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DRIVING DOWN THE COST OF BUSES:  
HELPING TRANSIT AGENCIES GET MORE FOR THEIR MONEY

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WELCOMING REMARKS:

ADIE TOMER

Senior Fellow, Brookings Metro, The Brookings Institution

FRAMING REMARKS:

PAUL WEIDFELD

Former Maryland Secretary of Transportation

CONVERSATION WITH MODERATOR:

MODERATOR: REBECCA HIGGINS

Vice President of Policy, Eno Center for Transportation

THE HON. MAXWELL FROST (D-FLA.)

U.S. House of Representatives

PANEL:

MODERATOR: PHILIP PLOTCH

Principal Researcher and Senior Fellow, Eno Center for Transportation

LISA JERRAM

Senior Director of Bus Operations & New Vehicle Technologies, American Public Transportation Association

HOLLY ARNOLD

Administrator, Maryland Transit Administration

MICHAEL DORGAN

Policy Manager, Center for Transportation, and the Environment

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**TOMER:** Good to see you. Good morning, everyone. Hi, my name is Adie Tomer. I'm a senior fellow here at the Brookings Institution. And whether in person, in a, what is it? A packed house, actually. And or those streaming online, I really wanna thank you for taking the time to join us this morning. It's rare to find issues that lawmakers, agency officials, advocates, and researchers all recognize a common problem, but that's exactly where stakeholders are when it comes to infrastructure costs in America.

You'd be hard-pressed to go a week without seeing a story somewhere about why it's so expensive to build and operate American infrastructure, and a mix of old and new ideas on what to do about it. And that's exactly what we're here to talk about today, and tackling what may be the most humble workhorse in our transportation network, the bus. I'm gonna be really upfront. I love buses. I've loved them my whole life. I love everything about them. I love their flexibility to navigate every little corner of a region. I love the opportunity to sit next to your neighbors. I love the ease of getting on and off. And that's why the past year has really been a blast working with our colleagues at the Eno Center for Transportation and CALSTART to think about what it might take to build a stronger bus industry, specifically how industry structure, procurement practices, and more influence what it costs to deliver buses in America.

Nor are we alone in this effort. Peers at Brookings, the Institute for Progress, and federal lawmakers, to name just a few, have all released ideas on how to deliver even greater value from our transit bus networks, and that's why the timing of today's event feels just about right. We've got a great panel of experts to dive into details and debate alternatives. Congressman Maxwell Frost is here to give his thoughts on how Capitol Hill can weigh in. But I want to turn first to one of the true leaders in the space, Paul Wiedefeld. Paul's name won't be new to residents of the DC area. We're all living with the benefits and savvy investments that he made in WMATA.

He served as the Maryland secretary of transportation and the administrator of the Maryland Transit Administration. He's seen and done it all, and I can't think of a better person to kick off the program. Paul, the floor is yours.

**WIEDEFELD:** Good morning. And I still have the scars on my back to prove it from my days at Metro. I'd like to thank obviously the representative Maxwell Frost for joining us today. Thank you, sir. As he's

been a leader in efforts in Congress to make our transit systems more efficient, comfortable, and reliable. So thank you, Congressman, for all you've done in supporting the needs of transit riders really across the country. So thank you, sir.

And as the transit industry is facing a wide range of challenges today. The explosive growth of teleworking post-COVID and the convenience of alternative mobility options like Uber, Lyft, bike, or scooter are just a few of the, of the many challenges in our daily lives which, or many changes in our daily lives which have negatively impacted transit ridership. For example, as was mentioned when I served at Metro, before the pandemic, our rail ridership system had 182 million passenger trips a, a year. Last year, it had only 147 million. That's nearly a 20% decrease. At the same time, these major shifts in ridership demand have been occurring operating at capital costs at transit agencies have been rising dramatically. And understandably, transit agencies have been reluctant to raise fares for fear of losing more riders and placing greater financial burden on those in the community who could afford it the least.

That's what makes focusing on the driving expenses lower so important. New buses and rail cars are one of the largest expenses that transit agencies face on an annual and on a capital program basis, so we gotta make sure we're getting the most out of our investments. In the case of bus procurement, transit agencies across the country are dealing with a shrinking number of US companies that even build buses. Right now, we only have two major manufacturers, and in parts - and in the parts markets and in certain parts of the market, it's almost monopolized. I remember when there were a lot more US companies making buses like Eagle, National, Flexible, Navi, New Flyer, and many others.

The number of suppliers of these manufacturers is also shrinking. It's leaving transit agencies more vulnerable to price increases, supply chain disruptions, and the loss of technical support.

Compounding these issues of a limited number of US bus manufacturers is how transit agencies require their buses to be so extensively customized. I understand why transit agencies want their buses to have a certain look and feel, but Eno's research has found that transit agencies are customized nearly every aspect of a bus. That means manufacturers must constantly re-engineer their buses and manage more suppliers and more parts and more risk.

That leads to higher bus prices, quality issues, and longer delivery times. In a little while, we'll hear from some more of the highlights about the report from Eno and CALSTART released a few days ago that was with some concrete recommendations to strengthen the bus industry, bring down cost, and improve quality. So let me wrap up by thanking CALSTART for all their contributions for our work. The organization has been a national leader in advancing clean transportation technology, which you, I'm sure you're aware of. And also, obviously, we'd like to thank Brookings for all their help in our report and hosting this timely event. So now I'll turn it to Rebecca Higgins from Eno and Congressman Farias.

**HIGGINS:** Thank you for being here, Representative Frost. So you have been a leader in this space, Paul's mentioned. You've had a long interest in transit reform. You've really been banging specifically on the drum of rising costs of buses. And you have introduced the Transit, the Bipartisan Transit Bus Affordability Act that directs GAO to look at the costs, rising costs of bus procurement. Tell us a little bit about what motivates you in this issue and how did it get onto your radar?

**FROST:** Number one, thank you so much. It's so great to be here with everybody, and it's always been an interest of mine, and transit's one of the reason I, one of the reasons I decided to run for Congress in the first place. Growing up in Orlando, Florida, we know across the South we have very large transit issues and we're lagging very far behind a lot the rest of the country. And so it's something that's been top of mind for me, both transit and the housing affordability crisis. And so I, when I first got to Congress, I told my team I wanna try to leverage every kind of grant or funding opportunity that we can to help expand busing in Central Florida.

And for people who don't know, our local government decided to put a ballot initiative forward to add a penny tax in Central Florida that would create a dedicated funding source for transit. And it was a really big deal. It was a campaign I was a part of, and we fell short just by a little bit to get it passed. And it was a huge blow. It would've doubled busing in Central Florida. It would've helped us with a, a project called SunRail and Brightline, and really helped us in a big way. And unfortunate, because we do have something called TDT, which is our tourism development tax, which every time you go to Orlando, you pay six bucks a day per night in the hotel that you stay in.

And actually, our county government can't use that money for transit or housing because the state puts constraints on it. I think there's creative ways to unlock that money, but I'm not the mayor of Orange County. But either way and it was a really big blow. And so I wanted to figure out what could I do to leverage anything I could to bring back money for transit. And so the first thing we looked at is something called community project funding, which used to be called earmarks. It's a way for members of Congress to fund specific projects in their districts, parks, maybe a housing complex, something like that. And so I went to Lynx, which is our local busing agency or transit agency, and I sat down with the executive director and said, "I'd love to try to use a few of my community project funding slots to expand busing."

