

## WEBINAR TRANSCRIPTION

### Communicating Research Priorities from a State DOT Perspective: Lessons Learned

TRB AJE35 RIIM Coordination and Collaboration Subcommittee

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## Opening Introduction – Laurence Rilett

So, good afternoon, everyone. Good morning for those of you on the West Coast. This is our 1st TRB AJE35 RIIM Coordination and Collaboration Subcommittee webinar. It's on communicating research priorities from a state DOT perspective. Essentially, we're going to be looking at lessons learned for doing that.

I want to acknowledge a number of folks. First off our co-chairs, Mr. Curtis Bradley, North Carolina DOT, Dr. Marwa Hassan from Louisiana State University, and myself from Auburn. I also want to acknowledge the AASHTO RAC Coordination and Collaboration Task Force, the Council of University Transportation Centers, and the Alabama Local Technical Assistance program who have all participated in putting this webinar together.

So, overview of the webinar and the panelists we're going to. We've got 3 great panelists, and we'll introduce them as they speak. They'll each be given about 10 to 15 minutes to provide their thoughts and ideas on lessons learned.

We'll then go to questions and answers. We're going to ask everyone to please put all the questions into the Q and A and we'll be reading off those. My intent is to limit the questions until the very end, so it gives all of our panelists a chance to speak. We'll be making the recording available. We'll also have a slide deck and transcription. The PDHs will also be available, and I'll talk more about that at the end of the webinar.

So, we're going to start off with our 1st introduction. Our first panelist is Kevin Pete. Kevin is the Division Director for the Texas Department of Transportation's Research and Technology Implementation Division. He oversees the State Planning and Research Program Subpart B. He is the TRB State Representative for Texas DOT, chairs the NCHRP IDEA Panel, Secretary of AASHTO Innovation Management, and voting member of the AASHTO Research Advisory Committee (RAC), where he chairs its Region 4 states. Kevin joined TxDOT on October 2009. He's worked in the Information Technology Division for 3 years where his leadership as a project manager was leveraged on several technology projects impacting the department, such as Project One, oversight of the Mainframe-Modernization initiative, successful implementation of STARS-II, and HPMS-GIS to name a few. In 2013, he joined the Research and Technology Implementation Division, where he led the change to rebuild and re-energize the research program. We're very happy to have Kevin join us today. You can see he has a wealth of experience, and I'm going to turn it over to you now, Kevin. Thank you.

## 1<sup>st</sup> Presentation - Kevin Pete

Alright, great. Thank you. So good morning, or good afternoon, everyone, and thank you for joining, I guess, depending on where you are. You know, Texas is a big place, and there are a lot of great universities, and it's not lost on me that we do have a number of, a large number of UTCs in the State of Texas to say the least. So, as Larry mentioned, my name is Kevin Pete. I'm the Division Director over the Research and Technology Implementation Division within the Texas Department of Transportation.

So, a little bit about our transportation research program here in Texas, as you may know or may not know, the Texas DOT is actually governed by the Texas Transportation Commission, and that Commission actually gives us authority to perform contracts with Texas state universities. Also, within the body of our General Appropriation Act we have actually strategies that are specific for developing or performing research here in the DOT.

Our funding source is basically, you know, the Federal funds that are submitted to the States. 2% of that actually gets set aside specifically for planning and research activities that of that 2%, there's a 25% de minimis that is required to perform RD&T activities specific for the SPR program. So that's kind of how we actually obtain our funding, and the work that we do can be seen everywhere within the State.

Some of the initiatives, if you go down our freeways and highways, you'll notice in our facilities and along our right of ways, various devices or barriers, or even development of how the roadway itself is constructed. A lot of that is actually initiated within research as a whole. So, there's a lot of great research we do in-house and the benefits that are available to our great state.

This will give you an idea, and this changes depending on the availability of funding that we have, but in FY 24, our program size is about 41 million total. That's the total size of it. And that includes the 20% that's required, 20% match for the SPR program. And typically, we try to leverage our transportation development credits to offset the usage of state dollars. So not all states are able to do that, but Texas is one of those states that that actually can.

And we also contribute to on a national level, to various national programs, such as TRB, NCHRP, and AASHTO Technical Services Program as well, and on any given year we manage between 135 and 150 projects that are active at one time, and we do that all with about 18 personnel.

So, at a national level, if you go to the Transportation Pool Fund study website, you may find that we're actually involved in about 100 plus projects, but a lot of those are closed projects. And so, the Active Pool Fund studies that we are participating in

currently, we actually participate in about 49 TPS, we're leading 2, and maybe a 3rd is actually in flight. And just to kind of give you a breakdown of the dollar that we leverage for these national programs for NCHRP program, where a lot of the national research actually occurs, we contributed about \$5.6 million towards that. Regarding the Pool Fund studies, we commit about \$1.8 million. And we send or contribute at least \$684,000 towards the TRB core programs, as well as \$230,000 towards the Technical Services Programs within AASHTO that our DOT participates in.

