the slide were created under the Cap and Trade Program and get continuous appropriations. The first is, primarily, operations' dollars, the Low Carbon Transit Operations Program, and the second is more capital-focused on both the transit and intercity rail side.

So let's jump to the next slide please. I don't know if it's slow on my end. Okay.

And one of the most exciting and innovative things that Caltrans is leading in the area of transit is something that we call the California Integrated Travel Program. So if you're not aware, there are 360, roughly, transit operators in California. It's a pretty fractured system.

So the vision of Cal-ITP is for the state to step in and try to better integrate data, payments, as well as technology services, to help make it much easier and seamless for the user to access transit, to see where transit vehicles are in real time, plan their trip, and then also purchase, you know, paper transit, essentially kind of taking the transit past itself, out of the equation, and allowing people to make, you know, mobile payment directly through their phone or through a card on transit.

So a number of benefits of Cal-ITP. Again, it's a really innovative program, something we're really excited about, and happy to talk more about that, just being mindful of time.

So maybe I'll jump to the next slide.

And I think something that several of the speakers have already mentioned but that we haven't really explained too much about what it is, is SB 743. So I want to just touch on this a little bit more and hope we can discuss this, as well, in the discussion.

SB 743 was passed by the legislature in 2013. It's taken us a number of years to get to

the point of actually implementing it fully. But it's a pretty complex issue in that it's a change to CEQA. And, specifically, it changes CEQA as it pertains to transportation analysis under CEQA, both the effects of land use development on travel and travel demand, as well as effects of transportation projects themselves.

So what 743 required was a shift from an old metric that we used to use, called level of service, which really created an incentive for bigger, wider roads, faster-moving vehicles, to try to move them more quickly to sort of eliminate congestion. It was assumed that congestion itself was the environmental impact. So now we use something called -- or we're moving to use something called vehicle miles traveled, which we're talking about today. But VMT, essentially, looks at the whole picture of new driving that might be generated from a project, either land use or transportation.

And as we know, you know, it's the vehicle travel in total that is actually creating the environmental impact. And, you know, we're sort of measuring the full length of trips, so we're taking into account, if the development is

far away from the other things that are generating trips, like jobs and services, we want to make sure we're counting that whole trip and not just the immediate impact near the project on the roads in the transportation system.

There are some key things that Caltrans does. You know, we're collaborating closely with -- I'm seeing my time is up, I'm almost done -- collaborating closely with CARB and OPR on implementation. We look at land use and comment on land use through CEQA, so we have a role to play in sort of evaluating how land use projects are impacting the transportation system. We're using VMT as the new metric. And we also are using VMT now on our own transportation projects on the state highway system. So this really -- you know, VMT kind of changes the paradigm for how we're looking at transportation impacts, just across the board.

So with that, I think that's all I wanted to cover, and hopefully we can jump into discussion.

Thank you.

MR. MCKINNEY: Thank you very much, Jeanie. That was great.

I really want to thank all the panelists for excellent presentations.

We're going to turn now to the dais and Commissioners Monahan and Douglas. I want to ask all the panelists to turn on your cameras, mute your microphone unless speaking, and I'll turn it over to Commissioner Monahan.

COMMISSIONER MONAHAN: Yeah. This is a great panel and I really learned a lot and have a lot of questions, but I won't ask all my questions but I want to ask a few.

SB 375, so that -- you know, there was a lot of hope when SB 375 passed that I was going to be the solution to our woes on VMT and it's clear that there's some barriers.

So I'm curious, does SB 375 need an overhaul? Do we need new legislation or does it need better implementation?

MR. GANSON: I can maybe jump in.

MR. ANDERSON: Well, you go first.

MR. GANSON: Please, go ahead.

MR. ANDERSON: Please

MR. ANDERSON: No, I'd love to have you take this one first. This is constantly --

MR. GANSON: Difficult question. Yeah.

Difficult question.

MR. ANDERSON: Right.

MR. GANSON: There are -- so, you know, I spoke to some of the kind of issues and concerns. We focused on travel demand models, which are terrific tools for learning about your region, but we've learned not great regulatory tools because there's just, you know, scores, or even hundreds of parameters, that can be shifted within them, and enormous pressures to show certain outcomes, so I think a shift to a different approach.

And, you know, I know that CARB is considering and we're working with Caltrans, also, with an interagency working group, and, you know, thinking through whether a different approach within the law could be a little more watertight.

But again, there's these disconnects where SB 375 doesn't control local land use. Now that's a complex and touchy subject, of course, because locals like that control over their own land use, and the idea of 375 was to set guardrails around it. It's difficult to do.

So I would say that there isn't a

definitive answer to whether legislation, the legislation itself, needs to be changed or whether it can be operationalized differently with the current legislature, but I think I would say that it certainly needs attention. And I think that even the MPOs and CARB would be onboard with that statement.

But am I right, Marco?

MR. ANDERSON: Yeah. Yeah. I'll follow that up a little bit. And I think that Chris really hit on some of the high points.

I think in terms of implementation SB 375, there are a number of challenges, the ones that Chris mentioned. The law is written, really, to slowly steer a giant ship. But CARB is facing, you know, very big challenges in making very quick moves. And so, unfortunately, the tool is not ripe for the expected outcomes.

It's all about influencing local decisions, transparency, information, and then local decision makers making the right choices. And there's a disconnect there in the enforcement mechanism.

The other challenge is that when I started in the public sector, I would hear

critics say, "You know, the problem with the regulation is that the better you do the more you get punished."

And I said, "No, no, that can't be the case."

In fact, with SB 375, that kind of is because as you meet your target the targets get raised higher and higher. And so there's really a disincentive to do better because, also, one of the key features is that anything that is a state law or executive order is -- the MPO can't take credit for those GHG reductions. And so as we pilot and demonstrate effective governance and new methods, if those get adopted at the state level, they're now taken off the table.

And so, for example, people ask why our plan doesn't focus more on electrification? And we actually do spend a lot of time discussing it and, as I mentioned, planning for charging. It's because we can't claim any credit for any increase in electric vehicles unless we can prove that we're surpassing the state targets, which are very high.

