
Committee Meeting

of

SENATE SELECT COMMITTEE ON NEW JERSEY TRANSIT

“The Committee will take testimony from invited experts and transit advocates on the current challenges facing riders and the future needs of New Jersey Transit”

LOCATION: Committee Room 4
State House Annex
Trenton, New Jersey

DATE: December 12, 2019
12:00 p.m.

MEMBERS OF COMMITTEE PRESENT:

Senator Stephen M. Sweeney, Chair
Senator Loretta Weinberg, Vice Chair
Senator Joseph Cryan
Senator Patrick J. Diegnan, Jr.
Senator Christopher ‘Kip’ Bateman
Senator Kristin M. Corrado
Senator Thomas H. Kean, Jr.



ALSO PRESENT:

Patrick Brennan
Philip M. Mersinger
Office of Legislative Services
Committee Aides

Mark Magyar
Senate Majority
Committee Aide

Theodore Conrad
Senate Republican
Committee Aide

Meeting Recorded and Transcribed by
The Office of Legislative Services, Public Information Office,
Hearing Unit, State House Annex, PO 068, Trenton, New Jersey

STEPHEN M. SWEENEY
Chair

LORETTA WEINBERG
Vice-Chair

JOSEPH CRYAN
SANDRA B. CUNNINGHAM
PATRICK J. DIEGNAN, JR.
CHRISTOPHER BATEMAN
KRISTIN M. CORRADO
THOMAS H. KEAN, JR.



PATRICK BRENNAN
PHILIP M. MERSINGER
Office of Legislative Services
Co-Committee Aides
(609) 847-3840
(609) 292-0561 fax

New Jersey State Legislature

SENATE SELECT COMMITTEE ON
NEW JERSEY TRANSIT
STATE HOUSE ANNEX
PO BOX 068
TRENTON NJ 08625-0068

COMMITTEE NOTICE

TO: MEMBERS OF THE SENATE SELECT COMMITTEE ON NEW JERSEY TRANSIT

FROM: SENATOR STEPHEN M. SWEENEY, CHAIRMAN

SUBJECT: COMMITTEE MEETING - DECEMBER 12, 2019

The public may address comments and questions to Patrick Brennan, Philip M. Mersinger, Committee Aides, or make bill status and scheduling inquiries to Kimberly Johnson, Secretary, at (609)847-3840, fax (609)292-0561, or e-mail: OLSAideSNJT@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.

The Senate Select Committee on New Jersey Transit will meet on Thursday, December 12, 2019 at 12:00 PM in Committee Room 4, 1st Floor, State House Annex, Trenton, New Jersey.

The committee will take testimony from invited experts and transit advocates on the current challenges facing riders and the future needs of New Jersey Transit.

Issued 12/2/19

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SENATOR STEPHEN M. SWEENEY (Chair): The Committee will come to order.

Just a couple of things to start.

This is a hearing on New Jersey Transit and how we can find ways to improve New Jersey Transit to make it more reliable for its consumers.

And I'm going to ask, please be respectful of the people who are testifying. We're going to ask people not to holler, or clap, or boo, or anything. I'd like to have these experts present their information, and we'll move from there.

So with that, I'm going to call up Tri-State Transportation Campaign: Janna Chernetz, Kevin Garcia, and Nick Sifuentes.

Oh, I'm sorry; we have to do a roll call; let me do the roll call first.

Roll call; it's been a while since I did this. (laughter)

MR. BRENNAN (Committee Aide): Senator Bateman.

SENATOR BATEMAN: Here.

MR. BRENNAN: Senator Corrado.

SENATOR CORRADO: Here.

MR. BRENNAN: Senator Kean.

SENATOR KEAN: Here.

MR. BRENNAN: Senator Diegnan is staffing a Transportation Committee now.

Senator Cunningham. (no response)

Senator Cryan.

SENATOR CRYAN: Here.

MR. BRENNAN: Senator Weinberg.

SENATOR LORETTA WEINBERG (Vice Chair): Here.

MR. BRENNAN: And Chairman Sweeney.

SENATOR SWEENEY: Here.

And with that, the floor is yours.

JANNA CHERNETZ, Esq.: Thank you, Senate President Sweeney.

Good afternoon, Majority Leader Weinberg and the rest of the Committee.

Thank you very much for your continued leadership and determination to fix New Jersey Transit.

As you know, this is no small task. It was almost exactly three years ago today that I appeared before the Joint Legislative Oversight Committee, which paved the way for the effort to reform the Agency and, ultimately, S-630, to which Senator Weinberg and Senator Gordon poured their heart and soul into detailed legislation, serving as a catalyst for future reform efforts.

But we still have a long way to go. The agency did not crumble during one Administration, nor will it be totally fixed in one. But there are critical and necessary changes that need to occur now, or should have already occurred already, and that are standing in the way.

In the interest of brevity and getting down to business, I will focus my testimony on those.

Nothing that is spoken about or discussed here today will be possible without adequate and sustainable funding for New Jersey Transit.

(refers to PowerPoint presentation)

This is the current status of New Jersey Transit's operating revenue funding. New Jersey Transit has a lack of dedicated operating funding, and that is the biggest problem; and nothing will get better if that is not fixed.