You can get anywhere from \$100,000 to \$5 million in each one of these slots. And then she said, "Yeah, I'd love to talk to you about how expensive it is to get a bus nowadays." And I was like, "Yeah, sure, few hundred thousand dollars, right? And, And she taught me. She showed me how expensive it was, and I was blown away. And that's when we kinda took off our... And when I figured out that it wasn't feasible to really use the CPF process to expand busing the way we wanted to, in part because buses have become so expensive, and then on top of that, the operational costs that come with it we kinda took off the grant hat on there and put on the, the legislating hat to figure out, all right how do we fix this problem that's happening across the entire country?"

But it was really my local transit agency that really taught me about some of the problems that we're facing outside of, we need more routes. We, the more general thing, and so that's one of the reasons why we put this forward.

**HIGGINS:** So tell me about the process then. You have this idea for legislating, and you actually have a bipartisan bill. You have a co-sponsor, Representative Turner, a Republican from Ohio. How do you talk about transit and bus costs in a way that resonates with Republicans or with the general public?

**FROST:** I think the main thing is, and with Representative Turner, him and I disagree on a lot of things, and, but it was figuring out and looking at people's different legislative records, looking at speeches they've given, and figuring out who makes sense here, right? Who makes sense to approach with this bill and with this idea? 'Cause at the end of the day, in my opinion, transit shouldn't be a partisan issue at all. We're just talking about workers getting to work students getting to school

having options where, seniors, people with disabilities can get to where they wanna go, and that's it, right? Wherever you live. And I think that should be available no matter how big your city is and no matter how small it is.

And he shares that. He shares that opinion with me, and so that's why we were able to move it forward. And, a big part of this is just, again, doing that research. And I always tell my team yeah, look at the speeches they've given on, on, T&I committee. Look at things that they've said, and let's figure out, is there a place of alignment here? A lot about legislating is tunnel vision and being able to lock in with someone on a very specific subject even if within the subject you disagree on the next step, right? Who knows? This is a study that's gonna help us move the ball forward and we'll kinda get to the next phase when we get there.

But this is really important 'cause it's gonna help us... It's gonna kinda arm us with the information that we need to help move our colleagues on bigger pieces of legislation to actually help bring down the cost of buses, and then hopefully with the eventual goal of expanding busing across the entire country. I think a big part of it is just... and sometimes it's trial and error. A lot of times you'll go through a few different colleagues and have conversations, and you can't quite get to where you wanna get to. But we're really excited about, this partnership that we have.

**HIGGINS:** I love the reminder that, of the importance of research in leading change as someone who works at a think tank.

**FROST:** So many people just go around and start having conversations with random people, which you can do. But I just... And sometimes I'll surprise some of my colleagues when I say, "Yeah, you, you said that one thing in your district in 2010, and I thought it was really interesting. You said this thing about busing." And they're like, "Oh you knew about that?" You know what I mean? Politicians love to be gasped up, believe it or not. I'm not saying it happened here, but the research is so important in being able to make the case.

**HIGGINS:** As it happens, I have a quote from something you mentioned on the T&I Committee. But for real. So at the member day hearing that T&I held T&I committee, of course, is the jurisdiction for the transit buses among other things. And you mentioned there are several contributing factors that, that lead to high costs for buses. One of them is the amount of customization, but there are other

things. There, the decline of the number of manufacturers that Paul mentioned, supply chain issues the low number of buses that are purchased in our nation every year. How do you think about prioritizing that when it comes to legislation? Where is the greatest opportunity?

**FROST:** It's looking at it holistically, and part of the purpose of this bill is to help give us a basis on what, what does it, what do the priorities look like, what should they look like? But it-- they're all contributing factors. There's not like one silver bullet here that'll fix it. The fact that over the last few decades, we've seen a drastic reduction in bus manufacturers is a huge part of it, right? When you don't have as much competition, it gives people the way to raise prices and prices go up, and that's part of the reason why we have six to 10 bus manufacturers for the entire country right now.

That's a problem. And so increasing competition is gonna be really important there. But then the other thing has to do with the proc-procurement process. And this is a pretty big deal. Essentially, we have our transit agencies making these kind of lumpy purchases and the kind of batch orders that are very random, highly customized and it's not set to really save money. And it's part of the reason why we're in the situation we're in. Now, we can't put all the blame on them because part of the thing they're dealing with is the fact that they have no money. Oh, sorry, there's like a big bug. That they have no money, right? And part of the problem with transit federal grants is a lot of times these are not formula grants, they're competitive grants.

And so it makes it, it puts in a situation where they're not sure what things are gonna look like over the next few years. And so it's hard to, it's hard to make a coordinated plan on procurement when you don't know what your funding is gonna look like a year or two from now, and that's a problem too. So it's not just, it's not just, oh they're, they're not being intelligent in the way that they do it, but it's, what can the federal government do to incentivize our transit agencies and authorities to batch together, to make purchases, and to have a, a little bit of a longer runway here in their planning.

And a big part of that is funding too, which I know you're gonna ask a question about later. A big part of that is funding and the commitment our country makes financially to provide that stability as well. Oftentimes we see, throwing money at a problem as, trying to buy more things or this and that. It's not just that. It's also about providing stability and giving our transit authorities or agencies or whatever it is, the ability to plan ahead. And that's critical, especially in transit.

**HIGGINS:** One of the interesting findings for me in our report was not only are the buses becoming more customized over time, but they're also becoming more complicated. They have a lot of new technology being added. There are different choices in propulsion. A-and many of these are real important goals that they're achieving. We want to improve real-time information for customers. It makes it easier for a bus rider to know when the bus is gonna come. Enhancing the customer experience, driver safety, fare evasion, emission reduction. Those are all really important goals, but they also increase the cost per bus. So how do you think about how balancing those goals of providing more service with more buses versus providing a better bus?

**FROST:** Yeah. I don't see these as competing goals. I think it's all about priority and figuring out what makes sense. And I think we really have to take many steps back and look at what's the purpose, right? The purpose is safety and mobility, right? And so we don't wanna sacrifice any important safety features, especially nowadays. The more safety features you have, especially in a lot of cars that you buy. You can't buy a new car nowadays without it. It will not let you crash, okay? And I think it's important, but I think a lot of this has to do with the steps of the procurement process, and at what point in that process are we talking about customization or safety features or this and that, or the look and feel of the bus.

And I don't see these as, as competing things. And my hope is that we get to a place where when we make big orders and we make big batch orders we're looking at safety, but we're looking at a vehicle that will get you from point A to point B and be reliable and be safe. And then there's a step after that, that we can look at the highly customized features. Yeah. But you're right. Looking at that at the first phase is part of what's driving up the cost. And I get it.

Everyone wants the bells and whistles and all the new things. Number one, you'd be surprised with...you'd be surprised that a lot of times these things are added, but at the end of the day, the person just wants to get to the to work on time. And it's great but the trade-off is important. And I think being public and having these conversations is an important part of that trade-off as well. But you're a 100% right, and this is also part of the reason why the buses are costing a lot more just all these highly customized features and everything.

**HIGGINS:** So you mentioned that I was gonna ask about funding, so I'm gonna go ahead and do it. Like, how much would some of these challenges be solved if we were providing more money, not only per bus, but also total for transit, so to increase total numbers of buses being ordered every year?