And so what we do is we say, well, we take credit for the little tiny sliver of saving

our charging network is going to improve the time that hybrids spend on their batteries. So we are very interested in improving the penetration of electric vehicles but our policies won't result in any kind of GHG benefit that we can take credit for.

Also, with pricing, we've been advocating for systemwide VMT or user fees for a while. Once that policy becomes a statewide adopted policy, then any benefits that we have in our region from a regional -- unless it's a regional additional fee, we won't be able to take any GHG credit for that.

So I think those are two features that kind of make it very challenging to implement.

COMMISSIONER MONAHAN: I think that -- well --

MS. WARD-WALLER: This is Jeanie from Caltrans. Oh, sorry.

COMMISSIONER MONAHAN: No. You go, Jeanie.

MS. WARD-WALLER: I'll just add one thing. I think, Commissioner, it's a great question.

And just to add, I think, you know, SB

375 is really a planning law. It's about doing better planning, which I think the MPOs have made a lot of progress in. But, as Chris pointed out, you know, it's the implementation that's sticky. And SB 375 really doesn't have any, you know, requirements around implementation. There are some state programs that require consistency with a planning document. But as a long-range planning document, there's a lot that you can be consistent with that doesn't, still, kind of make big progress towards the goal.

So I don't think it's an overhaul so much as, you know, we need to be more thoughtful and work together as the state and regions on, you know, what is really needed? What are the tools needed for implementation?

COMMISSIONER MONAHAN: Great. So I'll just ask one more question and then turn it over to Commissioner Douglas.

I think this issue of what a green and just recovery looks like is so important. And, you know, we're seeing in China, for example, a big upswing in vehicle sales post COVID because people are afraid to ride transit. We already saw in China and a number of other countries a

big increase in e-bikes, which are great alternatives if you have safe streets, which we're still working on. Thanks Caltrans.

And, you know, just yesterday, we heard from Rey Leon, who is the Mayor of Huron. He runs the EV Car Sharing Program, which is really cool, with providing rides to mostly farmworkers to get to critical appointments, like medical appointments. And, you know, he emphasized, like, "Hey, we should be getting the best technology. We shouldn't be getting the leftover or the used technology."

This idea is like, well, as we reduce VMT, we want to do this in a way that still allows people to get access to where they need to go. And sometimes public transit just isn't enough or people are going to be afraid to take public transit.

So I'm curious about what's your sort of near-term recommendations to the state for how do we ensure that there is a green and just recovery as we reduce VMT for some but we probably want to increase it for others so that they can get where they need to go?

MR. LEPE: Yeah. I'd be happy to jump in

on this one.

So I've been, as I mentioned, doing quite a bit of chewing on this question because it does affect so many of the things that we work on. So -- and the way that I kind of structured my thinking around this is that we have short-term social distancing-oriented actions that can be implemented today. And there's not too many but they're important that we do these. And in some cases they are being done but it's a question of magnitude; right?

So one of those is to sustain and increase funding for transit operations and maintenance to meet the needs of essential workers but, also, to be able to get folks to essential needs. And part of the reason why that's important is to make sure that we don't have overcrowding on routes, and to be able to have that backbone of transit as we emerge out of this pandemic.

An important kind of additional layer to this is sufficient funding for things like PPE, sanitation, and other elements and things that, really, we should probably have been doing, in some cases, all along is having like, you know,

clean transit, but making sure that the way that transit is perceived is improved so that like as we get out of this recovery, more people will be willing to use it. Because it doesn't make sense to fund a bunch of, you know, expensive transit capital projects if you're not going to have people comfortable using it; right? It's a big issue.

So that's a few things on the transit front.

There are some other short-term nonsocial distancing-oriented actions that we could be taking, such as improving or requiring agencies to improve synchronization of transit services to reduce wait time. So the fact that we have fewer services out there means that if you miss a transfer or if the transfer isn't there, then you're having to wait out there, you know, for half an hour -- who knows; right? -- like longer periods of time. So having some kind of hook, perhaps, where the state might say, okay, we're going to give you this money but make sure that you're coordinating, not just internally, your services for essential workers but also across agencies, which, as we know, doesn't happen very

much or not enough.

You know, there's also the introduction of affordability programs or free transit which is really key right now when people have fewer resources, less money in their pocket, but also is a way to be able to social distance when you're using transit. Allowing for those programs to persist even after the pandemic will also be an important hook to bring more folks onto the systems.

I mean, these are things that we've already been pushing for anyway, like free transit for youth, free transit for seniors, free transit for extremely low-income populations who don't necessarily have a discretionary income to be able to afford transit.

And there's the longer-term actions; right? There are actions that are more appropriate to be implemented, perhaps, after the pandemic or as the pandemic is sunsetting, that are important to continue to plan and to fund right now but that we may think about on a longer-term time frame. So that includes questions around, you know, how we invest our transportation funds towards roadway expansion

projects versus allocating those funds towards active transportation and transit. The way that we fund our roadway projects from expansion to thinking about conversion of existing lanes to express lanes is just one example, and focusing on persons, groups and strategies.

You know, passing a statewide VMT fee, VMT mitigation, makes a lot of these kind of ideas on the land use front, on the transportation front, that we were looking at continuing to plan for with a focus on equity, cost-effectiveness, and VMT or climate benefits.

MS. WARD-WALLER: This is Jeanie.

MR. ANDERSON: I know (indiscernible) --

HEARING OFFICER LEMEI: I just --

MR. ANDERSON: The, you know, the writer, Jarrett Walker, who is really well respected in transit planning -- blog human transit -- it really comes down to service and frequency. And one of the things he wrote about is that during the pandemic, that's equally important. And so transit agencies, as their budgets were getting hit by declining ridership, they can't afford to cut service or frequency because they need more vehicles in order to allow for social distancing

and transportation of essential workers.

And one of the things that has come out of Los Angeles, and there is a posting in San Diego, as well, is that, overall, the systems have had huge declines in ridership. But if you look at low-income areas and the transportation of essential workers, there's a bus route in Los Angeles that goes through the Pico-Union district which has had a negligible decline in ridership. And it's a low-income area that supplies a lot of essential workers to downtown and the West Side.

And so transit, as a whole, has been heavily impacted. Transit in certain areas, it's still critical. And I think we're really going back to the notion that this is a critical social service and getting away from the mentality of how do we improve it for the elusive choice customer and, instead, how do we just improve the system and make it better, more frequent, more reliable, period?