Right now, New Jersey Transit's operating funding is basically from fare box revenue, which represents almost half of the money that goes into the coffers each year. The remainders are State subsidies, which are subject to the annual political process. This is concerning, because New Jersey Transit cannot be guaranteed, annually, what their revenue is going to be.

So first and foremost, the biggest priority is dedicated operating revenue.

This is a brief history of the State subsidies, from 2006 to 2020. This is a similar slide to what I presented before the Joint Legislative Oversight Committee in December, breaking down the funding sources. What you see here is the General Fund subsidy fluctuating, from 2006 all the way to 2020, dipping down to about 33 percent; that's 90 percent of what was generally given. What this illustrates is how volatile and unpredictable relying on General Fund subsidies are to pay for something, such an important amenity in the state, which is public transportation.

Clean Energy Fund and the Turnpike diversions, as well as the capital-to-operating transfers. New Jersey's operating -- as I said, operating budget has become highly volatile and political. While the Administration has been focusing on reducing diversions from Clean Energy and the New Jersey Turnpike, offsetting those diversions with more General Fund or direct

State subsidy is not fixing the problem, but only shifting the problem. As the history has shown, the amount of direct State subsidy given to the Agency fluctuates, not only with budget year, but from Administration to Administration. This includes the acknowledgement of the increase in funding given by this Legislature in the current fiscal year of \$50 million. However, there is nothing locking funding in place, and the more heavily the operating budget relies on General Fund revenue, the more unstable it becomes from year to year.

On the capital side, funding is locked in with the constitutional dedication of the revenues from the TTF to assure that money is not diverted and a level of funding can be expected in out-years. New Jersey Transit's operating needs the same dedication.

Which brings me to the TTF. While the intention is for TTF funding to go to directly to capital projects, in reality, for New Jersey Transit, it is not. New Jersey Transit transferred \$460 million to its operating budget; that's 20 percent of its operating budget is reliant on capital dollars. While this is permissible use -- as previous New Jersey Transit agency leaders have pointed out, this is something that other agencies do -- it is not a sustainable funding mechanism when relied upon heavily, as New Jersey Transit does. And it serves as a detriment to the Agency and to the state.

When I sat here three years ago, I explained that both SEPTA and CTA -- which are comparable transit agencies -- admitted that the capital-to-operating transfers were problematic. CTA was concerned that over the span of a few years it had transfer just north of \$300 million, and were concerned about the lasting effects on the agency if this should this continue, and pointed out that it stifled its ability to engage in long-term planning.

New Jersey, however, does not even bat an eye almost doubling that in simply one year.

To put this in perspective, New Jersey Transit continues to transfer annually from its capital budget to operating an amount equivalent to 61 percent of TTF money allocated for New Jersey Transit, or 76 percent of Federal money allocated to New Jersey Transit.

But what does all of this mean? What does it mean to riders, because riders are the most important constituency?

That means reduced quality of commute: more breakdowns; late trains and buses; trains and buses in poor condition; reduced service; vulnerable fares, which are already among the highest in the nation. And as I pointed out before, New Jersey Transit riders bear a burden, a high burden of the cost of funding the operating budget, 50 percent, where other similar agencies are down to about 28 to 31 percent.

And most importantly, delayed needed expansion projects. And I will repeat this. There is no money for needed expansion projects. And these are not warnings; that is what is happening today. We are seeing and experiencing the effects of poor funding practices now. Access to jobs, education opportunities, health care, and especially those in the underserved communities are hit the worst. And what does this mean to the state? Stifled economic growth, reduced property values, loss of talent, loss of business, and increased debt.

New Jersey Transit needs *now* a dedicated operating funding, a plan to wean off capital-to-operating transfers, and to keep capital in capital.

So how do we do that?

This is what SEPTA does; and I believe you all have a copy of the slide presentation, because it is kind of small and I apologize for that.

But the reason why it is small is because SEPTA has a lot of different operating revenue sources. Not just passenger and investment income, and revenue that the agency has total control over. But you'll see that the preventative maintenance is only \$36 million, where New Jersey's was up to \$510 million at one point. You have direct subsidies that are dedicated and going right into their operating budget.

CTA as well; they have dedicated operating revenue from sales tax, public transportation fund, real estate transfer tax, and other statutorily dedicated tax revenue streams.

And BTA as well; most of their dedicated revenue comes from sales tax, as well as other local assessments.

And in comparison, New Jersey Transit only has 1.3 percent in dedicated revenue. Now, parenthetically, this is the data that we did find on Federal databases; however, I am not 100 percent sure -- I'm going to be honest -- I don't know what that 1.3 percent is. Nonetheless, in *Fare Reporting*, this is what was said. But most importantly, you need to look at the other agencies: 47, 51, 57, 62 percent of their operating budget is dedicated revenue. New Jersey Transit -- close to zero.

So what do we do? Where can we get this money from?

While the bad news is that New Jersey Transit does not have dedicated operating revenue, that means they also leave a lot on the table -- so there are many options here.