Okay, so how do we get to the research?

On an annual basis, we solicit research needs or problem statements within the DOT, and that typically occurs between August and September timeframe. That information is captured and actually distributed to our research committees who actually prioritize those topics and make a decision on whether or not it's important to Texas, whether or not it's a good benefit to the State as a whole, and they'll select projects between October and December. So, we currently just finished that step on yesterday, and that information will be reviewed again by our Executive Committee, and they'll review and approve those projects for funding typically between December and January timeframe. And within January and May timeframe we actually have an open solicitation or RFP that we send to our Texas universities to participate in, and we'll evaluate and select proposals during that timeframe. And between the months of June and September, we'll be developing our work program, our federal work program, and seek to have that approved by FHWA, and work typically begins around September 1st in line with our actual appropriation of funding within the state.

So just the makeup of our committees. So, there's actually 3 research committees. It's a Functional Area Committee and that's made up of our subject matter experts in the field and practitioners. And then there's a Research Oversight Committee that's made up of district engineers as well as division directors. And then the Executive Committee is made up of our Chief Engineer and Director of Strategy and Innovation.

The Functional Area has 5 focus areas or subcommittees within it, and it mirrors the Research Oversight Committee, mirrors that committee in that there's 5 focus areas there as well. And the focus areas receive problem statements and research ideas that are germane to what it, what its vision is, and associated with construction, maintenance, and materials; structures and hydraulics; safety and operation; strategy and innovation; and a planning and environmental subcommittee of that FAC.

And so, they'll review, prioritize, decide which projects are important to them and submit those to our research oversight committee, again made up of district engineers and division heads, and they'll take that and review it, vet it, and prioritize, and make a determination of which one they believe should actually be important to Texas and

should be sent to our Executive Committee, and then those go forward to the Executive Committee for approval and for funding.

On an annual basis we typically receive between 150 and 200 ideas during our solicitation of research needs. And so, it's a daunting task for our folks to actually go through those and vet them.

Our problem statements, typically we have a form out there, and you can actually go to our *tex.gov* website and find information regarding submitting ideas to RTI or to TxDOT. And the form that's used here that you see here is typically the form that's accepted. We'll accept ideas throughout the year. However, we do a main solicitation, as I mentioned earlier on an annual basis, and typically we expect champions to be, or when I say typically when I say, champions are required in earnest to actually be a part of the problem statement within TxDOT.

So, submitting an idea is one thing, but having someone who can vouch for it and agree that it is a good idea, and the outcome or the need is there within TxDOT goes a long, long way. So that's part of problem statements process itself that a champion actually be identified and included in the submission. Getting to a TxDOT champion, this question comes about in various forms, and some cases it requires a little bit of effort, a little bit tack and identifying a champion that will be in support of your ideas. And there's various ways that that comes about. Sometimes it's just meeting and developing relationships with folks within TxDOT, be it by attending transportation conferences, or even TxDOT conferences and forums. Most TxDOT staff are attending some transportation related efforts, be it committees or panels, or anything of that nature. So, if you are in any of those that's a good time to build a relationship and find someone to meet. There are networking events as well like at our FAC or committee meetings, anyone is invited to attend those. So, you'll have the opportunity to meet and at least build some type of rapport with folks who are vetting and reviewing the problem statements, and also just reaching out where possible to build a relationship or identify someone in division or the districts or even utilizing our research library. If there's topics that you're thinking of considering submitting and going out to our research library, and maybe find some related topics. Typically, in those final reports, we are including our project advisors who are subject matter experts related to those particular topics. So that's an additional way of doing that, and also reaching out to within RTI itself. *Rtimain@texas.gov* is the email address that can be utilized and send your questions. We will do our best to try to at least share that topic with someone who we believe is a subject matter expert for that topic.

So TxDOT is made up of 25 districts throughout the state and 34 divisions throughout the state. And so, it's, you know, if you, your university is located anywhere within those districts, it's probably a good idea to kind of reach out and meet someone, either

at an area office or even a district office, to kind of build a relationship and find out you know the ground truth, what's really some of the efforts or problems that they're having and some of the needs within the state as well. And then at a division level, which is, you know, we're looking from a higher perspective as to what's further out in the future, perhaps if you can meet some folks that would be a great opportunity as well.

And finally, I just wanted to add, so there's not just the research program, SPR program, that the TxDOT kind of manages, but there's also within our Traffic Safety Operations Division a program that that where they manage the NHTSA program, and it's open primarily to universities to propose ideas, and the proposal timeframe is the RFP is out there, starting between November through January of the of next year. And the topics that they're seeking primarily revolve around increased enforcement, traffic safety training, driver behavior education and outreach, also reducing impaired driving and discouraging distracted driving, as well as encouraging use of driver and passenger seat belts.

And so that's kind of my spiel for this afternoon. Just kind of give you a high-level view of what our research program and how we're funded, as well as some of the activities and how we go about forming and prioritizing projects. Thanks.