MS. WARD-WALLER: Yeah. That's right. And this is Jeanie. I just want to add to what's already been said.

At the state level, we are thinking, to Chris' point, about, you know, how are we

reinvesting in our system, you know, with the possibility of stimulus funds coming to the state, although from the state or federal level? You know, we are thinking about, what is the framework for spending those funds on transportation that is sustainable that provides support to active transportation transit, the types of, you know, investments we need to be making to reduce VMTs? So I think that's just one thing I wanted to say.

But on the transit question, I totally agree with Marco that the focus needs to be on making transit reliable, increasing service for the folks that are most dependent on transit, the essential workers that have still been going to work through this whole pandemic period.

And I just want to highlight, Cal-ITP again because I am really excited about it. It's, you know, something the state is doing and trying to lead on that helps this issue of integration. You know, in the L.A. region there's something like 30 different transit agencies, 25 or 30. And so if you are an essential worker that lives far out and you're commuting into Downtown L.A. for your service

jobs, you may transfer between several different transit agencies. And you have to have a different pass and a different card. And, you know, if you're eligible for discounts, you have to -- there's a different system for getting your discount on each agency's system, so it's an incredibly fractured system. And for the user, it's kind of a disaster. It's a huge burden and, you know, really can be demoralizing.

So part of what Cal-ITP -- there are sort of three pieces of it that we're trying to do. We're trying to improve trip planning.

And that issue that Chris was talking about, about people actually knowing when the bus is coming, so being able to provide real-time data, there's a standard called GTSS that all transit agencies, we're trying to get them to come onto this platform, provide their data in real time about where their transit vehicles are moving so that people know. They can pull it up on their Google apps map -- their Google Maps app and see when the bus is coming and know that it's going to be reliable in real time and not have to wait out there for half-an-hour. So that's one piece, sort of the data, the backend data

services piece.

The other piece is payment, making sure it's easier for people to be able to pay so that when they are jumping from service to service, agency to agency, they can pay directly and not have to have a separate path.

And then the third piece is about providing that discount or benefit or free transit. And one of the biggest barriers there is eligibility verification, helping people get verified to be eligible for those discounts in an easy and automated way. And so we are working on that at the state, we're trying to work with our partners at DMV because they kind of have the biggest database of eligibility verification, but focusing on some parts of the population, like seniors, for example, that, you know, it's simply age data that verifies you. So we can do that at the state and we're working on that through Cal-ITP.

So I think that really helps us and will, you know, hopefully help bring people back to transit that are choice riders, but also allow us to significantly improve transit for people who are already riding it and have been this whole

time, which are really the folks that we should be most focused on providing better and more frequent service.

MR. MARTIN: If I could build on that just briefly? I wanted to draw some attention to some of the experimentation pre-pandemic that's been ongoing with some shared mobility modes, including microtransit and micro ability.

Microtransit, in particular, is one thing that has been expanding in recent years and recent months which is really the integration of systems that can connect people on a more dynamic matter.

So there's a lot of low-density areas where sort of buses run on fixed routes and they don't necessarily have very large ridership, yet if you aggregate all those trips together in sort of a dynamically routed means, which does require I.T., does require information from smartphones and communication, that you can deliver transit, potential, in a more efficient manner in a lower-density environment. You can even, in some cases, do that in substitution of having a fixed route bus that's running but doesn't have a lot of ridership.

And there have been some programs that have done that, either through the integration of microtransit operators or TNCs either serving a use case of what's come to be defined as sort of a curb-to-curb delivery within a zone that is, perhaps, a city or a region within that city, or first mile/last mile, as well, where the trip is subsidized or completely covered for a first-mile/last-mile connection to sort of a rail system. And so that's, as an example, like Los Angeles does that with the L.A. MOD Sandbox Project. In collaboration with Via, they done that. And then West Sacramento has run a project with the Sacramento region with sort of a more curb-to-curb activities.

So there are innovations that are ongoing and, you know, not related to the current environment but that have been seeking to improve the efficiency of delivery of transit, particularly given the fact that, you know, we have relatively low-density environments that aren't necessarily conducive to sort of the high use, high utilization of fixed transit. So I just wanted to add that.

MR. LEPE: Yeah. One additional note,

kind of building on that, is that, unfortunately, right now a lot of the private shared mobility, micromobility service providers, have rolled back their services as a result of the pandemic and the economic implications. And so at a time right now when we could and should, ideally, be able to leverage those as more kind of COVID-safe transportation options that people might feel more comfortable using, as is the case in New York, those services have been kind of pulled out of the communities' feet; right?

And so I think part of the question as it relates to the services is, you know, should they be just purely private transportation options or might we think about maybe, perhaps, looking at public-private partnerships moving forward? Because that's the benefit of having, for example, public transit, is it's there when you most need it; right?

And so, anyway, I just wanted to kind of add that layer to the combo.

MR. MARTIN: And I did want to build on that point because that's an excellent point. I think that a lot of the experimentation that we've seen with respect to microtransit, in

particular, is a public-private integration or at least some sort of public-private collaboration that is occurring, so -- and that, I think, distinguishes.

For example, when you look at, like one example is a program, GoMonrovia, Go Dublin, these are programs that are first mile/last mile using VMTs, and then there's the L.A. Mod Sandbox, also first mile/last mile, with via, connecting people to Metro. But that's a partnership that does exist with sort of the, I guess, collaboration of the transit agency itself.

So it definitely requires the -- you know, any sort of integration definitely requires that direct connection and collaboration with public transit agencies. It's not intended to be a substitute.

MR. ANDERSON: And I would -- going back to Jeanie's point, I'm going to change the subject a little bit, but you know, one of the problems with federal funding, and sometimes with state funding, is this history of focusing on capital dollars when it comes to providing transit with funding. And transit is a service.

It is not a piece of equipment.

And so I think one of the great things the CEC was working on before this was increasing the amount of experimentation and piloting of charging infrastructure for transit, which I think is critical.

So is there a way to focus on not only the in fact but also on the training and the manpower required to make that transition from natural gas to electrification? I think, across the board, focusing on the funding, we're learning, focusing on the service, the operational characteristics, not exclusively the pieces of equipment.