These are examples of potential revenue sources. The column on the left are system revenue; these are the ones that New Jersey Transit would

have direct control over: advertising, contracts, concessions, naming rights, joint development -- otherwise known as public-private partnerships -- parking fees, fares, and rental income.

The other column is other revenue sources that are not agency-based: property taxes -- bear in mind, this is all agencies; some of these things might not pertain to New Jersey Transit; a lot of agencies are local, whereas New Jersey Transit is State -- sales tax, value capture, digital technology, web marketing, social media, payroll, business taxes, franchisees, and a whole host of other potential revenue streams.

Why do we want all these? Because we want to diversify. We cannot be relying on one particular revenue stream. Right now, New Jersey Transit relies heavily on passenger fares, and that is very burdensome. Because when there is a funding gap, they are the first and they are vulnerable to seeing fare hikes. New Jersey Transit riders cannot bear this burden moving forward. They have borne this burden enough. They have service that is inadequate, there's needed expansion projects, and they should not have to pay another penny until their system is where it should be.

One of the things that Tri-State has been asking for, as well as Senator Weinberg, is for an inventory of New Jersey Transit-owned real estate. New Jersey Transit owns some of the most lucrative property in this state. It needs to know what it has so it can capitalize on those investments. In September, finally, an inventory was released that might have been, I think, at least four years since it was originally requested. And we took a look at where those properties were; that is the map on the right. You see where New Jersey Transit-owned property is.

This is where, I believe, value capture could come into play. And I know that New Jersey Transit just hired an office of real estate and TOD. This is going to be where -- the heart of turning those properties and investments into money and revenue for the agency. There are a number of different value capture mechanisms: joint development, public-private partnerships, negotiated extraction, special assessment districts, tax increment financing, development rights, air rights, impact fees, transportation utility fees. This is some way to alleviate the burden of New Jersey Transit on paying for needed expansion projects. It also recognizes the symbiotic relationship between development and businesses, and the service that New Jersey Transit provides.

These are mechanisms that other agencies in other states utilize. New Jersey Transit must do that.

If we are going to see expansion projects, such as the Hudson Bergen Light Rail actually into Bergen, the Camden-Glassboro Line, BRT, the Bergen Loop, and other capacity-increasing projects -- not just on Rail, but in Bus -- as well as the increased advocacy and need to electrify New Jersey Transit's bus fleets -- which you'll be hearing about from my colleague, Executive Director of Tri-State Nick Sifuentes-- I will not steal his thunder, but I can tell you, with 100 percent certainty, that New Jersey is not a leader in electrification.

And Kevin Garcia, who is Tri-State's Bus Campaign Manager, will be speaking directly on the needs of bus service in New Jersey.

There are some other issues as well; but I wanted to put the funding out there first, because that is the foundation. We can talk all we want, but unless there is the proper funding in place -- adequate operating

funding and adequate capital, meaning keeping the capital in capital -- we're not going to be able to move forward and fix the Agency.

No surprise, but there has been a talent drain and a lack of employee morale that has plagued the Agency. This was unveiled during the 2016 and 2017 hearings, and highlighted in the North Highland audit, which the Governor ordered within a few weeks of taking office.

In the spring, New Jersey Transit identified a \$136 million budget deficit going into the next fiscal year; and it is my understanding that that budget is now \$86 million, thanks to the \$50 million increase during budget negotiations for the current fiscal year.

But regardless, in anticipation of contract negotiations for existing Transit workers, there is an increased need for operating funding for the next fiscal year and beyond.

Why is this important? New Jersey Transit must remain competitive among regional transit agencies, such as MTA, LIRR, and Amtrak, in terms of salaries and benefits, so that it does not find itself with attrition rates and low incoming classes.

Another issue brought to the attention of leadership during the 2016-2017 hearings -- I know the Administration and the agency have been working hard to remedy the shortfall; however this is going to be an ongoing issue and not a one-time fix.

Competitive salaries to attract top talent is also -- and other various levels of management. We need to offer competitive salaries, and there also needs to be a clear line of advancement. This is one of the things that was highlighted in the North Highland report as *troubling* to the agency.

This includes talent to advance technology, something New Jersey Transit has been called out in the report for being deficient in.

And which brings me-- As I continue to talk about the audit -- two major deficiencies identified were a lack of strategic plan and a lack of a technology road map; not surprising coming from an agency that spends its days putting out fires and moving from one catastrophe to the next. And that is not just my assessment of the agency, but that was an observation by North Highland as well.

Overall strategic plan and long-term vision is lacking, and unpredictable funding is a major impediment. New Jersey does not have a State Transportation Master Plan either. Sure, there are pieces of such embedded in other plans -- the Energy Master Plan being one -- but not one master plan dedicated solely to transportation here in our state. This is problematic, especially here in New Jersey, where residents have some of the longest commutes in the nation. Those are considered *mega commutes*, which are 90 minutes or more. Residents spend a lot of time driving and taking public transportation, yet the State does not have a transportation master plan.

One of the recommendations was an Office of Strategic Planning, and that's where this type of document would be embedded.