**FROST:** A lot of them. Yeah. And, but I wanna be clear, it's not just the... it's a worthwhile endeavor to work to bring down the cost of buses, right? Because, and this is, it goes back to my conversation with Turner as well, is this is a government waste problem, right? This is our taxpayer dollars. We wanna make sure it's being used in an effective way, and we wanna bring down costs. It's very similar to the conversation we're having in healthcare right now. So it's not just that we need more money because we need to deal with the fact that everything costs more. We wanna bring down costs, and we need more funding so that way the transit authorities can have an outlook where they can actually make plans and develop bus networks and develop routes that can get people where they wanna go, when they wanna get there.

And, the sad part about it, and especially in my community, is busing ends up being the be- end of a joke because if you wanna go, what would take you 25 minutes in your car, 20 minutes in your car, it will take you two hours and three transfers, right? And part of the reason we're in this situation is because we haven't had adequate funding for busing. And we have to... and again I care a lot about busing. I care a lot about rail. All of this is a holistic system that should be set to bring our people where and when they n- where they need to get, when they need to get there. And the funding source is a really big piece of this. And another problem is it looks different in every state, and this is part of the reason why we I think we need a little bit more federal leadership on it.

**HIGGINS:** So I wanna get to audience questions. Let me just ask one final question, and then we'll turn to that. I know that your bill is for a study, and there are still questions that you're looking for answers on. But looking down the road do you feel like there is a, an agency or entity that would be well positioned to set a standard or to help reduce customization? Or what does that look like, do you think?

**FROST:** I'm not sure just yet exactly what federal agency should take this, but what I'll tell you is whatever we end up doing, we need to make sure it's a mandate that's funded and that has teeth to it, and that's actually able to see it through. And this is part of the problem is we need the study. Okay,

we're gonna get the study. We do the study, and then we end up having all these other steps that aren't well-funded, don't really have teeth to it, and you get to a place where a decade from now we're in the same problem, it's a lot worse. And people will point to our kind of failure to move it forward as a reason to let go to give up.

And I get it. Our country's dealing with a lot of different issues right now but getting to where you need to go is at the core of a great society and American life, and it should be no matter where you live. You shouldn't have to live in New York City to feel like you can take the bus to go somewhere. You should in the smallest of towns and the biggest of towns. And so I think that's more part of it. But there's something I missed that I want to make sure I touch on in the funding part, and it's also the fact that it's not just the procurement of the buses, but think costs are going up everywhere.

And with the high cost of living, staff, bus drivers, right? Being able to hire people and pay them a livable wage in this country, it's more expensive now, right? And not just that, but also the fact that these buses are computers now, like they're computers on wheels. And there's more and more instances where agencies are having to do subscriptions or having to essentially have to go in and do software updates and this and that. And what it... It makes it so that way when you buy the bus, the cost of that bus doesn't just stop there. It continues. There's rolling costs, there's recurring costs and operating costs, and those are also on the rise as technology's going up, and all of this just costs a lot more, and it's part of the reason why we need more funding and adequate funding.

**HIGGINS:** Yeah. I certainly agree with that. Are there questions in the audience? Yes, in the third row here, there's a...Just wait a second. It's on. Yep

**AUDIENCE MEMBER:** Is it a green button or green light? How about now? Great. Brian O'Malley, Central Maryland Transportation Alliance based in Baltimore. There's a saying I've heard in transportation that system preservation gives you two choices: You can pay now or you can pay more later. How much of the high cost of buses that, that transit agencies are struggling with is the consequence of opting not to pay now, and we consistently defer system preservation in our transit systems, and so we're, our budgets are strapped because we're facing the consequences of having to pay more later?

**FROST:** I think I think it's a big part of the problem, but I don't wanna just say that it's, the local agency's fault or this and that. Again, we know that busing has been strapped for resources for a long time and it's really not a new problem that we don't have the resources we need across the country. And so people are gonna be forced to make those decisions on whether or not they're making investments now that will help them save money and resources in the long term versus kicking the can down the road. And obviously that compiled with the high cost of the buses themselves and this and that has compiled to where we have this kind of emergency for the system across the entire country.

But I tend to, I really think a lot of the problems stem in Washington DC in the way that we put our funding forward. Part of the problems, part of one of my issues with surface transportation reauthorization moving through is we're still stuck in this like antiquated, dogmatic way of looking at transit funding with highway gas tax trust fund. And we're gonna have the same issues as we continue down the road. So I try not to put a lot of the, the blame here on like local decisions 'cause I realize... Not that, there couldn't be better decisions made, but I realize that this is a system-wide problem and not as much of a local problem, if that makes sense.

**HIGGINS:** In the blue shirt.

**FROST:** And that's why we're doing the legislation, by the way. When I first got here, which wasn't a ton of long time ago, but I'm in my fourth year. When I'd bring up transit and even housing, a lot of members would say, "Yeah, like we don't real- we don't do much on that. Th- those are local issues." Now look at it. Now people are demanding federal leadership on housing, and I think we're seeing that bubble up on federal leadership on transit as well.

**AUDIENCE MEMBER:** Yes, hello. My name is Prab. I actually do real estate development and I'm actually doing a transit system in Greenville, Mississippi. Very Delta area. So my question is, sir, more towards compact buses. As when I travel by buses in DC sometimes, I see a lot of empty seats. That doesn't do any favor to our gas supplies, as so why isn't there discussion to having large buses and also a little bit compact buses? Because if you have empty seats that I said that doesn't do help the environment. Why isn't there discussion of having smaller buses as well at certain times?

**FROST:** Okay. Yeah. I think that is a discussion that's going on and this is also gonna be part of the GAO study that we have is it's not just about... it's about how do we bring down the cost of busing, but it's also gonna help us, help inform us on how we can incentivize better purchasing and that could include the size of the buses and probably will include the size of the buses. But of course, it also depends on the routes, right? And ridership and a bunch of numbers that can be hyper-localized.

But I think what we'll find is that there's patterns and trends across the entire country that can help us on the sorry, that can help us on the procurement process. So I think it is part of the conversation. It's an important part of the conversation. We actually... I just brought back, and like I said, we wanted to use our community project funding grants to expand busing and even though we didn't do it to buy buses, we've done it to help with bus infrastructure, whether it's, helping with bus shelters or what we've been doing is our links, which is our local busing agency, has decided to up the number of the double wide buses that we have for the longer buses.

And so we've gotten, we've brought them back a few million dollars to help expand the bays because we were having a lot of issues where the bus would essentially be half on the train track while it was, And then you have the train doing some kind of shunting maneuver every hour and then it creates a big issue. So either way I think it is part of the conversation and hopefully this study will- Yeah ... will touch on that as well.

**HIGGINS:** Or maybe we'll be customizing bus length then. Which would be the opposite...

**FROST:** Bus length and what's in the bus, yeah.

**HIGGINS:** Yes. I think right in front of the prior questioner.

**AUDIENCE MEMBER:** Good morning. I like your busing, buses distinction. I think that's very helpful in thinking about this. My name's Larry Hanna, and I'm an avid supporter of public transit here in DC, especially buses. Now my question, let me set it up a little bit here. We see missing buses from time to time and a, a message from of WMATA, and it always says one thing, "We're short of drivers, not buses." So that leads me to a, just a factual question so I can get this straight in my mind. If we do a proper costing of the cost of the bus versus, my crude estimate is it's about half a million bucks of non-capital costs to operate a bus per year. That's about four salaries or something like that. What,

what share of the total properly amortized capital costs and operating costs actually can be attributed to the capital cost of the bus?