COMMISSIONER DOUGLAS: All right. Well, you know, thank you all. This is has been a great discussion.

Commissioner Monahan largely asked my question. And so I'll just ask another nagging question I had as I looked into some of these presentations and that is, you know, that we've certainly seen the impacts of COVID, just fundamentally, you know, in the data, in behavior, in choices, in what people need.

And, you know, Chris, you mentioned you

were thinking, your organization was thinking about what does this mean? And we know that, you know, we don't know how long this condition is going to last. And we also don't know but might be able to speculate a bit on what changes in behavior or needs or choices might outlast even the pandemic conditions that we're in.

So, you know, as you all plan and think about investments and think about programs and policy, you know, like how do you deal with that level of uncertainty? What steps are you taking or should we be taking to get a handle on, you know, where things are going? Is it just way to soon to know where things are going?

You know, that's generally what I was wondering about as I listened to some of these presentations.

MR. GANSON: So I can chime in with a general answer. And I'm sure others have thoughts as well.

You know, of course we don't know when a vaccine arrives and we all safe again, possibly if, I don't know, I'm just looking at the news. But in the meantime, you know, probably our best guess is that things are going to come back to,

as far as COVID is concerned, come back to normal at some point.

In any case, in the meantime, there's some real trends, some of which are really difficult and some of which are really helpful. People are wanting to bike and walk like never before for a whole host of reasons. And there's all sorts of opportunity to use that to move things forward as far as the infrastructure we're providing or even just kind of provide temporary slow streets.

The City of San Francisco was doing that as one of its primary transportation measures at this point but with an eye on the future of making these active transportation facilities last.

Of course, transit is a challenge but, as has been pointed by the other panelists, critical and necessary to maintain. You know, we're -- there's -- Marco, I think, pointed out, and it's often described, you know, part of the reason that transit is not -- has not been a great answer for more folks, even though it's essential for, you know, many in California, is because we haven't prioritized it. I mean, our funding

hasn't gone as strongly to transit as to road capacity.

You know, I think there's also, in the new mobility space, which some of the folks here on the panel are spending a lot of time on, there's some important innovations there, and constraints as well.

But, yeah, one thing I think we should be clear on is that we don't get to just enjoy the fruits of this low VMT, I mean, it's through this ongoing challenge and tragedy that is COVID, the silver lining of low VMT. We don't get to keep that automatically. We have to act to do that because we'll snap back.

MR. MARTIN: And I can follow onto that. I want to thank you for your question because it allows me to talk about the slides that I had to skip.

You know, I think our responses, you know, building on what we're learning today with respect to telecommuting, I think, is very important. You know, to my knowledge, which is, admittedly, not exhaustive, we don't have a lot of policies that really encourage or actively incentivize telecommuting.

My understanding is that most policies about telecommuting really are about, sort of, the work environment, so making sure that like if I'm telecommuting, something doesn't fall on my head and I get hurt, and who's responsible for that? So that's really where most policies on telecommuting really are focused on.

But through this lesson, we've seen what telecommuting can do and what it is. You know, building on that, I mean, I think is -- and just devising policies that are transportation focused that may incentivize, maybe incentivize the players to expand their telecommuting or permit telecommuting, because it's not really often a choice of the employee directly. It's got to be, of course, permitted by employers.

So taking -- giving that a second look as far as what kinds of policies can be used to leverage what's been built on telecommuting, what's been learned on telecommuting, and what can be done to expand it, you know, again, pulling off of one of my slides, James Gorman, CEO of Morgan Stanley, basically, you know, stated, "We've proven we can effectively operate with no footprint." That's a huge bank that's

made that discovery, that they can, basically, continue their operations without having, you know, tons of people going into the Manhattan office. That lesson would not have been learned in any other environment.

So I think that expanding on that is something that really does deserve additional inspection on how can that be done? Think about all the -- you know, a mile that is telecommuted is far more efficient than a mile, obviously, driven but also, even a mile driven with an electric vehicle. So there's a tremendous amount of energy savings that can be achieved there.

And then, also, Chris mentioned the sewing of streets and such and that is also another experiment that is ongoing in many, many different neighborhoods, of just closing streets to traffic so that only essential traffic can go in there. And that reduces the throughput of those streets, makes those streets a nicer place to be, it makes it easier to bike, makes them easier to walk. And will, hopefully, encourage that mode -- those modes more broadly to expand and reduce the reliance that we sort of all have as kind of, you know, a knee-jerk reaction to for

the personal vehicles.

So I think, you know, the pandemic has been tragic but there are lessons learned that we can build on, hopefully in a productive manner.

MR. ANDERSON: I think one of the --

MS. WARD-WALLER: This is Jeanie. I just --

MR. ANDERSON: -- I think, to your question --

MS. WARD-WALLER: Oh.

MR. ANDERSON: -- the -- as we were speaking with a modeler for SFCPA, one of the smartest people I know in modeling, and he doesn't know. You know, he said he gets this question. And I don't think we're going to know for at least eight months to a year. I think a number of research institutions and these modeling departments, they are going through the effort of kind of purchasing real-time cell phone data so that they can examine trends in real time. But we really don't know how things are going to shake out until a year from now.

But I do think one of the big lessons for us at SCAG is the vital importance of continuing to do more of what we were doing. And I think

the CEC can put this in its grants, is working with community-based organizations. We have been in the planning profession. We've improved engagement with communities, where we want to hear from you, but we're inviting people to the table and asking them to do a bunch of work for free.

And so what we've really started to experiment with is paying CBOs to engage with their communities and provide us with that impact. And so we've been building that model into our outreach efforts for our plan and, also, for our projects that we fund for other agencies. And I think that's something that the CEC can start to do when they talk about projects in vulnerable communities, engage those CBOs and pay them for their time to tell you what it is that they need, so we're not going in there with money and saying, hey, there's money for this great idea, and then finding out that's not what they asked for.

MS. WARD-WALLER: Marco keeps speaking up and then stealing my thunder at the same time. Just kidding.

I wanted to just add, I think, you know,

Commissioner Douglas, that the points about, you know, promoting telework, working with, you know, folks in the private sector, and having the state take a role in really saying, you know, this is what we would like to see in the recovery of the -- you know, as it pertains to commutes and transportation, that's certainly an important thing. And, you know, promoting walking and biking, as Chris said, you know, we have a role there, as well, in supporting the cities.