In terms of a technology road map: New Jersey Transit has certainly made investments in technology to improve the customer experience to let them know about the delays, focusing primarily on mobile devices. But the audit pointed out that it is not advanced technology internally and on par with other world-class transportation entities around the world.

The report pointed out that this limits the ability to understand and improve operations, which is at the heart of the Agency. Technology advancements were also noted to be deficient in Human Resources, Procurement, and Asset Management solutions; and technology solutions, to enhance the customer experience, that are already available in the marketplace. These things have also not been implemented. The lack of the use of technology appears to be running rampant in multiple facets of the Agency.

And I'd also like to talk about S-630.

In December 2018, the Governor signed the historic legislation, S-630, again championed by Senator Weinberg and Senator Gordon. As eloquently stated by Senator Weinberg during the signing, it was not a panacea for all that ails Transit, but provided the necessary fundamental changes to continue to facilitate the ongoing reform efforts.

One of the major reform efforts was to review and strengthen the Board of Directors for the Agency. Last year, Tri-State released a report highlighting the need for the restructuring of New Jersey Transit's Board of Directors. What Tri-State found was that New Jersey Transit was once again an outlier in terms of members, and the required backgrounds and expertise of the Board members.

No agency can be truly effective at delivering high-quality service for riders, and managing capital and operating costs efficiently without an active Board of Directors composed of highly qualified members who can oversee the Agency's finances, help set direction, and ask the right questions of executive staff. When Boards are weak, agencies act without scrutiny or

oversight, allowing mismanagement and poor fiscal planning to undermine the Agency's goals of serving riders.

And parenthetically, I'd like to point out that we took a look at the Board minutes, all of the Board minutes that are currently available online. And at not one meeting were all of the Board seats filled, and at not one Board meeting did they have an entire Board present.

The Bill, as required, states that the Board must be sat within 90 days. We are now about to hit the one-year anniversary of the signing of the Bill, and no new Board has been sat. At bare minimum, the riders need to be added. You recall the Bill has seats for a regular Rail rider and a regular Bus rider.

In order to fix the agency, you need people who have intimate knowledge of what is wrong. You need to come at it from all sides, not just from the inside, and riders provide that critical angle. Those who are in the best position to fix it are those who know what's wrong with it, and those people are the riders.

In conclusion, when asked during last year's budget hearings if New Jersey Transit had enough money, CEO Kevin Corbett responded by saying, "Every head of a Transit agency wants more money," but he said he will do his best with what was given to him. Unfortunately, the best of what was given to him is no longer good enough. As a state, we cannot continue to shortchange an agency in terms of funding and talent, and expect a miracle, even if it is the holiday season.

And I will leave you with this. TSTC, Tri-State -- we are non-partisan. We do not follow any political party ideology. We are here to advocate for what is best for riders and what is best for New Jersey.

Collectively, we all have been talking about change; however, those with the power to effectuate change have yet to make a move. You cannot expect change unless you make change. Whether it is the revenue sources for New Jersey Transit's operating budget or the Board of Directors, New Jersey has yet to make the changes that matter.

So thank you very much for your time, and I look forward to our continued work together to bring New Jersey Transit back to the leading national Transit agency that it once was.

SENATOR SWEENEY: Thank you.

And I'm going to ask the panel to go, and then ask questions after the whole panel makes their presentation.

So whoever else is up next--

KEVIN GARCIA: Good afternoon, Committee members.

Thank you for the opportunity to speak here today.

My name is Kevin Garcia, and I am the Bus Campaign Manager for Tri-State Transportation Campaign. In my role, I focus on capturing the New Jersey Transit bus riders' voices and highlighting their experiences in our work and in front of stakeholders.

With the launch of our *A New Ride for New Jersey* campaign, we released a report by the same name, in late September, that detailed the shortcomings of New Jersey Transit's bus service and a set of recommendations to improve service. Our report highlighted six major recommendations: making using the bus easy and intuitive, designing streets to prioritize buses, redesigning the bus network, modernizing fares, better data collection and transparency; and last but not least, increase funding.

Based on New Jersey Transit's 2017 annual report, more than half of all New Jersey Transit trips -- 58 percent to be exact -- are made by bus. Bus service remains the most affordable transportation option in many communities; and for some neighborhoods without access to commuter rail or light rail, it's often the only public transit option.

And this is why we decided to focus on bus riders in Newark and Elizabeth, New Jersey.

We surveyed 250 bus riders, and found many issues that riders deal with on a regular basis.

The first question we asked riders is, where they travel to when using the bus. From the survey results, we were able to see that 73 percent of riders use the bus for their work commute. A closer look at the data, though, will show that 40 percent of surveyed riders use the bus to commute to other destinations, including to go shopping, to go to school, visit family and friends, and lastly, to go to doctor appointments.

The implicit finding here is that frequent service must extend well beyond the standard peak hour usage. Many trips occur during off-peak hours and involve commutes to medical and commercial centers, as well as employment hubs.

The next set of questions asked riders about service quality indicators, including bus arrival time, what factors they see that cause delays in bus service, and bus stop features like shelters and benches.