**FROST:** I'm not sure exactly what the proportion would be, but you bring up a real, a really important problem, and we don't even just see it in kind of municipal busing, but you also see it in school busing. And it's actually a big problem in my district as well. We have a huge short of shortage of bus drivers, and actually what they've seen is that they'll come into the school district, get trained, get the get the CDL, and then go work for Disney or go work for a different organization doing the same job because they're getting paid more.

And this goes back to the funding issue, not just on the, on schools, but also on, transit agencies as well, and again, they're strapped for cash and that's why the bus, the cost of the bus itself is one part of a bigger problem here. But the staffing is really important, and you're 100% right. And so anything we can do to push for more funding is important because the cost of living is going up. Everything is more expensive, and it puts people in a position where you're seeing a lot of bus drivers, they might enter with an agency, they might enter with a school district, but they might not stay for long because they need more money to pay for their life. So yeah.

**HIGGINS:** And of course, many federal grant many agencies face limitations on their use of the federal funds for the operating costs.

**FROST:** Oh yeah, This is--exactly. Most of the federal grants, and this is a conversation I've had with Lynx locally, they can't use for operating costs. It's for capital costs. It's the do this. It's the acquire land. It's this and that. And it creates an issue where they can't, again, have that outlook on how much operating dollars they'll have to hire more people because the more routes you add or even when you change routes or you re- rework things you could be looking at upping your operating budget by a lot.

**HIGGINS:** Yeah. I think we have time for one more question. Is that right? Yeah. Okay. Thank you.

**AUDIENCE MEMBER:** Hi. Sean Cunningham with HDR. Thank you for your leadership, Congressman. A question about your bill/study, and it goes back to your color of money or at least funding source question and the customization issue. Other running transit joke is that transit companies used to be bus companies with a technology problem. They're now technology companies

with a transit problem, and that color of money issue does feed into the increased capital cost of the bus acquisition because we're now stacking 10, 12, 13, 14, 15 different tech systems on these vehicles.

Why do we do that? Because capital is easier to source than operating. Whereas the tech sector can provide those things at much lower cost, but it's an operating cost that transit agencies can't get to easily and sustain. So I'm wondering whether your bill addresses the color of money issue and whether or not there are ways to make that first cost acquisition much lower by moving the technology into a fundable entity that's, whether it's subscription-based or license-based, whatever it is. It's not buying servers and computers and IT staff, and instead of licensing that over time.

**FROST:** Yeah. Thank you. This is really important. Our study and the direction we give GAO is to look at things from A to Z, right? And we wanna look at every point in the procurement process, and we also wanna ascertain whether or not there-- we should not just view it as buying a bus, right? In, in one fell swoop, but are there different segments of this process? And do we need to segment it out? And does that help us and help agencies band together to save money on buying buses? And so the answer is yes. And the good thing about this too is whenever Congress receives a study from GAO, if there's more information that we want or if there's more color that we, more color that we want to a very specific subject, we're able to get that, and we're able to push for that as well. So I appreciate you bringing that up. It's actually something I hadn't thought about exactly, but we'll talk about it because I think that's important.

**HIGGINS:** Yeah. Congressman Frost, it is a pleasure to talk with a public servant who's so willing to get into the details on these important programs, so thank you for your service and thanks for being here today.

**FROST:** Thank you. Thank you, everybody. Have a good day.

**PLOTCH:** That was one very impressive congressman. So if you want to buy a car, you don't walk into a dealer and say, "I'd like this model, but can you make a few changes? Can you start swapping out this air conditioning unit and move some seats and change the window frames?" You'd imagine if the car companies did that, they'd have to hire a lot more engineers, they'd have to stock a lot more parts, and after they customize one part of the car, they'd have to test it and then make sure the

whole car continues to work the way it's supposed to. You're gonna end up paying a lot more, you're gonna wait a long time for that car to get delivered, and it's much more likely to have quality issues. That's what's happening in the bus industry right now. Agencies are customizing literally 1,000 different things on a bus. So there's some good reasons why agencies customize buses.

So if you're in San Francisco, you need a more powerful engine because of the hills. Agencies like their buses to be similar to their other buses. That makes sense because they save money on maintenance and training and stocking supplies. Agencies also want their operators to be happy. That's important 'cause if morale is low, it's gonna affect service, and it's gonna affect how the drivers op- interact with their customers. The trouble is when agencies are making these individual choices, it imposes major costs on the whole industry as a whole. So our research team, that's Cal START, Eno Center for Transportation, and Brookings, have put together a set of practical recommendations to address these issues, to bring costs down, improve quality, and speed up the d- delivery of buses. Our recommendations build upon two important resources. States, first of all, can enter into contracts with multiple bus operators, and then any transit agency in the country can use those contracts to purchase a bus. That's called a state schedule. The second resource is known as the White Book, and that's prepared by the American Public Transportation Association, APTA and it has standard language for bus specifications as well as contract language. So the report that we just released a few days ago has several categories of recommendations, and they're designed to work together.

So they include transparency, education, and disclosure recommendations. For example, if an agency uses federal money to buy its buses, we think it should be required to justify why it's departing from standard practices, and it should also share its procurement documents. This would allow other agencies to make much more informed decisions. And the FTA, that's the Federal Transit Administration, needs to provide incentives for the transit agencies who help develop the standards, who use the white book, and who use these state contracts.

And now I'm delighted that we have three great panel members. We have Holly Arnold from the MTA in Maryland. We have Lisa Jerram from APTA, the American Public Transportation Association, and Michael Dorgan from the Center for Transportation and the Environment. After they introduce themselves, we'll talk for a few minutes, and then we'll open it up to questions from you. Thanks. All right. Thank you very much.

**JERRAM:** Appreciate it, Phil, and appreciate, Brookings for having us here. This is on, right? Yeah. Okay, good. Thank you. All right. Yeah, I'm Lisa Jerram, I am with the American Public Transportation Association, APTA. We're an association. We're based here in DC. We're advocates for transit and we represent the interests of our members which are transit agencies all across the US, Canada, actually, and some outside North America. Small, medium, large agencies, and they run all kinds of service: bus, rail, commuter rail, you name it. I'm just gonna briefly give you a little bit about what our particular work here at APTA is that has been touching on this issue. I won't go on too long, I promise, Phil. But just to give a little bit of an idea of where we're coming from honestly the challenges of the bus industry, the overall health of the industry that what Paul talked about, the, reduced number of manufacturers, all that, is something that has really galvanized our members.

Over the past three, four years, we've had two task forces put together on bus manufacturing, and that's been transit agencies, and it's been the manufacturers and the suppliers. And I should have said earlier, our members include all of those businesses that are supporting the transit industry. It's not just the agencies, it's all those businesses. Anyway, so they came together, and it's not an easy thing for them to do, to come together and agree how can we help alleviate some of these challenges that are being faced by the bus manufacturing industry, and we're using, I'm gonna use the word procurement to do that.

How can we update, modernize our procurement practices to help? And there were two major areas we focused on. A lot of it was sort of contract terms stuff, which I won't go into the weeds on now, but that's a big part of this conversation. And then part of it is on customization, again, streamlining how we procure buses, streamlining the specifications that we use. So that's a very high level of some of what we've done, and I'll be happy to have this conversation about what we think maybe should happen next.