### Closing Remarks on 1<sup>st</sup> Presentation - Laurence Rilett:

Thank you, Kevin. As for everyone on the talk, we're going to try and save the questions to the end to give all our panelists a chance. But I know there are already some questions for you, Kevin, so we'll come back to those once Emily and Hilary have had their chance.

### 2<sup>nd</sup> Presentation Introduction – Laurence Rilett:

Our next speaker, our next panelist, is Emily Parkany. She has over 20 years of experience

over a breadth of roles, including State DOT Research Manager, Research Scientist, Center Director, management consultant, nonprofit government contractor, Assistant Professor of Civil Engineering, and graduate researcher. She is currently Research Manager at the Vermont Agency of Transportation since February 2017, with a \$1.4 million budget of external internal research and research allocations.

Emily chairs the Transportation Research Board A/E35 Research Innovation Implementation Management Committee and the NCHRP 20-44(49) Implementation Barriers project. Her Ph.D. is in Transportation Science from the University of California, Irvine, and she's a licensed engineer in the State of Pennsylvania. We are very happy to have Emily here today. As you can see, she has a very broad background. We also wanted to get some diversity, so we had Texas, one of the larger DOTs in the country, and I won't try and classify where Vermont is, but it's certainly not at the Texas size. So, Emily, welcome! Look forward to hearing your remarks.

## 2<sup>nd</sup> Presentation - Emily Parkany

Great. Thank you. So, I wanted to start with. So, first of all, thank you for having me and the introduction, and you know, doing this webinar. I really appreciate the people that have joined us on a Friday afternoon.

So, I definitely wanted to start with, you know, the contrast to Texas that you know, Vermont's program is like a 3<sup>rd</sup> the size. So, yeah. And hopefully, you guys can hear me because I'm not seeing that's in the view. So, this is, you know, similar to what Kevin showed, but a little bit different in that, and sorry that it didn't come out here. I didn't check that. It looks better on my screen, but the bottom right corner is how much money I have to spend on research projects. So, Kevin had \$33 million, I have \$370,000. So, you know, because all these other things come out of the budget.

I fund like three or four projects a year. This is just a little diagram of our research process. I have two slides here where the gist is. You know, this is the period where I'm looking for ideas. Ideas get matched to champions similar to what Kevin was describing. The champions put together research problem statements, and then those go out to the qualified researcher list.

So, my qualified researcher list includes universities from across the country and some consultants. It's a little bit different than what Kevin was describing, that he's only working with Texas Universities. Vermont, you know we have so little money, we want to make the best use of the funds, and we want to work with, you know, anybody who is quality, you know, qualified to work on our projects, and, you know, has something to offer us. So I will go through that a little bit more. The gist is then the champions make the presentation of the 10-page proposal in front of our decision makers. And then that's what, those are the few projects that are selected.

These are the 2023 numbers. Two years ago, we received 40 research ideas. Eleven of them had enthusiastic champions and got matched, but then when we sent them out, we only got letters for 9 of the projects. The good news is that 8 different organizations submitted letters. So, you know, we have quite a few people interested in

working with us. And then, you know, it was the 9 projects that were presented to our decision makers, and 4 projects were selected, and we were able to fund 2 years ago.

Kevin described this a little bit that if an idea gets matched to a champion, then it gets a research problem statement. So, you know, that's the only way to move forward in our in our process. You know, this is what the research problem statement includes. That goes to everybody on our qualified researcher list and our season is mid-January. The ideas were due today and then mid-January.

Our qualified researcher list is mostly universities and consultants. I think we're going to have a, you know, pseudo government agency on it also in this next round, and they look at the all the research ideas. So again, 2 years ago it was 11 ideas, last year I think it was 10 ideas or research problem statements. And then, if they're interested, they give us a 2-page letter of interest. So, this is their chance. They need to say, pick me pick me based on their interest in the project, their experience with the topic, their capabilities to perform the research, what lab equipment they have, you know, their ideas of potential methodology. And we're asking for, you know, roughly like, what would the budget be? What is the timing? And that's what the champion is selecting, you know. Do they, does it make, does this look like a good value? Should I go with those lower value, or, you know, the scope? And you know that's what the champion then decides. Then the winning team puts together a 10-page proposal and then that's what gets presented in the next slide to our decision makers at the March meeting. So just to show you like, I'm very proud that we do have projects from across the agency. You know, champions from across the agency. The champions do need to have, you know, management support. So, these are the 9 projects 2023 that were, you know, presented to the decision makers. The ones in bold are the projects that were funded and just are selected for funding, and you know the 1st project, University of Virginia, or sorry University of Vermont, is doing for us. The second project is a consulting firm, VHB, but a you know full time researcher at UVM is a big part of the project. The 3rd one is a consulting firm that has done pavement performance models, but that was a project where I think we had 6 different teams, said, you know, oh, yeah, we could help you with this, and we selected the consulting firm. The 4th one is the University of New Hampshire is working on it with us.