And the slow streets, you know, they're temporary in California, although Seattle has gone as far as saying, you know, we're going to make 20 miles of this permanent, which is pretty cool. But I think the danger in doing too much that's permanent now goes to Marco's point about it is really hard to do meaningful public engagement right now. Trying to do it virtually in communities that don't have good technology access, broadband, you know, we have to be really careful about trying to push for a whole bunch of sweeping changes to preserve low VMT while people are, you know, isolating, suffering, still having to go to their essential jobs.

So I think, you know, that's a really

important thing to keep in mind, is that the public engagement is so key but we should be planning ahead for that now. And I mentioned the, you know, sort of gearing up for stimulus funds and what it will look like to invest those, you know, that's a long-term effort, so we're not going to, you know, in a year have a vaccine and then be able to implement a bunch of stuff immediately. But I think we can be thoughtful and lay the groundwater now.

So, you know, I'm not a modeler researcher but I'm just going to speculate that we are actually going to see VMT jump back up. And we're already starting to see it pick up, certainly, on the highway system. So I will not be surprised if we actually go back to pre-COVID or higher levels of VMT before we can really put some of these longer term changes in place and encourage people to come back to transit, which I'm very optimistic that we will because we just, as I said earlier, don't have capacity on the highway system to carry a whole lot more vehicles.

So, you know, congestion and sort of stifling congestion, the VMT reduction, you know,

I won't call it a strategy, but it does serve to sort of naturally manage VMT because it's just not possible to travel more if the system is snarled.

So just a few of my thoughts.

MR. LEPE: Yeah. And on my end, just to reinforce some of the other points, multiple great points that the other speakers have raised is, you know, I think that, you know, perhaps, hopefully this situation that we're in provides a silver lining in really honing in and emphasizing what we should have been doing all along, which is -- and that we haven't always done very well, which is effective equitable community engagement, right, like making sure that our processes are on point.

Even right now with -- in the context of what Jeanie was talking about of the inability of being able to interact with folks in person, agencies are pivoting, are thinking about how can we reach these populations? And maybe it's simply phone calls, text message alerts, so on and so forth; right? And it all comes down to really kind of focusing in and targeting on those demographics of folks that don't typically

participate or aren't able to participate.

It's a tremendous challenge right now because, obviously, people's minds aren't really fully focused on transportation, but there are opportunities.

The other pieces that I think really ring true right now is affordability. You know, we've got very high levels of unemployment. People are suffering economically. Strategies that are going to make transportation more affordable for folks, put more money in their pocketbooks, are going to be important now and kind of moving out of this recession.

As far as a couple of the themes, many of which, by the way, these themes are fundamental kind of facets of our Pricing Roads, Advancing Equity report includes access to opportunity, so trying to identify those strategies that are, and it might just be more frequent bus service where we're seeing demand. I think it was Marco that mentioned, some of these routes that are sustaining their ridership, making sure that we're putting the resources there and that we're speeding up the bus service, so really focusing on access opportunity for those that have the

biggest barriers, the biggest access issues to jobs and other needs, including health-promoting activities.

And which brings me to the last point which is strategies that are going to help advance the health of our communities, public health and, as some of the speakers noticed, kind of expanding on the open streets kind of momentum and other approaches that are going to, A, help drive down VMT, but also advance the health of our communities. And we know that COVID has -- and I don't think it's a point that's been brought up yet -- has been ravaging those communities that are most impacted by air pollution, right, and in particular, people of color populations, POC populations.

So there is definitely a very strong link there in terms of reducing pollution in some of these areas and then resulting in better health outcomes, even within the context of the COVID pandemic.

So -- and the last thing I'll say is on the telework piece, the working from home piece. Santa Clara County just passed an ordinance, a work-from-home ordinance. And now they're going

to be looking at how to really maximize working from home ability, telework opportunities for their employees, but also starting to establish programs and work with the private sector as well. So just to give you one example of, already, some agencies kind of jumping on that opportunity and going where it appears the momentum is at.

COMMISSIONER DOUGLAS: Well, hey, thank you all for those responses. Thanks for -- that's my dog, sorry -- your participation in this panel.

And I'll turn it over to Jim to see if he has any additional questions.

MR. MCKINNEY: Yeah. Thank you, Commissioner Douglas.

And thank you to the panel.

Let's see. Can you all hear me here? I'm not muted? Okay. Good.

Yeah, I had a few more questions.

First, I wanted to do a time check with Raquel, the timekeeper. I think we've got, what ten minutes more before we go to the Q&A or public comment; is that correct?

MS. RAITT: Hi. This is Heather. Yeah,

why don't you -- you could take another five or ten minutes, and then we'll go to the Q&A.

MR. MCKINNEY: Great. Thanks Heather.

A couple of topics I'd like to raise in questions and they're both large, and I'm afraid to bring up the first one because it's congestion pricing and I think it's going to swamp the rest of the discussion today, so I might lead with the other one, which is electrification because that is something we have authority over, you know, how we use and disperse our charger funding money, and also the work we do with large vehicle electrification with buses and trucks.

But with that, I'd like to put the question out to the panel, and maybe start with you, Elliot, how do you see a role for electrification and how effective do you think it might be in reducing some of the impacts to public health in the disadvantaged communities that we've been discussing?

MR. MARTIN: I see a large role for electrification. I think electrification is absolutely necessary in terms of, basically, reducing the public health impacts of transportation, you know, the expansion of

charging infrastructure, the proliferation of vehicles and, also, the proliferation of opportunities for trucks, as well, to, you know, to be able to electrify that activity.

You know, I mean, you know, we're in an environment where, at certain times of day, we actually have almost too much renewable energy, you know? And we're engaging with renewable energy curtailment where we're throwing away, effectively, tons of -- tons is not the right word -- but gigawatts of power that could be absorbed and used for the transportation sector. So that's, you know, a very, very interesting dynamic that has come -- that has changed almost overnight from the perspective of the grid.

I mean, the grid has -- continues to clean itself and is becoming cleaner very rapidly. I think like emissions from May of 2019 from one data point is about 50 percent of what the emissions were from May of 2014. And I'm recalling that statistic so I'm not sure if it's totally accurate.