**ARNOLD:** All right. Hi, I'm Holly Arnold. I'm the administrator at the Maryland Transit Administration. I'm happy to provide the agency perspective here on the panel. So the Maryland Transit Administration operates in the Baltimore region, our core bus system, a metro subway system, light rail, and then statewide we provide commuter bus and commuter rail, so we have six modes that we operate. We also provide technical support and assistance to the locally operated systems that operate in every county throughout Maryland.

They're all bus systems a big focus on buses considering 80% of our ridership is on our bus system. We have an 800-bus fleet that moves a ton of people every single day. And out of our bus ridership, about 80% of those people don't have access to a car. So the importance of getting it right and making it work is really critical for us, and so we've been very heavily involved in the APTA Work and participated in this study. And as we think about our buses and how we can save money on buses, right? Like buying more buses, having more reliable buses makes such a huge difference to our riders. And we are operating in a constrained budget environment, just like most transit agencies around the country. So I'm looking forward to this discussion. I want to, thank Eno and thank Brookings for having me.

**DORGAN:** Awesome. And I am Michael Dorgan. I am with the Center for Transportation and the Environment. Also, a big thank you to Eno and to Brookings. I'm excited to, to chat about this topic on the panel. A little bit of background about CTE and what we do. We are a 501[c][3] transportation planning nonprofit, so we're mostly engineers. I'm not an engineer, so don't ask me anything too technical. But we support fleets around the country who are looking to transition to advanced zero-emission technologies.

So most of our work is in public transit. We've assisted about 125 transit agencies around the country, deployed almost 1,400 zero-emission buses since 1993. We've also managed more than 50 transition plans. We've assisted with the planning process before a bus even gets anywhere close to the road. We've also established some deployment best practices and planning guidebooks for the industry. We've established ourselves as kind of a, a resource to transit agencies to help them more efficiently deploy vehicles. We are focused on the zero-emission bus space, but we believe that there's lessons to be learned in the zero-emission space that could be applied to the bus industry generally.

Zero-emission space is a little bit smaller and as we see the bus market contract with fewer and fewer suppliers, as a couple of our speakers have mentioned some of the lessons from the smaller market are definitely going to be applicable to the whole industry sooner rather than later. So excited to be here, and I'll toss it back to Phil.

**PLOTCH:** An important element, I think, of what the, we heard from the Congressman is what is that federal role? It's easy to ask Congress for more money, right? The, and we can all agree that transit

needs more money. But are there other things that you think it's important for the federal government to keep in mind when we think about encouraging more people to use transit, when we think about maybe reducing some of the regulations that transit agencies are making it easier to build buses in the United States and get buses cheaper? So there are a lot of things there. So let, why don't we start with Holly, thinking about the federal role can help your agency.

**ARNOLD:** Yeah, the number one thing that we hear from bus riders or riders in general that they want is frequency, right? Frequency, reliability. I want a bus that comes every 10 minutes or less. It makes such a huge difference in people's lives when they don't have to plan around a schedule. So I know you said no more money, but money really makes a big difference in terms of being able to improve that frequency. And in, in terms of, I came up last time, operating funds being able to use federal funds for operating makes a big difference, a lot of discussion in the industry around, around that, and I think one area that can help.

But tied specifically to this topic, I mentioned frequency and reliability being able to buy buses for cheaper means that I have more buses out on the street every single day. It means that I can buy them on a regular cadence, and we're not stretching a 12-year bus into 14, 16, 18 years and they're not breaking down. I think the working with the federal government to have that kind of stable funding, the stable sources of funding year over year so that we can have those plans, we can do long-term procurements. When we do a... We buy 70 buses per year. So if I do a procurement for 70 buses, the pricing that I'm getting is not nearly as good as if the procurement that I do for, 500 buses for five years.

So it makes a big difference there. And so the stability of funding is really critical. I think the, the conversation that we're having here in terms of the customization versus standardization is really critical, and, the report talks a little bit about, carrots and sticks, and we've been heavily involved working towards how do we reduce the customization that we've done on our buses, and we're definitely interested in support from the federal government to do that.

I think one of the things that is really critical to think about is if we do move to a standardized bus or a regionally standardized bus, that's one that I keep coming back to, is the needs that we have here in Baltimore are very different than the needs that exist in Florida, right? In terms of the, the types of

buses that you need. There needs to be funding and thought during that transition period. Right now we are operating six different types of buses, and so that means six different supply chains. That means six different parts manufacturers that we have to work with. That means operators have to be trained on six different types of buses.

It is a lot, and it adds a lot of complexity, and there's cost with that. And as we're thinking about transition and working towards that, I think the industry needs to be part of that discussion and leading that discussion, and consideration of the cost during that transition, I think will be really helpful to get agencies on board towards something like that.

**DORGAN:** Yeah, and I think just building on that, some of these ridership experience factors that you're talking about, like predictability involve customization. In order to, have a, an app that tells you when the bus is going to be and where, you need it to be customized to work with that information technology system. And so I think unfortunately I'm also coming back to money. But I do feel like some of these customizations are necessary for the ridership to grow, right? I think there's customizations that are over the top, and then there's customizations that do improve the ridership experience. So I think walking that line is going to be the challenge for the industry in the next couple of years. But I do think it's important to point out that some of those customizations do improve rider experience.

**PLOTCH:** So Elissa, just going back to the question, it was I'm sure APTA's given a lot of thought to what the federal government can do and what it can't do. Absolutely. And as we all know that the federal government is looking to reauthorize the Surface Transportation Law for six years. Yes. Yes.

**JERRAM:** Yeah. All right. I will tell you, I will not go into everything we would say about the Surface Transportation Bill. I would honestly recommend if everyone wants to go to [apta.com](http://apta.com) We have a lot of information there about what we think APTA thinks is important for reauthorization, and it's, it ranges across. Funding is an issue, of course it is. And I think to Holly's point, and also what Representative Frost said some of it is the long-term consistency of it, too. So there's appropriate levels of funding, but then there's also if agencies know that this funding is gonna be there, and they can make those kind of long-term plans because as we talk about, you talk about in your report just to get back specifically to the bus buying the bus procurement issue, it can take a really long time now to

purchase buses, right? It's a very long process, longer than it used to be, like 24 months, maybe it could be even longer than that. So you really want to have, I think, that stability. I think that's quite important as part of the process.

**PLOTCH:** Okay. Michael, you mentioned that you've worked with lots of different transit agencies, and you learned something that applicable to, to us here. Do you want to explain what you were about to say there?

**DORGAN:** Sure, sure. Yeah. Thinking a little bit, but in my previous role I was grant writer, so I wrote a lot of grant applications for federal funding for transit buses with transit agencies all over the country, and the predominant program that we were targeting was FTA's Low and No Emissions Vehicle Program. Jumping back to what Congressman Frost said this throwing money at a problem doesn't always solve it, but it does represent a lever, right? It's a way for the government to attach some strings and encourage transit agencies to think twice about some of these customizations.

So when transit agencies are considering what bus do I build right now, what bus do I order right now adding provisions into competitive grants can be very useful to stop them, encourage them to think twice. And I think we saw this in the Biden administration. There was an implementation of new, new provisions to reduce customization. So there were new elements in the low-no grant that essentially encouraged agencies to think about joint procurement or think about think about buying off a state contract. However there wasn't a lot of transparency into how those choices would impact the success of their application. It just bas- essentially was a box you checked yes or no, you were going to pursue a joint procurement, or you weren't going to pursue a joint procurement.