When we asked bus riders about the reliability of buses, many riders recounted the same stories: long wait periods, buses not arriving on time, and sometimes buses not even showing up. Over 60 percent of bus riders claimed that their bus arrived late three or more times, on average, per

week. This includes 21 percent, or nearly one out of every five riders, who claimed that their bus arrives late, on average, seven or more times per week.

Riders feel this way because when using the pre-printed paper schedule or mobile-planning route apps, buses are still arriving 15 or more minutes late after scheduled arrival time. This leaves riders to wait long periods of time, often in unfavorable weather, spend additional money on cabs or ride-sharing apps after already purchasing a monthly bus pass, or having to walk to their destination.

When asked about the causes of bus delays, riders listed several different reasons they believe that lead to delays. Over 74 percent of bus riders surveyed listed traffic as being the cause of their bus delay. About 33 percent of riders stated that slow on-boarding causes delays.

In regards to many bus stops, many riders noted that their bus stop is nothing more than a simple sign stuck in the ground, and were looking for something more substantial. Fifty-three percent of riders claimed that their bus stops do not have any shelters or benches. This means on top of waiting long times, one out of every two riders is waiting outside in the cold, heat, rain, snow, or under a store awning for their bus.

Riders remarked that the lack of shelters and benches make the bus wait unpleasant and uncomfortable, which makes the bus wait times feel even longer.

In New Jersey, the bulk of carbon emissions is generated by diesel-powered vehicles, so we asked riders if they worry about air pollution from buses in their neighborhood. Forty-three percent of riders are concerned about air pollution and the health impact caused by carbon emissions from buses in their neighborhood. Our Executive Director, Nick Sifuentes, will

speaking more to this; but it's clear that riders want to see New Jersey Transit invest in cleaner bus technology.

The Legislature should supply adequate funding for NJT to purchase electric vehicles. One way to arrive at that funding, and double down on reducing vehicular pollution and meeting our climate goals, would be to sign on to the Transportation and Climate Initiative, or TCI.

In response to the deficiencies riders noted, they then listed several requests for improvements that they would like to see enacted immediately. Consistent with complaints of overcrowding, lack of sufficient buses, lack of late service on weekdays, and limited or no weekend service, 64 percent of surveyed riders stated that more buses and buses with expanded capacity -- such as articulated buses -- are needed on their routes.

Additionally, 46 percent of riders claimed that prioritizing buses on streets with dedicated bus lanes would improve travel time. Riders noted that beyond cars illegally parked in bus stops, their buses are constantly fighting with other vehicles to get back into traffic. All of this causes greater traffic congestion and further slows down buses. This is no surprise, as the State of New Jersey has merely eight miles of dedicated bus lanes, which includes Raymond Boulevard in Newark, Sip Avenue in Jersey City, Route 9 in Middlesex County, and the express bus lane for buses traveling on I-495 through the Lincoln Tunnel. By contrast, New York City alone has over 120 miles of bus lanes.

The survey underscores the importance of the bus network. We know that New Jersey Transit has heard our call for better service, and that bus system redesign efforts are on the way. We applaud NJT for taking the first steps towards improving bus service. There's a lot of work to be done at

NJT to improve bus service, but they also need the support of lawmakers to make it happen.

To that end, we are calling on Trenton for funding; and for local municipalities to improve street designs, including bus lanes, to help move buses faster through traffic.

Thank you again for your time.

SENATOR SWEENEY: Thank you.

NICKOLAS SIFUENTES: Good afternoon.

I'm Nick Sifuentes, the Executive Director of Tri-State Transportation Campaign.

Thank you for the opportunity to address the Committee today.

You've already heard Janna address fundamental concerns with the operations of New Jersey Transit, including the consistent and debilitating lack of State funding that has brought the Agency, and our Transit system, to its dire state. And you've heard Kevin discuss the results of our survey of hundreds of New Jersey Transit bus riders, and the importance of improving bus service statewide.

I want to highlight one important survey result: the 43 percent of riders who identified road pollution from buses as a core concern. And I would preface my remarks with the important caveat that buses are inherently more climate-friendly than single-occupancy vehicles. That being said, New Jersey Transit's aging fleet of buses contributes unduly to diesel pollution, and inhibits New Jersey's ability to meet its climate goals and protect residents from unhealthy air that can lead to asthma, heart disease, and other pulmonary illnesses.

This is especially true in frontline communities that are already overburdened by pollution and the resulting illnesses caused by a completely preventable health hazard.

Our partners Doug O'Malley and Pam Frank will speak more to the environmental and economic methods of electrification. I, however, am going to take you on a brief comparative analysis.

You likely know that across the Hudson, in New York City, the Metropolitan Transportation Authority, or MTA, just released its five-year, 2020-2024 capital program. In that program, the Authority has dramatically leapfrogged New Jersey Transit in committing to full electrification of its fleet of nearly 6,000 buses by 2040, with a significant ramp-up in electric bus procurement in its 2020-2024 plan.

Specifically, the MTA is committing to “transitioning to a zero-emissions all-electric fleet by 2040 to improve air quality and reduce greenhouse gas emissions.” Not coincidentally, with this year’s passage of the Climate Leadership and Community Protection Act, or the CLCPA, New York is now a leading state in the fight against climate change. And the MTA’s commitment to a clean fleet is in line with the state’s new legislative mandate to reach 85 percent emissions reductions from a 1990 baseline by 2050, with a goal of going fully zero-emissions statewide beyond that.