So, yeah, how did the decision makers select? You know the 3 projects, 4 projects that I can find I still don't know. So, after 7 or 8 years, I you would think I have an idea of what is what they will select, and which projects are going to do better. And I'm surprised every year.

I do think it has a lot to do with being prepared. So, if you go to that second to last bullet, the champion has 4 minutes to describe the project, why it's important, how

we're going to use the project, you know how Vermont Agency of Transportation will benefit, and also who is going to be on the Technical Advisory Committee, like how much of the agency does this impact.

You know, who's going to be using the results? You know, I think it's great if we have other agencies, if we have local, you know, regional planning commissions involved in the projects, because I think the more people that are exposed hopefully the more people are going to use it.

And yeah, at this point researchers can help the champion put that presentation together, and that might influence, you know the successful ones, I'm not sure. But there is that maybe cheaper projects, I do have a \$150,000 threshold of all the projects, and sometimes it's the, you know, the \$80,000 and the \$90,000 projects are selected, you know, rather than doing one bigger \$150,000 project. I think that's attractive to the decision makers.

So just again, these are, you know, a mix of internal people, external people submit ideas. Anybody can submit an idea, but it's the ones that are matched by champions that go forward. A supervisor has to approve that this is a good idea, and something that the champion should work on, and then I do want champions and researchers to communicate as much as possible. But I don't want my champions and AOT staff to be you know, totally bothered, so it kind of ramps up, you know. Kevin talked about his ideas have to have a champion on them. My ideas have champions on them who have not, you know, heard of this problem or the person. So, I still try to match that up. We're a small state. I try to make it work. But unless the people are excited like yes, I want to you know go through the process before and after the project, you know, it may not go forward.

So that's what this next slide is, there's some cautions, like there it may be the world's greatest idea, you know the next version of sliced bread, or whatever, but it may not be valuable to Vermont. You know we're a small state. We're rural, you know. So you're playing with traffic data may not be what we really want to do all day and part of it, too, is that our priorities, and where we have staff that, you know, are able to champion may be different from researcher interests, and it may be that you know you have the greatest resilience project or electric vehicle, something that we do care about, and yet there's only a few people that you know, are able to champion it, and they are busy doing other things. So, you know, I think we've sort of expressed, you know, champion is a big commitment before and after selection, and then it's only one champion per project in a cycle. So, if I get a whole bunch of asphalt projects, then my asphalt engineers are going to be selecting which of these are the ones that we're willing to champion, you know, interested in champion, and we can only, you know, pick one

which makes some sense. There's so little money. It doesn't make sense to have one person with multiple things in the in the game.

We've heard even some researchers that we want to work with, and we like what they do for us, but there's that big conversation of like no, my name's already on another project, at which point I was like, no, put the, you know. Put the people down, and then, after the ideas come in, then they can decide, you know, which they're going to be more excited about.

I did want to share, Dr. Rilett mentioned that I'm on this panel for about implementation barriers. They did a survey over the summer. So, these are just the 45 state DOT people that responded to this survey about implementation. But what we're talking about the figure on the left is, you know, where are you getting your funding, or you know, what funding are you using? So, it's that the top right corner is the Federal funds, where that's, you know, the vast majority of what I spend is Federal funds. Other States have money from pooled funds that come in, and other States use a lot more state money than I use. The figure on the right is the people that are, or you know, who's working on your research.

So, for the aggregation from the other States, 89% of the time they're working with universities and only 4% of the time they're working with private people or doing internal research. Some state DOTs, they do a lot of internal research, and you know Vermont does not. But I'm surprised that nationally it works out that not a lot of research funds or the responses here that that who's working on it. It's mostly universities.

I think it's just a real quick, you know, so, one of Dr. Rilett's questions is, you know you're a small state, can't you just work with your neighbor on something so yes and no, but I mean not necessarily, and that in Vermont everything has to be competitively procured. We follow State and Federal rules. And so, if somebody comes to me and says, you know, here, I've got the greatest thing you know we can use like this this other project to fund most of it. You give me \$30,000; I'll give you a Vermont, you know, specific aspect of it. I can't, you know, do that. I can't give money to directly to a researcher, you know, no matter what it is.

So, we do participate in some pooled funds. But my experience of getting neighboring States to agree on projects does not work. We had 6 States, you know, small States, New England States transportation consortium. We, you know, picked projects every year that we were jointly interested in and went for it. It is now, you know, it's closing now, because we could not agree on projects to go with and how to, you know the next direction. And my understanding the Western States had a meeting a couple weeks ago. Same thing. They didn't agree on projects. So. So I think that's what I wanted to say. I'm excited to hear from Hilary and then answer questions. So, thank you.

## Closing Remarks on 2nd Presentation - Laurence Rilett:

Great thanks. Thanks, Emily.

## 3<sup>rd</sup> Presentation Introduction – Laurence Rilett:

Our 3rd panelist is Dr. Hilary Nixon. She is Deputy Executive Director at the Mineta Transportation Institute at San Jose State University. She oversees a multimillion-dollar research program at MTI that focuses on improving mobility of people and goods, ensuring that the transportation system is safe, efficient, accessible, and convenient for all. Dr. Nixon is an active researcher and educator, specializing in transportation and environmental planning and policy. Her research focuses primarily on the factors that influence pro-environmental behavior, transportation finance, and the relationship between transportation and the environment.