But it is -- the expansion of renewable energy sources has made, you know, the grid awash in renewable power at certain times of day, at

certain times of year, so leveraging that is very, very important.

You know, another issue I'm aware of with respect to charging infrastructure is understanding where the grid can handle charging infrastructure. There are certain areas where the installation of a charger may not be necessarily possible because they're upstream of the grid. There are transformers that can't handle that level of electrical flow.

And so understanding sort of those grid impacts, I think, is also very important because what might seem like a relatively simple investment, just putting a charger in a particular location, is actually more like, you know, $100,000 or more investment because there's a whole lot of upgrades that need to be made.

But, overall, electrification is, in my opinion, wholly necessary for the state and for the country in terms of a clean transportation system and, also, for security reasons.

MR. MCKINNEY: All right. Thank you.

MS. WARD-WALLER: Jim, just one comment I wanted to add on this point is that, you know, it seems like some of the data I saw during COVID

is, you know, that air -- yes, air quality has been cleaner because we haven't had as many passenger vehicles on the road, but there really was not a drop in freight movement. And so, you know, the harmful pollutants, you know, NOx, et cetera, like they -- we didn't see as big of a drop as we might have expected considering how little vehicle travel there was. In fact, you know, there was even more demand on, you know, trucks on our system that we saw because they're -- you know, we're trying to get PPE and, you know, access to certain goods that were really critical.

So I think the focus -- and I saw a question in the queue related to the heavy-duty side, you know, electrification of trucks and buses and, you know, the vehicles that are relying on diesel, I think that is increasingly important. And I know CEC is doing a ton of work there but would really urge, you know, an even bigger focus on that side of the electrification conversation.

MR. MCKINNEY: Great. Thank you for that.

The other question --

MR. LEPE: Mind if I just --

MR. MCKINNEY: -- that I wanted -- oh, go ahead, Chris.

MR. LEPE: Sorry Jim.

MR. MCKINNEY: Yeah.

MR. LEPE: Do you mind if I add just a -- those are all, you know, great responses. I'll just add a couple like sort of examples of cool things that are happening on this front. One is that --

MR. MCKINNEY: Yes. Please.

MR. LEPE: -- yeah, in San Francisco, the MTA has introduced green zones for their bus fleet. And so they have these hybrid buses. And where they are focusing those buses are in these green zones which are areas that have had, historically, high levels of air pollution. So that's an example of where really kind of prioritizing where we place these technologies to end up with the -- so that the greatest benefit for public health, right, focusing on where the health disparities are at.

The other example is one that Transform is conducting right now, is partnering with affordable housing complexes to introduce

electric shared mobility pods at the affordable housing complexes, right, so that these residents have free access to, you know, e-scooters, e-bikes, and electrified shared vehicles.

So lots of really good innovation happening in this space with the intersection of -- that you can make the connections, right, between electrification and equity, as well as VMT reduction.

MR. MCKINNEY: Good points. Thanks.

MR. ANDERSON: Yeah. And the more that the CEC can do to encourage that kind of publicly-accessible charging for areas where it's just not going to be possible to get charging into all of the apartment buildings. And I'd love to see incentives focused on -- and this be more of ARB's wheelhouse -- but, you know, credit -- you know, moving credits towards used ZEV. I mean, that's critical to getting the penetration out of high-income areas.

MR. MARTIN: And if I could add, I did want to build on -- there was a question posed on making use of access for renewable electricity for transportation towards hydrogen production and so I thought I'd just comment on that. And

I think that that is one definite approach that could be used for this excess power that we have during periods of peak of production.

Personally, I've had the privilege of being able to drive many of the test -- not many of the test vehicles but a number of test vehicles and I can tell that they perform very, very well. Hydrogen has excellent range and the refueling is very, very straight forward.

So that's certainly an opportunity to direct this extra amount of energy that we have is use it, basically, for electrolysis and generate hydrogen that can also be used for transportation fuels, either in passenger cars that are available or also in buses. The AC Transit, of course, has a vast experience and continuous experience using hydrogen for bus transportation.

MR. MCKINNEY: Great. Thank you, Elliot.

So, I'm sorry, I'm going to kind of intervene here. We have a couple of questions up on the Q&A function. So I think our practice, I'm going to turn to Quintin Gee to walk us through a couple of these questions.

Quintin?

MR. GEE: Great. Thanks Jim.

I'm Quintin Gee. I'm with the CEC on the IEPR team.

We have a couple audience questions. The first one comes from Raoul, kind of tagging onto the question that you already kind of got to, Elliot, but here's one that's a little bit different. You kind of talked about this but maybe some of the other folks would have something as well.

But your sense of fuel cell buses, you know, obviously, helping with the VMT congestion issues or buses generally, but then do you see particular benefits in terms of either refueling, range, other aspects that might make those preferable as a VMT reduction strategy over other forms of mass transit?

MR. MARTIN: Well, so my knowledge of FCHVs, fuel cell hybrid vehicles, is that the range, I mean, the ranges are very good. When we tested vehicles a few years back with -- they were Toyota fuel cell vehicles, they had a range of about 300 miles per fueling. Now that's about what current -- some, you know, EVs can also get. So EVs have caught up a little bit in terms of

the range, not so much in terms of the speed of refueling. So I had to refuel these vehicles in Emeryville and it would take 10 to 15 minutes to just fill it all up. It feels very much with the same technology as natural gas.

So hydrogen has the advantage in terms of speed of refueling and so that's one considerable advantage. I think it has some application potential in heavy-duty trucks as well.

So I hope I've answered the question but, actually I'm not sure I have.

MR. GEE: Other comments from the other panelists on this? Have you thought much about --

MR. ANDERSON: Yeah. I would say that --

MR. GEE: -- a preference for --

MR. ANDERSON: -- SCAG has always maintained a policy of being fuel neutral when it comes to electrification, and so I apologize when I say electrification, that we focus on charging. Mainly it's because charging has a land use component identifying the types of buildings that are amendable to EV charging. It doesn't mean we ignore hydrogen at all.