The MTA’s timeline is aggressive. It plans to purchase the last internal combustion engine bus no later than 2029, with all polluting buses retired from service by 2040. In order to meet that goal, the MTA will invest not only in electric buses themselves, but in the underlying bus depot electrification and power upgrades necessary to ensure its fleet can be adequately charged.

To that end, the MTA has made significant financial commitments to bus operations. You'll see here that in this capital plan the MTA is investing over \$3.5 billion in buses alone in the next five years, including beginning the electrification process at eight depots across the city. Note that while every agency's electrification process varies -- this is a bespoke process, not off-the-shelf -- the massive limitations of space and infrastructure in New York City mean the MTA's depot electrification will likely be the most complex in the nation. And yet the Authority is still making the commitment because it, and the state leadership that oversees it, knows that this is the right thing to do.

All told, the MTA is purchasing 500 buses through the 2020-2024 period, in addition to 15 electric buses already operated on three routes in New York City, and an additional 90 buses coming online in the current capital plan timeline. While this represents slightly more than 10 percent of the overall fleet there, the MTA's procurement timelines call for a dramatic ramp-up in the subsequent 2025 to 2029 capital program in order to meet the deadline for final internal combustion engine bus purchases in 2029.

The impact of this is clear: 37,000 tons of carbon emissions will be entirely prevented every single year, and diesel pollution from public transit buses will, of course, fall to zero.

By contrast, let's examine New Jersey Transit's commitment to electrification.

Now, we all know that the Agency has been hamstrung by a decade of neglect and underfunding. The end result of that process is that NJ Transit is often left to cobble together service on a shoestring budget and a skeleton crew.

But there are some positive signs at the Agency. PTC installation is finally nearing completion. Cancellations, while still too frequent, are down from last year. And the Agency is beginning the process of improving the bus network. But one area where the Agency has been absent entirely is electrification. Compared not only to New York City, but the 60-plus agencies around the country that have made massive strides toward deployment of non-polluting, zero-emissions buses, the Agency's lack of progress is an embarrassment, and the victims of this failure are the 478,000 daily riders and millions of residents living along corridors of carbon emissions.

So here's what we have. NJ Transit's electric bus commitment consists primarily of a \$10 million dollar pilot project in Camden that will deploy a meager eight buses. By the same target date, in mid-2021, the MTA will be operating over 100 buses on a variety of routes citywide, and rapidly scaling up to its goal of over 600 buses by the end of 2025.

Here you can see the commitments on both banks of the Hudson side-by-side.

The point I want to underscore is that with 5,725 buses, the MTA is the single largest purchaser of buses in the North American market every year, buying as much as 10 percent of all buses sold. They are very much in the driver's seat when it comes to who is shaping the future of the bus industry writ large. And if NJ Transit doesn't step up, that means the Agency will be left in the dust, despite also having one of the largest fleets in the nation.

In Los Angeles, another major purchaser of buses that has already made its own commitments to electrification, bus manufacturers like BYD

and ProTerra are opening up electric bus factories and are providing valuable manufacturing jobs to local residents.

New York is poised to take advantage of the same ability to shift the market. New Jersey is about to miss out, not only on the climate and health benefits of electrification, but on the ability to help shape the future of the bus market and dictate the Agency's needs clearly to eager manufacturers. And we're about to miss out on good manufacturing jobs in places that need them, too.

Senate Bill 2252, which is before you now, offers a clear path toward electrification. While the timeline for public transit electrification in that Bill will likely need modification, there should be no compromise on the end goal: full electrification of New Jersey Transit's entire bus fleet by 2040.

But in order to see that commitment through, New Jersey Transit will also need significant funding -- likely in the billions over the next two decades -- to make the fleet and infrastructure needs a reality. Some of that investment should come from utilities, which must also negotiate rate agreements with the Agency. But the lion's share should come from the State.

A clear source of funding is the Transportation and Climate Initiative, the regional effort comprising 11 states and Washington D.C., to appropriately price transportation's contribution to climate change by creating a cap-and-invest program for fuel products. With a memorandum of understanding from the states coming in roughly five days' time, it is time for New Jersey to play a lead role in the design of the program. For too long, New Jersey has taken a backseat as other states, like Massachusetts and Maryland, dictate program development.

Furthermore, revenues from that program must be dedicated to transit infrastructure improvements and to electrification. If we're truly going to see the full extent of the virtuous cycle that TCI could present, we have to use the revenues to improve transit and transportation options for all.

I want to close today by thanking you for the opportunity to testify before you. We are at a critical juncture for New Jersey's transportation future. With thoughtful planning and leadership, we can chart a course toward becoming what our state and our country needs at this moment, a *greenest generation* that is committed to a clean, effective, efficient transportation network. Or we could double down on the decisions that will leave us with a state choking on congestion and pollution.

That this Committee exists at all is a strong indication that we will choose the right path. We look forward to continuing to work with you as you make New Jersey a leader on transit and climate change solutions once more.