And I think some increased transparency from the federal government there could be really beneficial. If agencies, said, "Okay, it's 100-point scale and this gets us an extra five points," that's something tangible that they can really do the calculus on instead of being like, "This might help, maybe." I think in that case, they might say I'd rather keep my bus looking consistent. I'd rather be able to use the stockpiled parts that I have," versus, thinking about making a big operational change for the agency for the potential of an improved of an improved application outcome.

**PLOTCH:** So buses are changing really fast. I have a 2025 car, and I have a 2015 car, and it's shocking to me all the changes when I get into them, right? Safety and information and just everything

seems to be changing. So I'm curious, is there anything exciting about the new buses that you see that you think are gonna be changing operations or changing costs or any Holly's nodding her up and down. I see Lisa smiling.

**JERRAM:** But it's mentioned already, there's a lot of technology on buses. And again, I would look to Holly to talk about this really specifically, like how it helps improve service, improve the customer experience improve the reliability of the buses. But anyway having said that, that is one of the, you know, issues that we're talking about here is like what's causing the rising cost of buses?

And I do wanna make the point there's a lot of different factors that go into that including the overall economic environment, inflation, regulatory things and also, genuinely the technology's improving. And you talk about the, the cars, I'm pretty sure that a Honda does cost more today than it cost whatever it was, I don't know, 10 years ago, but also it's got a lot more stuff on it. I, there's definitely technology that I think is gonna, again, help provide better service, provide better information to the passengers. We just kinda keep in mind that brings cost with it.

**PLOTCH:** Yeah. Holly?

**ARNOLD:** No, I actually wanted to... and I think you said something earlier in terms of the technology, and sometimes that customization actually helps with rider experience, and I agree. And I think one of the things that we're piloting and are excited about is trying to move away from some of our older proprietary software towards more open source architecture requiring cross-platform integration. So one of the things we're doing right now, like our CAD/AVL system ties into our scheduling system and provides that vehicle location information so riders can see in real time where the buses are.

There's GPS units that can do that and tie into open source software that we have separate from the CAD/AVL system. And so as we look going forward, we are looking to go out to the market for a new CAD/AVL system or potentially even changing how we're doing that, and our requirements are going to be open architecture. It has to have cl- cross-platform integration. Those are the things right now when riders get really frustrated with a ghost bus or the why isn't real time working, and it's because of that proprietary system that we're locked into. And so I think the customer enhancements and the improvements that we're gonna see going forward are the changes in technology. Some of these new

vendors that are more open to open source and are more flexible in a way that some of our legacy vendors haven't been.

**PLOTCH:** And Michael, have you seen a lot of technologies you're excited about or concerned about?

**DORGAN:** Yeah. So in the zero emission space and thinking more about propulsion systems as a new technology, I think we're seeing developments in batteries, buses are getting lighter, buses are charging more quickly. We're seeing fewer safety incidents. We're seeing things like hydrogen fuel cell buses really take off. So we have all these new propulsion systems entering the market, which is going to create essentially like a mixed national fleet. We're not gonna have all the buses running on the same propulsion system.

So that's exciting, but it also presents some new challenges, and so I think allowing for research like Congressman Frost suggested, but also there's some other programs, CTE co-manages the TVIDC program, Transit Vehicle Innovation Deployment Centers so we work with CALSTART to research kind of some of these questions about how new propulsion technologies will be rolled out and how agencies can work with them to, maintain their level of service and improve their level of service while modernizing.

So I think, These new technologies are super exciting, but it's really important that we not only research and prepare, but we create funds to plan for their rollout, and we don't just kinda dive in headfirst because that can create some of these negative anecdotes about the new technology that prevent other agencies from taking it on later.

**PLOTCH:** Yeah. Let me open it up now to questions from the audience. If anybody has a question, just raise your hand. Okay, I see all the way in the back row.

**AUDIENCE MEMBER:** Hello everyone, Jared Schnader with CALSTART, and I do have a question for the panel. One of the issues that we saw in this report was trying to get consistent data. So I'm wondering if the panelists would speak about the willingness of actually standardizing how pricing data is collected and reported to the FTA.

**PLOTCH:** Why don't we start with Lisa on that one?

**JERRAM:** All right. I absolutely think having better information is good. I'm not gonna speak specifically, I'm not really sure on some of the details of how that all would work, but I will say honestly, I, one of the recommendations that you have, I think not sure it's exactly what Jared's talking about, but is around transparency, and maybe it is. I, I do think it's really important, it would help agencies a lot to understand what are the implications, what are the cost implications when they put together a spec for a bus and they deviate, if you will, from a standard bus.

There... And it's hard to talk about this in simplified terms because there's no single standard bus, which we all, know. But in any case, if you deviate, what are, what's the implications for that cost-wise? And I think it absolutely, that's something we would like to do with our white book, which is that sort of template that Phil mentioned that agencies use to create their RFPs, have more along those lines. And then the agency can make a good and informed decision. And they might say "This is actually an important element, and we need that element, and we understand the costs, and we think we need to pay that cost." Or they might realize this actually is not that important, the value to us isn't sufficient for whatever the cost is. So I, in general, 100%, I think better transparency around that is a great idea.

**ARNOLD:** Yeah, and I will definitely echo that. Our team has been working really hard over the past couple years to reduce our customization. And I want to note too, the relationships with vendors, which did come up in the report as well. So we for the longest time, and there's may, two vendors who, New Flyer was the only one who bid on our buses. And so we've been able to work over the past couple of years, and Gillig is willing to work with us. That is relationships. That is a relationship that we've built. And one of the things that they have done that's really fantastic is they will tell us "Hey, you're thinking about this. No one else in the industry is doing it, and it's not adding you any value." And my team is open to that, and I've pushed them really hard. I do want to brag on our team a little bit.

I, I, couple of years ago I said, "We are only customizing where it gives us measurable value. If it doesn't give us value, we're not doing it." And so we have reduced the cost of our bus by about \$17,000 per bus. That doesn't sound like a lot, but then you add 70 buses per year, that is \$1.2 million

per year that can go back into the rest of the system, back into more buses, more state of good repair and we're continuing to look and see where those options are. And so yeah, in terms of transparency, I know our agency's definitely there and willing to have those conversations. I think it's complex, right? What we're putting in there is, is definitely different, but I, I think will help the industry. And again, I think those conversations with industry have helped us to really think about the decisions that we're making.

**PLOTCH:** Yeah. Michael?

**DORGAN:** Yeah. And I think conversations about data sharing should involve the OEM, should involve New Flyer, should involve Gillig because they, they are the ones who are, managing those data collection devices, but they also have insight from deployments all across the country where they can speak to some regional variations and things that we've talked about here. So getting them involved and having all the people at the table, this is a diffuse- problem, right? The agencies are involved, APTA's involved, FTA is involved, the OEMs are involved, nonprofits are involved. Everybody needs to get together and pool our knowledge because if we silo, there's gonna be an issue at the end of the day.

**PLOTCH:** Okay. Second row here

**AUDIENCE MEMBER:** Hi Bill Pugh, with the Coalition for Smarter Growth, and we work in the DMV area promoting transit-friendly, walkable, housing-rich communities. We had a major regional transit funding and needs assessment DMV Moves, and one of the recommendations was to try to do more joint procurement around things like, buses might be one. We have about a dozen agencies that run bus transit. And wondering if there are lessons learned from the study for regions that wanna coordinate this among providers, if there are places that are doing it well, And any other things that can help a place like this where you have its transit rich, but there's also a lot of cooks in the kitchen for, sometimes for good reasons, but also we can, probably streamline things too.