And, really, it comes down to the service

characteristics. Like I keep harping back on service, service, service. There are transit agencies that are more favorable towards hydrogen because of longer routes. Some of the more suburban areas that have these long routes with not a lot of starting and stopping, so they don't get -- like have the boost from the regenerative breaking, whereas other agencies have more urban routes, circuitous routes, and have the ability to get back to the base and charge midday or have the way, a service plan, so that they can get the dwell time in.

So, you know, it comes down to the transit agency making the best choice. So I don't think -- I think right now it's still an open question and transit agencies are exploring opportunities with both.

MR. GEE: Great. And we have one other question kind of related to this. There was a little bit of a discussion about telecommuting policies and integration with climate action plans, maybe seeing what MPOs could do.

So, Marco, do you have any thoughts on outside of what we mentioned --

MR. ANDERSON: Yeah.

MR. GEE: -- with Santa Clara?

MR. ANDERSON: Yes. SCAG recently released a major TDM strategy and is starting a second phase of creating -- of getting education out there for the TDM Toolbox. And the TDM was very popular in the '90s and it kind of went away as TDM ordinances sort of lost their teeth, especially in Southern California.

But there are cities that have very strong municipal TDM ordinances in the transportation demand management where -- I used love this story -- the TDM Coordinator for the City of Pasadena had so much political backup from the mayor and from elected officials that she would just deny occupancy permits. And they would call the major and the developers would start complaining. And they'd say, hey, if you didn't clear it with Judy, then you can't move in. And it takes that kind of political backing.

I think one of the things that we're seeing now is a resurgence of transportation management organizations linked to business improvement districts. And so as those get back up to speak and have funding from their

constituent members to kind of get the word out about different strategies, you know, carpooling and all the things we've mentioned, telecommuting, I think as those get up to speed and get enforcement and have teeth, then they become more useful. The City of L.A. has been working on its TDM ordinances and, again, putting teeth into it. One of the suggestions is maybe you can do an annual report?

The other thing is that, as we've discovered, if it's cheaper to buy your way out and just pay for the credits, then, you know, a lot of companies are going to go that route. So it really needs to be something that they're incentivized to comply with rather than buy their way out of.

MR. GEE: Great. Any other folks?

Maybe, Chris, any thoughts on maybe enforceable versus sort of encouraged policies/ordinances on that front?

MR. GANSON: No. I'm not going to -- I'll speak briefly and not too deeply.

I just want to say that the state is supportive of telecommuting policies. We're looking into it. And in the SB 743 context, it

could be used. 743 is providing -- you know, we're shifting to VMT as a metric of impact in CEQA. And so mitigations could be these sorts of -- mitigations for new projects could include telecommuting.

And so we're becoming very active at looking into that and thinking through what might be the best approaches.

MR. ANDERSON: I will go back that question also. They also mentioned climate action plans. One of the -- climate action plans are really great, powerful tools if cities adopt them and, again, give them teeth.

One of the challenges that all of -- most of our funding has to have a transportation nexus. Vehicle electrification does. Active transportation does. Climate action plans start to get a little too broad into multiple different climate action strategies and so we can't fund them with the same transportation dollars, so we're limited in our ability to encourage more of those. So they do need a dedicated stream of funding if they're going to be something that's implemented widely.

MR. GEE: Great. All right. Well, I

think that's all the time we have for the public Q&A.

I will hand it over Harrison. He has a poll for us.

MS. RAITT: Hi. This is Heather.

Harrison, thank you for getting that ready.

So we wanted to get some initial feedback, a snapshot of what people think about remote workshops versus our in-person workshops. So go ahead and give us a little feedback there.

(Whereupon a survey is presented for a vote by participants.)

MS. RAITT: And, so, yeah, if you can just -- we'll give it just a couple more seconds. We welcome everybody's feedback on initial thoughts. All right, I think we can probably go ahead and end the polling.

So this is one of our new Zoom features that are new-to-use features that we're using to get some feedback. And it looks like most people, actually, prefer the remote access better than the onsite, so that's interesting.

And it's also kind of fun to see that we have several new people, new to IEPR workshops,

so I hope you're having a good new experience to IEPR workshops.

So thank you so much everybody for participating.

And thank you so much to Jim for moderating that panel and to our excellent presenters for all your good thoughts and insights. Really appreciate that.

COMMISSIONER DOUGLAS: Thank you.

MR. MCKINNEY: I'd just like to add my thanks to the panelists too. This is tremendous expertise on this panel. So thanks very much for helping us understand VMT issues.

MR. GANSON: Thanks for having us.

MR. MCKINNEY: Thank you.

MS. WARD-WALLER: It's been fun. Thanks.

MS. RAITT: All right. So now we can go ahead and move on to the public comment portion. And so we are asking to limit it to one person per organization and three minutes per speaker.

And if you're using the Zoom platform, go ahead and use the raise-hand feature to let us know you'd like to comment. And if you change your mind, you can put your hand back down that same way. And if you're on the phone, you can

press star nine and that will let us know that you wanted to comment.

And we Dorothy Mirimi from the Public Advisor's Office here at the Energy Commission to go ahead and conduct the public comment session for us.

So thank you, Dorothy. Go ahead and take it away.

PUBLIC ADVISOR MIRIMI: Thank you, Heather, and good morning everyone.

I'll first call on participants on Zoom. I see William Zobel has his hands raised.

William, if you could state and spell your name?

MR. ZOBEL: Yes. Good morning. William Zobel, W-I-L-L-I-A-M, Zobel, Z-O-B-E-L.

PUBLIC ADVISOR MIRIMI: And your affiliation as well. And then go ahead.

MR. ZOBEL: Oh, I'm sorry. I'm with the California Hydrogen Business Council. Thanks for having me today. I'll just go ahead and jump right in, I guess.

Jim, I wanted to echo your comments. I agree, it was a great panel discussion today. I learned things I knew nothing about. So I

thought the panel was very valuable and will go a long way in helping us achieve the state's goals.

I would add that the California Hydrogen Business Council strongly supports the state's recovery to being equitable in transportation planning prioritizing the needs of our most vulnerable communities, as was touched on by some of the speakers today. This includes reducing air pollution in highly impacted corridors, vehicle miles traveled, as was discussed today, through better and smarter transit, and providing zero-emission vehicle options that are convenient and useable for people in low-income neighborhoods.