Thank you.

SENATOR SWEENEY: Thank you.

We have three panels; we'll start this way, then that way on this one; then the next one -- that one, this way -- to be fair to everybody.

Senator Weinberg, do you want to start?

SENATOR WEINBERG: Yes, thank you, Senate President.

First of all, thank you to Tri-State for being the resource that you have been, to all of us in the Legislature, as we work our way through this. And to you, Janna, for being a very clear voice and appearing before all the Oversight Committee meetings that we had in the past. And the former Chair

is here, former Senator Bob Gordon, making sure that nobody makes any mistakes along the way.

So thank you very much.

And I guess I'll address this to you, Janna, because you have been more generalist on this.

But if the Federal government does enact a major infrastructure program, does New Jersey have enough funding capacity in the TTF to actually come up with the shares that we're going to need to expand the Hudson-Bergen Light Rail, to expand the Gloucester-Camden Light Rail, as well as the State's share of the Gateway program, the new tunnels under the Hudson River, and all the other cost initiatives?

MS. CHERNETZ: Thank you, Senator; and thank you, Senator, for your kind words and your recognition. I truly appreciate it and enjoyed working with all of you.

You know, Nick talked about needing billions of dollars for electrification; and the projects that you speak of are also in the billions, if you add them all up.

This is only alarming because we are transferring -- New Jersey's transferring out, since the program and the process has started, over \$10 billion from its capital budget. So unless and until we fix the operating needs, we're not going to have the money. There is a substantial fiscal crisis at the Agency, starting and stemming from the operating budget; and having to take all of those transportation dollars and move them over to keep the lights on and the wheels turning.

You know, this was a long battle to increase the gas tax. We need to protect those dollars to make sure that they are spent on the Transit

expansion programs. So this is important, because if we can get more people off the road and onto public transit, it will alleviate the congestion that our state is plagued with. So we must fix our fiscal constraints in order to do all of these necessary projects. And I know my colleagues from RPA will be speaking about the cross-Hudson commute.

SENATOR WEINBERG: Okay.

Let me get into a little bit of the specifics of the testimony that each of you gave -- they run the gamut among the three of you.

But as we all read recently, the EDA is planning to float something like \$500 million dollars' worth of bonding to buy new trains and buses for New Jersey Transit. That money will be paid back through the TTF.

But now I worry, because you mentioned something about -- we did not use world-class technology in terms of the intercom systems or the way we're informing potential riders what's happening with their buses and trains. So if we didn't use world-class technology there -- the technology seems to be missing a bit -- who is overseeing the purchase of the buses and trains to make sure that we are moving toward electrifying buses, that we are moving toward the kinds of buses that we need to speed up boarding and off-boarding, whether they should be buses that have two doors at either end, or only one?

I worry about how we're going to get public input into those purchases. I don't know if you have any comment on that.

MR. SIFUENTES: I think that's a great question, Senator.

I'll say two things to that point.

The first of those I think underscores the importance of having a seated Board that it is at full capacity. The Board should be acting in its

capacity to oversee the procurement process, both of the \$500 million procurement you referenced and all future procurements. And without that Board, the Agency suffers from a lack of input from those who have the expertise to help shape that process, and the public suffers because we lack the transparency and the accountability that the Board provides to share with the public and with stakeholders like yourselves, “Here’s how this process is unfolding, this is how we’re meeting the technological demands of the 21st century.”

The second thing I’ll point out here is that I think this speaks to the importance of having a plan. The last Bus plan that we’ve seen from the Agency dates to 2014; it is certainly time for an update. It is incredibly important that the Agency actually outlines a plan for the new technologies, including electrification.

I will hasten to say that asking the Agency to deploy electric buses immediately, tomorrow, in 2020, may be a little hasty, just because we certainly need the actual infrastructure in the ground to help make that process happen. But the kinds of pilot programs that I described here in Camden-- I mean, that’s certainly not really at the scale that we need to see the Agency at, at this point.

And again, that’s the role of the Board, and very much the role of the public, were this stuff a little bit more transparent to weigh in on this to say, “Hey, let’s move the ball forward.”

MS. CHERNETZ: Just to elaborate a little bit on the transparency part of it.

NJ Transit has both a Rail Fleet Acquisition Plan as well as a Bus Fleet Acquisition Plan, which was dating back to 2014 to now. And they

should be undergoing the process of reviewing that plan, which should have elements of electrification, as well as bringing in the other partners in the state in order to ensure that that plan is rolled out.

But transparency being of the utmost importance, I don't know if any of the members of this Committee know that those documents even exist. And I'm sure the members of the public do not, especially those who live in underserved communities where they are hit hardest by the health effects of these polluting buses.

So transparency; and a Board that will oversee and make sure the purchases are right, fiscally and environmentally, and what the riders in the state need.

SENATOR WEINBERG: And along with that -- just, if I may -- would be that New Jersey Transit is working hand-in-hand with the Port Authority on the design and implementation of a new bus terminal, so that electrified buses are taken into account when expanding and building on the bus terminal.

MR. SIFUENTES: Yes, I would agree with that entirely.