Prior to joining MTI full time in 2018, Dr. Nixon spent 12 years as faculty in the Department of Urban and Regional Planning at San Jose State University, where she held positions as Graduate Advisor, Associate Chair, and Department Chair. Dr. Nixon's research has been published in highly ranked transportation and environmental journals, and her research has been covered in a wide range of popular media, including CityLab, Politico, San Francisco Chronicle, San Jose Mercury News, Washington Post, among others.

We are very happy to have Hilary today. We had the 1st two panelists who are obviously from state DOTs to give their perspective, and we wanted to have someone come give the university perspective on communicating research. And I really couldn't think of anyone better than Hilary. So, Hilary, I'll let you give your presentation. Thank you.

## 3<sup>rd</sup> Presentation – Hilary Nixon

Well, thank you so much. And, Emily, Kevin, thank you for your presentations. You know, as a university person it's interesting to hear the perspective from the State agencies, because it's something I don't necessarily hear often or know as much about. You know, in my presentation I'm going to talk a little bit big picture broad about MTI and how we work, as well as kind of some you know best practices or lessons learned from our experiences. But I did also reach out to colleagues at other universities, specifically the University of California system, because I didn't just want

to focus in narrowly on MTI. I wanted to make sure I represented a slightly broader perspective in my brief presentation today. So, 1st talk about MTI.

So I think we are probably a relatively typical university transportation center. We were founded in 1991. We do research, education, workforce development, tech transfer, all of the things that you would expect a university transportation research center to be engaged in.

Currently, we are leading 3 competitively selected multi university consortia. Plus, we are partners in quite a few other consortia. So, we have both the experience of leading as well as being led or partnering. Our partners come actually from across the nation as well as within the State of California. We have a USDOT UTC consortium partnership, called the Mineta Consortium for Equitable, Efficient, and Sustainable Transportation. This is partners at Howard University, Navajo Technical University, and the University of South Florida.

We lead a Federal Railroad Administration CRISI Grant consortium on climate change and extreme events, and then a state focused consortium, the California State University Transportation Consortium, which I'll talk about a little bit more in detail later on, because it's an interesting funding structure and it's an interesting way of how we work with state agencies and partners on research. But that represents all 23 campuses of the California State University system.

So, we have an emphasis on applied data driven human centered research. Unlike some centers, we don't have as much of an engineering focus. That doesn't mean we don't do it. But we have a strong background in policy and planning work at San Jose State and Mineta Transportation Institute. Possibly an interesting structure here, we have a network of about 130, little bit more, research associates. They're not all working on research at any one time. But they are experts in almost every discipline that we can tap into when there is a research need and a specific requirement for their disciplinary expertise. Currently somewhere in the order of about 30 million dollars in current contracts underway. And then we have about an additional \$20 million or so in approved and pending grants that we will be working on. Kevin, it was interesting for me to see you have got 141 projects underway right now. Right now, MTI, we have, I went and checked while you were talking, we have 112 research projects ranging in scale quite a bit from relatively small projects up to 6 figure projects as well. And we do all of this with a staff of 3 full-time employees, plus some student research assistants. And then, again, our network of 130 plus research associates.

Our funding comes all the way from Federal Government down to private sector and individual donations. Like most university transportation centers, we have strong relationships and funding from US Department of Transportation. Both the UTC program through the office of the Secretary of Transportation, but also Federal

Railroad Administration, Federal Transit. We have a security focus at MTI, so we've had a longstanding partnership with the Department of Homeland Security. And then at the State we work with many different agencies. We work with our DOT Caltrans, California Air Resources Board, and then there's an interesting program related to that California State University transportation consortium I talked about called Senate Bill One which is state legislation I'll talk about in more detail. And then regional, we get funding from MPOs, transit agencies, city government.

We don't have a ton of private sector research grants, but we do have them, and we work on those. And then we're incredibly honored and fortunate we receive donations and sponsorships from public private sector individuals to MTI. Most of these funds are really used to support student scholarship and fellowships. And certainly, if any of you are interested, I'd love to give you more information about that at a later time.

One of the things that we really feel is important at MTI is making sure that our research is really providing value to the industry and to the agencies who are working on the ground on transportation problems. We understand that our faculty have certain requirements for promotion related to journal articles and conference presentations, and all those kinds of things, but we don't want our research to sit on the proverbial digital shelf and get dusty. We want our work to be used to influence policy to change practice, so all our projects will engage and work really closely with an industry or an agency partner. They will serve as an external advisor on the project. And the idea there is that, yes, we hope that by having them engaged throughout the process, work is more likely to get used and improve conditions for people in our country.