**PLOTCH:** Yeah. I think we have one of the best chefs in the region here at the end.

**ARNOLD:** Yeah, no, our team was involved in DMV Moves. One of the things that we actually do here in the state I mentioned the locally operated system. So every county has their own bus system

here in Maryland, and MTA manages the procurements for that. So all of it comes through us. It's all kind of one specification. It definitely helps with some of the costs, and a lot of the smaller agencies don't necessarily have the procurement expertise to do that, so we're taking that on. I also want to note the, the procure-- the report talks a lot about the state contracts and the Washington State contract in particular.

We have used that extensively highly recommend the ability to use the state contracts. We're buying now off of the Florida contract. And it, again, it saves us time, energy, and effort from doing our own procurement and is a lot faster from what we've seen. So I think definitely some lessons learned and would highly recommend those state contract options.

**PLOTCH:** Okay. And from the national perspective, the two of you probably have some insight into this, right?

**JERRAM:** Yeah. We 100% support those, using those state contracts. There really are for all the reasons Holly said. It does help, again, to talk about customization. It certainly can help because they have the standard buses that you can select from, and then you can negotiate if you need other items. But also just, again, overall simplification of the process for the agencies. We're I think a little narrowly focused on customization, but there's an overall, I think, challenge for transit agencies in procuring buses, and that's what our task force was really focused on, is like, how can we make this whole process easier for everybody, easier for the agencies, easier for the manufacturers?

So that's part of what we're talking about with the streamlining of, the specs, but, and also using certain contract terms that I think are make more sense in the world that we live in now. But any case, to your point, yes, there are definitely the state contracts are a really good mechanism, and there are some kind of consortia like you're talking about, and I would be happy to speak with you a little bit afterwards too about some of the ones maybe to recommend that you might be able to hook up with to see how they've managed that, that process.

**DORGAN:** Yeah. And I think I, I really agree with everything that, that Holly and Lisa have said. I think we've seen agencies make that decision to do the joint procurements, to do the s- or s- ordering off the state contract, and it really lowers their burden on the staff side. It reduces the amount of time that they need to sink into it. Do think it's still important to note, and the report talks about this, and the

report is great. If you haven't read it, read the report. It's really goes into the nuances in some of these issues. But- it's not a silver bullet to say joint procurement is gonna solve all your problems, state contract's gonna solve all your problems, because they do still allow for a lot of customization within those procurement mechanisms.

So you can order off the Washington State contract and still have, 17 different types of windshield wipers. Is that- That, that's not true, but off the top of my head. So you have an option to continue to customize, so we still need to find other incentives beyond those two procurement mechanisms to reduce customizations and to have it come from the agencies themselves. They need to want to reduce because there's not necessarily a- an exterior force telling them to.

**PLOTCH:** Yeah. I see a question all the way in the back.

**AUDIENCE MEMBER:** Hi. There certainly might be a necessity different characteristics of the bus that would be intended for Buffalo as opposed to, say, Biloxi. But I don't understand why customization should necessarily be seen as a higher goal than effective, efficient bus operation itself. Maybe if there were manufacturers of buses intended for the northern climate as opposed to the southern climate and located in those climates, the actual manufacturing facility, it might ease the prospect of getting the appropriate bus in for the appropriate climate. There are questions that have not been addressed today that I thought maybe should be. There's an ongoing question of whether bus- at least buses should be fare-free, and then where would the revenue lost to the fare-free buses come from. I'd love to hear you all explore that.

**PLOTCH:** Wow, that's a great question. And then then, why don't we, why don't we take that question, and we'll ask our panelists what they think of that one?

**ARNOLD:** Okay. Free fares. What do you think, Holly? So in Baltimore, we operate our core bus system in the Baltimore region, and there is also two local, three local systems that operate fare-free. So we're seeing both in the same region. I think for us, the biggest thing is the, the revenue that does come in from fares. Our fares are low, \$2. It's a pretty good deal. I think \$4.30 you can get a day pass. And, our riders are not necessarily asking for free fares.

They want a bus that comes more frequently. They want a bus that comes more reliably. And the money that comes in from our fare collection, we get about s- \$80 million per year, you can bond against that, right? That is a real revenue source, and it's hard to think through, like, where that funding is gonna come from if we switch to, to fare-free buses. So I think that's where we come down on it is we do think that the fares are beneficial. I think it's a good, robust debate, but honestly, our riders aren't asking for free fares. They're just asking for more service and more reliable service.

**PLOTCH:** And Lisa, what do you think?

**JERRAM:** I honestly think Holly answered the question extremely well. We, we have some members who have experimented with that and had some success. We've had some that I think have had less success. But I think the more important point is what you make is that what rider... What will drive folks to use the bus is going to be a bus that shows up when it says it's gonna show up better amenities, not just on the bus, but I'm talking like bus shelters. That's a big thing, right? Having a better place to stand while you're waiting for the bus. The service, I think, is really the more important thing. I would really like us to focus on how we can make sure we can provide the best service possible.

**PLOTCH:** That was a, a fun question to answer. The gentleman over here in the stripes. Third r-- fourth row.

**AUDIENCE MEMBER:** I didn't think of this as stripes. Let me come back to- ... a very, one of the very first questions that we had. I think both this previous panel and some of you have alluded to it, a shrinking number of suppliers of buses. So just while we're sitting here, of course, like everybody else the, the world market for city buses is gigantic. So like I said, give me the top 10 manufacturers. Guess how many of those are in the US? Zero. You got it. Top two are Chinese, the next five are European, the next three are Indian, and I don't recognize the name of the 10th company. We're-- There's no... So the obvious thing, think back on when Airbus started selling planes here.

There was talk we shouldn't buy foreign-made airplanes. Do you think Boeings would be cheaper today had we kept Airbus out? I don't think so. And by the way, Airbus builds most of the planes of a certain size all in the US. So why would it not make sense to open up procurement to all these big companies that have endless experience, and I guarantee you can bring the price down. And with the

long-term plan, same thing's happened in automobiles. Almost all the foreign branded automobiles that are sold in the US are made in the US. So there is a long-term goal here, but in the short term, there's no doubt you could bring the price down dramatically.

**PLOTCH:** Yeah. I'm gonna ask Lisa, and also, I think we need to mention about the Buy America requirement for federally funded buses.

**JERRAM:** The, the, that requirement is in place and it brings a lot of benefits in terms of manufacturing in the US. But obviously, that is what you're talking about, right? There is, to some degree, that kind of restriction. I do want to I wanna mention a little bit of a like push back a little bit on the idea. I think we-- it's hard sometimes to compare buses in the US to buses in other markets only because We have a different sort of regulatory environment. It obviously it is somewhat Buy America but also I think we have certain types of regulations that aren't necessarily in place in other countries around Americans with Disability Act regulations.

We have a... If you buy your buses with federal funds, you have the 12-year life rule. I think a lot of, my understanding is I think a lot of the European buses, they actually are in use much, much less, like maybe eight years or something like that. So it's, it's gonna be a less expensive bus that way. So I am 100% in favor of having, we want to have manufacturers here. We want to have competition. Agencies should have choice. So all of those things I'm totally in favor of. But I do want to just point out that it's a different market in the US a little bit, I think, in terms of what in other markets.