We very much appreciate the comments made by Elliot Martin and Marco Anderson and believe that we need both battery electric and hydrogen fuel cell electric technologies to help solve them any issues that we have in front of us. Both pointed out that hydrogen fuel cell electric vehicle solutions have some very unique strengths.

For example, they mentioned, you know, the difficulty in providing zero-emission transportation solutions for low-income and

underserved communities, that fuel cell electric vehicles resolve the issue of long charging times which can be inconvenient for commuters and for those that have to deal with off-street parking which is a fairly high percentage of the population in those neighborhoods, and also precludes home refueling for many consumers that live in those multiunit dwellings, so glad to hear those are all issues that are being looked at.

As we know and we talked about a little bit today, the fuel cell electric buses can improve air quality as the state also works to make transit more available, safe, and accommodate a wider range of transit routes with longer range and more rapid refueling times for the agencies. Several studies done by McKenzie, Deloitte, and others point to fuel cell electric buses as, actually, being the most cost-effective option for transit over battery electric options and CNG options in the next seven years. And we'd happy to share some of those results.

The Council would also point out that fuel cell electric vehicles are growing in popularity and market development with the

growing market.

In closing, the industry here looks forward to collaborating with all of you who are in the transit and regional government space to help you incorporate the full suite of zero-emission technologies into your planning processes and programs.

Thank you very much.

PUBLIC ADVISOR MIRIMI: Thank you, Mr. Zobel.

Next we have Raoul. Please state and spell your name. And make sure your un-muted on your end as well. Also state your affiliation. Thank you.

MR. RENAUD: Yes. This is Raoul Renaud, R-A-O-U-L R-E-N-A-U-D. I am retired. My last employment was with the Energy Commission and I was there for about ten years in the legal department.

Very interesting discussion today. I learned a lot.

One thing that kind of hit a nerve with me was, at some point, the shared bicycle systems was touched upon. And it reminded me that here in the Sacramento area where I live, we had a, I

thought, very successful and well-utilized system of shared bicycles called JUMP. These red electric-assist bicycles were everywhere. And I used them a lot. I know a lot of other people used them a lot. And then when COVID-19 hit, all of a sudden, sort of overnight, they were just gone. And I assumed that that was because of the potential for those bikes being disease vectors. You know, if an infected touched one and then the next person touched it, then they could get infected.

But I've since learned that, apparently, that was a coincidence and this was actually a business decision, simply, to remove those and that they won't be coming back. And, in fact, those bikes are in the process of being destroyed.

I'm curious to know if anybody, A, has any specific information about that?

But also, if what I'm saying is correct, what can be done to protect those systems and ensure that, regardless of whether or not they are profitable, since they're such a great public benefit, that they can remain operational?

Thank you.

PUBLIC ADVISOR MIRIMI: Thank you, Raoul.

Seeing no more hands raised for Zoom, we can go to folks -- oh, we see, there's one more person on Zoom, David Park.

David Park, please state and spell your name once your un-muted. And please ensure your un-muted on your end, as well, and give your affiliation please. Thank you.

MR. PARK: Hi. Good morning. Thank you very much. It's David Park with the California Fuel Cell Partnership, D-A-V-I-D P-A-R-K.

Commissioner Monahan, Commissioner Douglas, CEC Staff, thank you very much for this valuable workshop. We support the State of California in its zero-emission vehicle initiatives which include both fuel cell electric and battery electric vehicles. The fastest way to achieve California's transportation-related climate improvement goals is to move the mutual success of all ZEV platforms, which include fuel cell electric and battery electric vehicles.

Although electrification has occupied a significant amount of the panel discussion, we're very grateful for the acknowledgment of hydrogen and fuel cell electric vehicle technologies and,

perhaps, as in the upcoming sessions on this topic, we can get more input from the fuel cell electric and hydrogen components and how those components fit into the ZEV VMT framework?

Mr. Martin's point is very well taken on renewable energy curtailment. Hydrogen offers a solution to the chemical storage of renewable electricity to help maintain grid stability.

And then, also, pointing out that as average trip length continues to increase, fuel cell electric vehicles is a ZEV option that meets consumer need for longer average vehicle -- average trip length.

Also, just to acknowledge, fuel cell electric buses are gaining greater traction with transit agencies across the state in meeting the requirement of the California Air Resources Board's Innovative Clean Transit regulation. And as the scale of the light-duty fuel cell fleet grows, we will see economies of scale kick in and we'll see the price of fuel cell power plants come down, making those heavy-duty applications significantly more affordable. And there, we do see a converse relationship in that the heavy-duty sector, transit, and truck will consume a

greater volume of hydrogen per vehicle and will drive down the cost of hydrogen, creating a very holistic overall hydrogen economy.

And finally, as discussed in the equity conversation yesterday and alluded to today, the fuel cell electric vehicle model fits very well in the high-density housing where it may be difficult to bring in charging ports for the number of vehicles used by the residents of those complexes.

So we look forward to collaborating with CEC in meeting all the state's ZEV and climate improvement goals and in these IEPR conversations. So thanks very much for having -- allowing me to comment.

PUBLIC ADVISOR MIRIMI: Thank you, David.

Again, as a reminder, folks on the phone, you can press star nine to raise your hand. We don't have any more comments right now but we'll wait a moment to see if there's anyone else wanting to make a public comment.

(Pause)

PUBLIC ADVISOR MIRIMI: Seeing none, I'll pass the mike onto Commissioner Monahan.

Thank you. That is the end of the public

comment period.

COMMISSIONER MONAHAN: Okay. Thanks Dorothy.

And thanks, everybody, for -- all the panelists for joining, all the folks that participated and listened into the workshop.

And really glad to hear from that little poll that Heather took that most folks are happy enough with the IEPR workshop remote forum instead of the in-person and so appreciate that feedback. I think we'll be collecting more throughout this workshop series because we want to make sure that we're doing all we can to engage the public most effectively as we shelter in place.

So thanks everybody. Stay safe and hope you'll join us for our next IEPR workshop. Take care.

(The workshop concluded at 12:09 p.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 24th day of July, 2020.

MARTHA L. NELSON, CERT**367

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

MARTHA L. NELSON, CERT**367

July 24, 2020