So how do we work with state agencies and state research partners? Well, there's kind of a lot of different models. Sometimes it depends on the agency we're working on. Sometimes it depends on the source of funding, you know. Sometimes it is simply a straight up, this is a project this is a single grant coming from the California Air Resources Board. Sometimes it's within a master contract that we might have a large-scale multi-year contract with, let's say, Caltrans, and we do task order projects under that.

It also depends a little bit on the timing and the research cycle. And so, I'm going to talk about a couple of different models. One of them, I'm using the phrase top down here, but not in any sort of negative connotation. It's just kind of my perspective. These are the projects that we do that really come from the agency to us.

The agency will give us a research need, Caltrans, for example, and then done. In fact, it was great to see Emily and Kevin's presentations because it aligns with this quite nicely. There is some kind of internal research that needs solicitation at Caltrans. For example, they take the research needs, they identify, well, which ones do we want to put out to the university, particularly in this case, through the master contract that we

might have. And then we will take those research needs, we'll incorporate them into a request for proposals that we will run typically on an annual basis. This is where we get to kind of that timing research cycle. And then, if the need comes to us off cycle, not with that annual RFP that we will do, we'll do a one-off proposal process. So, we'll do that research need, we will send it out to our research associates, have them develop proposals in response, and then work with the agency on selecting the appropriate team to move forward with. And then and then kind of on the flip side of that when I'm calling kind of the more bottom-up collaborative, this is a little bit more where we're working from the university and the research expertise, the research capabilities, the knowledge we have within the MTI family. And we're engaging and we're working back and forth with the agency to figure out, well what does this fit, could we, is this something that we could do with agency support? You know, how do we make this research happen?

And then there's a little bit more of what I'll call a hybrid approach. And a great example is CARB California Air Resources Board. They do, and it was interesting to see Emily and Kevin talk about this, well they do this broad solicitation. It goes out to nonprofits, to universities, to other collaborators in their network, where they're soliciting research ideas, and our folks at the university will often put forth research ideas. And then it comes up into CARB. CARB makes some decisions. They look for, was this a good fit with what we were doing and what our agency's priorities and goals are? And then, particularly through a program they have with I think it's the sustainable communities' strategies program, only University of California and CSU Cal State University faculty are eligible to compete for those projects. And so, they'll put them out. They'll solicit these short mini proposals, select a team, move forward on making a full-scale proposal.

And then, SB-1. This is that legislation that I have been alluding to. So back in 2017 the California State Legislature passed a new law, Road Repair and Accountability Act of 2017, which was aligned with an increase in the gas tax, vehicle registration fees, those kinds of things, and it brings in 5.4 billion dollars annually. Within that legislation they carved out 2-line items for university research. 5 million dollars annually goes to the UC ITS program. So, these are the 4 campuses at Berkeley, Davis, UCLA, and Irvine. And so those 4 campuses receive these 5 million dollars annually, and then 2 million dollars annually comes to the California State University system. We lead that program for the CSU. So, each year we will get research needs that come to us from the Legislature. There are 2 committees in particular we work very closely, the California State Senate Transportation Committee and the California State Assembly Transportation Committee. And they send us research needs. And then we also will solicit research needs from additional California stakeholders. This can be the

California Transportation Commission, CARB, Caltrans, you know, folks that have, you know, this vested interest in transportation research that focuses in California.

Then we run a competitive RFP across the 23 campuses of the CSU system. Only CSU faculty are eligible to serve as PIs on these projects. And then, MTI, what we will do is we will carve out 10% or so of the 2 million dollars a year for what we call rapid response. So, this is off cycle. This is when the State Senate Transportation Committee comes to us and says we have a really important research need right now. We can't wait until the next cycle for the annual RFP. Could we please see if we can get a research team working on this work for us? They tend to be smaller scale projects. They tend to be shorter timeline projects. Most of our other projects run on about a 1 year, 12 months. Some of these are what I'm calling rapid responses. They might be as short as 3 to 4 months, maybe 6 to 8, depending.

And then kind of my kind of takeaways from this from my perspective, and then also talking to colleagues that at the UC System, what works? What could be improved? We have something in California we call the Transportation Research Roundup Group, which I think is a really interesting entity collaboration group, and it has representatives from Caltrans, California Air Resources Board, Department of Housing and Community Development, the California Transportation Commission, Department of Energy, all kinds of State agencies that are engaged in or have an interest in transportation focused research, plus university representatives. So, I participate from the Cal State University system. I have colleagues from UCs and other universities, and we meet quarterly, and we talk about the research that we are all doing both university funded research, but also in house research being done at the agencies, work they're doing with consultants, basically, the entire spectrum of work kind of across these stakeholders that are focused on transportation. It's where we learn what others are doing. We have conversations about potential additional research needs or other opportunities. And I don't know if other States have it. I'm hoping they do. But I think it's a great program. I do think that when we, as faculty and university researchers, can work with our state partners on co-developing, collaborating to develop those research needs statements, I think we tend to end up, in my opinion with better projects and hopefully more value added for the state agencies.