**PLOTCH:** So Michael, I'm sure you have a lot of experience with this one, right?

**DORGAN:** Yeah. So a, a lot of the vehicle manufacturers are members of CTE, and I think it's also important to note that we can't assume that these foreign manufacturers even want to enter the US bus market. We are s- our bus market is so much smaller than Europe or China or India, right? We're nationally procuring something around 5,000 buses per year, which is, a fraction of what's happening in these other countries. So is the investment worth it to establish American manufacturing? And we are seeing some new some new manufacturers enter the space. We've seen some leave recently, but we are seeing some, some new investment in the space.

But I think in order to improve the or increase the number of manufacturers in the space we need to increase ridership. We need to make... We need to go back to what Holly's saying and have... get people to trust the bus and get on the bus and then we'll be procuring more buses, and they'll want to join the space.

**PLOTCH:** Okay. Ov- over here.

**AUDIENCE MEMBER:** Excuse me. My name is Max. I'm a reporter at The Capital Forum. I have a question perhaps specifically for Holly. You said that Gillig wasn't interested in sort of your contracts. I guess I was, that would seem to be something that was not only in the Eno report but was also in past reports on this industry, that there's not a lot of price competition for like big... or there's not-- Gillig doesn't really seem to be bidding against New Flyer for like the big cities. I'm just curious why and how were you able to convince them to enter the negotiations?

**ARNOLD:** Yeah, and I think Paul mentioned at the beginning, right? So for a lot of agencies, there is one manufacturer, right? If we want sixty-foot buses, New Flyer is our game. And we realized "Hey we're in this market. We would like to see more competition. We'd like to see what's going on here." We had bought Nova buses for about five years, and then obviously they left the market. And so it's like we can't just be back to one manufacturer. So our team for multiple years was meeting with Gillig, trying to understand from them "What prohibits you from bidding?" And we got some feedback on some of the requirements we had for on-site training. And so our team looked at, is that a thing that we need?

Is the, can we figure out with the train the trainer type method? Some of it was the APTA feedback, like the bonding requirements that we have were pretty high. We do have state law there, so like we couldn't fully change that, but there was some flexibility within state law to make adjustments. We went to the milestone payments, which again was an APTA recommendation. And so I think a lot of those changes and the APTA conversations were really helpful in our conversations with Gillig. Plus, again, I think they did give them a lot of kudos. They were pretty honest with "Hey, here's what doesn't work for us, and if you want to consider, us, us bidding on your contracts, what we need to consider."

So it was in the contract here or in the report here, relationships matter. Relationships with the vendors matter. Like it can't just be an us versus them, you follow the contract. Like we have to have those relationships and figure out how to work together. So that's what I, I give my team a lot of kudos on that.

**JERRAM:** I just follow on how you just made my day in talking about how the APTA task force recommendations were helpful. That is such a great, I, we, I'm really thrilled to hear that. And I just, I just want to bring it back to that a little bit as well. You mentioned a couple of things that we haven't really talked about, which is the sort of contract terms part of the discussion, which is also an important, it's a really important piece of this, and it's again, that's part of what we were, when we've updated our white book.

Yes, it's some of the customization, reducing some of the customization that seems unnecessary, if you will. But also the contract terms that make more sense, again, for sort of these very long procurement processes that we have and like rebalance the risk a little bit to the degree that you can. Agencies have to look out for themselves, but you do want to make sure that you have the risk that is, makes sense for your agency and not anyway, that was a big part of our task force, a big part of what we have in our white book. So very happy to hear that it was valuable.

**ARNOLD:** I also just want to know, bonding sounds good, right? It protects our risk, and we're paying for that. It's built into the price, right? So it's a thing that our team really looked at of "Hey, if we're going to require this and we're paying for it, can we make some adjustments?" And it has worked out, I think, in our favor.

**PLOTCH:** Yeah. All right, we have time for one more question.

**AUDIENCE MEMBER:** Thank you. And just a quick comment to start 'cause it's a big change coming for buses. You mentioned having-- shaving \$17,000 off per bus. But starting in 2029, there's gonna be operator barriers, so that's an automatic 50K increase for every bus. So just something like I'm sure it's a big challenge balancing labor and what's right for the system and industry sometimes, but that's definitely a consideration. Did you-- did your procurement team notice when doing the bonding in other procurement changes, how much... Were they able to quantify how much those changes saved you money versus just customization on parts and components?

**ARNOLD:** Yeah. I mentioned previously the, the bonding we end up paying for that. So we were able to work and understand, like, how much of our procurement cost was associated with bonding. And I did want to note, and this kind of came up in an earlier question with the previous panel too, about the operator barriers. Yes, it is a cost add, but, there was a discussion about, buses being cut because of operator availability. That is their office, right? That is their mobile office. They deal with a lot. They're in it for eight-plus hours a day. And we use a lot of operator feedback in terms of what works for them, what doesn't work for them. We believe that operator barriers are a worthwhile cost because, yes, maybe it is a the cost of the bus increases, but, guess what I'm paying for when they get assaulted, right?

There-- that is also a, a real cost. And we think it is worth it. We also think it's worth it to if people are willing to show up to work because they feel safer, they feel more secure and it makes a big difference there. In terms of being able to specifically quantify that it's hard and it's complex. But as an agency, we do think it's worthwhile.

**PLOTCH:** Okay. Before we wrap it up, did any of you wanna have a few last words, something you've been itching to say?

**JERRAM:** I just wanna say I, I really compliment the report on how you discussed what customization even means, which I think is a, a, obscure issue in a way that people wouldn't really understand, and you've laid it out in a way that makes it easy for, to any person to, who's not deep into it, to understand, which I really appreciate. As we have some recommendations that we really like. I I- think the idea of incentivizing use of the White book use of the state schedules is a great idea. W- we weren't on board with the idea of having a cap on the federal contribution for a variety of reasons 'cause again, I don't think there's kind of a magic lever there that's gonna drive down costs. But I did, I do think definitely useful to look at just understanding what is involved with manufacturing processes is quite good. Yeah.

**DORGAN:** Yeah. And just really briefly thinking about what's ahead, we've got the Surface Transportation Reauthorization draft bill coming out that's making some big changes to what share of a bus the federal government is going to fund. And obviously there's gonna be a couple more inflection points to that, where that bill will change, but the current language is reducing the federal

share over time which could have an impact on customization, but also could have an impact on transit agencies' ability to procure the buses they need and to operate. So I think making sure that as legislation gets written, transit agencies are consulted is really critical because I think, you can... something can look like a good idea on Capitol Hill, and then you talk to somebody who's working in the agency, and you find out pretty quickly it's not a good idea.

**ARNOLD:** Yeah, no I think you, you covered exactly what I was gonna say, is just, making sure the agencies are part of the conversation, the OEMs are part of the conversation, and ultimately remembering why we're doing this, right? We're doing this so riders can get from point A to point B, and I think sometimes that gets lost in the discussion of, yes, buses are new and shiny and exciting, but, like, why are we have- buying buses? Why are we providing this service every day?

**PLOTCH:** Okay. I'd like to thank you. A impressive congressman and an impressive panel both. I'd like to thank-- Just a couple more thanks here. I'd like to thank Brookings for hosting this, CalSTRS for all their work on the report Rebecca and the congressman for coming here. And also a good report needs really good information, and we had over 75 interviews with stakeholders all across the country who really helped us understand the problem. And then we had a wonderful advisory panel who we could bounce ideas off, who, who really were able to hone and shape the recommendations at the end of the day. So thank you very much for coming.