And that kind of brings me down to the 3rd bullet point here. Sometimes, when those researchers research needs come to us and we haven't been involved, whether we are the team that's going to, you know, compete and submit a proposal or not. But just in having a conversation about the research needs and how to frame this the statement in a way that's going to be more "researchable" I think it tends to be a little bit more problematic. What we often will get, and I'm we'll get a research needs statement that comes to us from our agency partner. And it's telling us these are the tasks that you must do. These are the methods we want you to use. And our faculty researchers will

say, "but there's another way to do this" and what we'd love to see is maybe a little bit more prescriptive on some of those research needs statements. Let's focus on what that big picture problem is. Let's help frame that research question, because I think again, I think the projects probably end up a little bit better with more value added and sometimes things that that I think the agency may not even have thought of. And then I won't get into, because I am sure every single university and every single State agency will equally complain about contracting challenges. But it is certainly something that we see. I think one of the challenges I see is this research contracting is quite a bit different than procurement contracting. And there's often this central entity that reviews all the contracts for compliance for all the important things dotting I's, crossing t's, but sometimes there's kind of this disconnect between what the research process is and how the contract needs to be framed to get through the approval process.

I also think sometimes there's some interesting complexities with institutes of higher education that are very different from working with a consultant you know, students, academic calendars, you know, when we have to be thinking about recruiting students to work on a project, when students can't work, when faculty can or can't work. We're not set up like consulting firms. And so, our processes are quite different. And then kind of back on that, and it gets back to this idea of the difference between a research project and maybe something on procurement side of things. It is often incredibly difficult to predict every single step and outcome in the research process, and we're often asked to write that up in the contract, and probably one of my favorite examples, which was a personal one I had, I was working on a contract and you know, like most research projects, you know, we started, I think we were going to do a survey, and we knew that we needed to do a literature review and all those things to make sure that we were going to gather all the right information for the variables that we were going to put in our model. And so, I had task one as the Literature Review. But I knew that I was going to be going back and forth and that it was very likely that even when I got to the final stage of the process I was going to have to go back to the literature and the contracting powers that be are like, well, you can't go back and forth. You can only do this task during these dates using this percentage of the budget. And I'm like, but that's just not how we work. And it took a long time to get through that process. So just one example.

So, I want to wrap up because I know that we want to have time for questions. And that's my email address. Happy to talk more about this. I love all this stuff, and I love our agency partners that we work with.

## Closing Remarks on 3rd Presentation - Laurence Rilett:

Great. Thanks, Hilary.

### Q&A – Laurence Rilett:

So, we have some time for questions now and so I'm going to start. I know we had some in both the chat box and the Q&A. The 1st one is to Kevin.

#### Question 1 – Laurence Rilett

And the question is, strategy and innovation is very broad. How do you select members and ensure broad knowledge for that functional area committee?

#### Question 1 Answered – Kevin Pete

Hey, that's a really good question. And yes, yes it is very, very broad and it's something that, it's a very new subcommittee in itself to our overall research committees. There are various specific approaches to that committee in that all our other committees are looking near term for near term solutions. And that particular one is looking much further out and so they're investigating or intending to provide research that may be more related to data, right? How it might be leveraged or used in the future within the DOT. Some of the others may be more, some of the emerging technologies out there. How might we engage or leverage that for the DOT? And even with data like telematics, you know how that might be leveraged to benefit the DOT in performing some of the duties and maintenance of roads and things like that. And so, regarding the subject matter experts, it's a bit of a struggle, especially if we're involving you know, folks who are more readily to deal with things that are needed now, and that are problems that are occurring in their districts. It becomes a little bit of struggle there, but we do seek out folks who have a little bit of visionary approach too in their thought processes to include them in in the discussions along with the researchers who are coming in with the ideas to kind of help them understand where that particular topic or idea is leading to.

#### Question 2 – Laurence Rilett

Alright, thanks.

I put the next question to you, Emily. You have a unique background in that you've worked successfully in both academia and for a state transportation agency. What is the greatest misconception you have seen from both sides, e.g. academia viewing state government and vice versa? What do you think is needed to help bridge the gap?

### Question 2 Answered – Emily Parkany

Yeah, thank you for the question, and I think it's related to what Joe Hummer put in the chat of, you know that deans and department chairs, they're hiring AI experts, CAV experts like, you know, they want like the latest and greatest, you know, fun topic you know. In Vermont, you know electric vehicles and resilience is, is the is a very hot topic or hot topics. But you know what the State is willing to fund, you know, part of that is conservative, and part of that is, you know, that we want the practical projects. We don't want, you know, several things in the, you know, or yeah, the huge innovations that we're not sure how we're going to use, you know, tomorrow and to fix our processes or our specifications kind of thing.

So, there's that. But I've also like, been personally surprised, like I was hired because of my university background. And I can speak academic kind of thing, but it's been very easy to join the, you know, dark side and like, wait, we need to be practical. We need to, you know make sure that we're actually going to be using this and funding something that's not, you know, pie in the sky, but you know that that seems more tangible to us. So yeah, so thank you for the question. And it's and it's a great, you know, concept, or whatever. But I do have a question for Hillary if we have time, but I don't think we're going to have time.

### Question 3 – Laurence Rilett & Emily Parkany

Laurence Rilett: I think we have the time for one question.

Emily Parkany: So I mean, should I go ahead or?

Laurence Rilett: Yes, please.

Emily Parkany: So, I really liked what Hillary was talking about in terms of contracting. That could be maybe a whole other, you know, webinar. But I think there's contracting things on each side. But what I was interested in, what you said, Hilary, was that all of your projects have, you know, a state agency person of some sort, sort of, you know, pushing it and/or understanding what's going on. So that is not the case in Vermont. Like, obviously, when I fund the project, then they care about the state agency. When you know another, they have another funding source, it's, you know, I'm definitely thought of, you know, differently. Like even the like some of the University

Transportation Center, like there might be sort of a figurehead person from an agency there. But so, I'm wondering, like, yeah, are you talking about some kind of research person or like, are you getting a subject matter expert? And how do you get those subject matter experts on all of your projects?

### Question 3 – Answered – Hilary Nixon

Yeah. And I should clarify that the external advisor isn't always from a state agency. It depends on who has been the entity that is wanting to have the research done. So it might be from a state partner, but it could be from the American Public Transportation Association, or something like that. So having said that, yeah, these are the folks. They are, they are subject matter experts, or at least they have a really vested interest in seeing this research come to fruition, to following it along. They meet so they participate at a minimum in a kickoff meeting, quarterly meetings. They are, they will review the final draft report as well as we get external peer review as well. So, I think that the intent really is this more likelihood that that the stakeholder, the agency, for example, is getting the work that they want, and they will, the work will be beneficial. I should also say, we've got a pretty incredible board of trustees at Mineta Transportation Institute that involves both public and private sector entities. And so they get briefings twice a year, or on request, of the research that we have underway. So, they're also kind of participating in seeing how this research program develops, how the work is, is going to be more practical and useful for the industry. And I have comments on Joe's idea as well, but we can jump to another question. I don't want to talk too long.

### Closing Remarks: Question 3 – Emily Parkany

That's great and thank you for answering my question.

### Final Webinar Remarks – Laurence Rilett

So, I think, in the interest of time for everyone, I think we're going to end the webinar now. I noticed we did not get to some of the questions, but I'm going to ask the panelists to answer them, so that when we put out the transcript, we'll have the questions and the answers. So, you'll have access to that.

So, on behalf of Dr. Marwa Hassan and Dr. Curtis Bradley, our co-chairs of the committee, I want to thank everyone. Thank you for participating. We had over 120 registrations, I should say, and we had 60 people attend. So, thank you for taking some time out of your Friday to attend the webinar.

We're always looking for feedback, so if you want to provide some feedback on topics and those types of things, we would be very happy to get that. For those of you interested in PDHs, we'll be communicating that with the email that you used for the registration.

I wanted to talk about the upcoming webinars. The next one is going to be just discussing transportation centers and institutes, and how they compare to university transportation centers. Again, it's just more of a to get everyone up to speed on what these different acronyms mean and what they imply for doing research and communicating research. I'm happy to report that Greg Winfrey of Texas Transportation Institute has agreed to participate as a panelist in that webinar. We'll have one or 2 more folks as well.

The reason for doing that webinar is really going to the next one is that there will be a new USDOT UTC call for proposals, probably in the next 2 years and we wanted to go over some of the best practices for working with UTCs from a state DOT perspective. And that's from conception when the NOFO comes out, how do you work with them, all the way to implementing the work.

And then the 4th webinar, the 3rd one from now, will be leveraging your state research funding with Federal research programs. So those will be coming up. We'll be announcing the dates and times, but those will be in the New Year.

So, thank you for participating. I had really high expectations of the panelists, and they exceeded my expectations. So, thank you. I know it takes a lot of time from your busy schedules, but I think it was a very worthwhile webinar. And I wish everyone a safe and happy holiday, and we'll be sending out all the links probably within the week. So, thank you.

## Webinar Questions Answered by Panelists Post Webinar

### Question 1

For Hilary: What do you feel is (are) the greatest misconception(s) that academic researchers have regarding state transportation agencies and their research program? Are there any effective strategies for reducing or eliminating these misconceptions?

### Question 1 – Answered – Hilary Nixon

First, I think awareness of state transportation agency research programs and opportunities for faculty to engage varies considerably depending on the individual faculty member (and even by institution). I know from my own personal experience that most faculty I work with probably aren't aware of the array of opportunities or even how to engage beyond working directly through MTI and our existing partnership with Caltrans, for example. There are exceptions, of course. I actually think that webinars like this are a great resource. I know I learned quite a bit from listening to Kevin and Emily talk about the research programs at TxDOT and Vermont AOT. I certainly think we can do even more to share examples of how different state agency research programs operate and how faculty can engage with agencies in their state.