And we've seen that the Port Authority has its own electrification programs and pilots that they're running, too; it is important that they work hand-in-hand. And again, I think that speaks to the role of the Board being able to play that oversight role.

SENATOR WEINBERG: Okay, thank you.

SENATOR SWEENEY: Senator Cryan, followed by Senator Kean.

SENATOR CRYAN: Thank you, Chairman President Sweeney. Thanks.

I don't know everybody's name, so I apologize.

Janna, you referenced -- and throughout the discussion, the MTA was referenced. But in the documents, you didn't talk about how the MTA is financed or how their revenues are doing. Do you happen to know?

MS. CHERNETZ: I'm sorry, could you repeat the question?

SENATOR CRYAN: Sure.

The MTA, in particular, in the buses, was referred to considerably. I apologize; the MTA was referred considerably. Would you happen to know -- are they dedicated funded, and how do they get their funding?

MS. CHERNETZ: I'll have Nick answer that question.

MR. SIFUENTES: Yes, I can speak to that.

The MTA has a very, very long list of dedicated funds to go into the capital and operating side. On the capital side, the MTA is primarily funded from Federal and state resources, with a \$3 billion contribution from the city.

At this point in its current capital plan, the 2020 to 2025 capital is valued at \$51.5 billion, a little under 50 percent of that is coming straight from the state.

Now, that money is mostly coming from the general fund; there is some dedicated funding. On the operating side, though, which I think is the most relevant thing to speak to, there are a number of various funds that are dedicated, that go into operations, including the payroll mobility tax, a number of local sales taxes, there are taxes from real estate transfers, etc., all of which fund the MTA. It's a pretty long list; we'd be happy to supply that.

It's not too dissimilar from what Janna was showing earlier in her presentation, looking at the CTA and other agencies.

SENATOR CRYAN: Which leads me to my next question. I know I don't have a ton of time, and I do want to ask about the buses a bit.

But through the Chair, if I may, could we ask for that?

And do you recommend-- I mean, you provided a bunch of things here; I know you guys are our experts. Which funding sources do you recommend?

MS. CHERNETZ: I think we need to look at all of the revenue -- possible revenue streams. I think what's important is that we don't leave any stone unturned and any dollar unaccounted for; and diversifying those revenues so that we're not heavily relying on one or another.

But we need to make sure that everybody who's benefiting from Transit is paying into Transit, not just the riders.

SENATOR CRYAN: So you recommend -- through the Chair, I don't want to put words in your mouth -- but you recommend doing multiple revenue raisers over a variety of different streams?

MS. CHERNETZ: Absolutely.

SENATOR CRYAN: Okay.

MS. CHERNETZ: We need to make sure that we're not relying on passengers for the bulk of that. That is the most important thing -- is to relieve the riders of the burden of paying disproportionately for a service.

SENATOR CRYAN: Okay.

MS. CHERNETZ: This is not something just for Transit; again, this is something that other transit agencies do. We're an outlier -- how heavily we rely on them.

SENATOR CRYAN: Thanks.

This bus survey, questionnaire; I have a couple of questions on that, and then the electrification.

Two hundred and fifty riders in Newark and Elizabeth -- which, by the way, I represent -- but have you seen the data on the NJ Transit site about the on-time performance on buses? It's part of Executive Order 80, I believe.

MR. GARCIA: Yes, I have.

SENATOR CRYAN: All right; so that says it's 91 percent. In this, I believe, you referred to 60 percent of riders say the bus is late three times a week or more. Could you help us, kind of, understand that?

MR. GARCIA: So the 60 percent is from the perspective of the riders. And in looking at the scorecard, which is on NJT's website, it's not completely transparent, and we would like to see more transparency with that.

SENATOR CRYAN: What other data are you looking for? I thought it was pretty good. What other data are you looking for? Is the six minutes unacceptable? Do you measure it differently? Or could I ask, through the Chair, in the interest of time, that they could provide us that? Would that be okay?

SENATOR SWEENEY: We're still good.

SENATOR CRYAN: Okay.

MR. SIFUENTES: Yes, we could circle back on that. We'd be happy to do that in the interest of time.

But I will add here that agencies' standard for on-time performance varies dramatically. And so it's worth putting out whether six-minute headways are the kinds of standards that should be acceptable here.

Also, on-time performance varies--

SENATOR CRYAN: Okay, what do the other agencies use? The other agencies, like the MTA, the ones you referred to -- do they use a different time?

MR. SIFUENTES: Yes. We see-- And it varies, actually, from route to route, in certain cases as well.

Obviously more frequent -- routes with more frequent service may see different headways, and so I think that's another thing we need to look at, too, is what is the performance route by route. Certainly we know that routes that have run in some of the intercity areas have more service challenges, and the result of that is often traffic. To some extent, the solutions rests with the municipalities to provide more on-street improvements for buses, like huge (indiscernible) bus lanes, transit signal priority -- conditions the Agency doesn't have control over.

SENATOR CRYAN: And the shelters, too, right?

Okay, I have some questions on the electrification of buses.

What we're really looking for is zero emissions, right?

MR. SIFUENTES: Correct.

SENATOR CRYAN: No matter how we get there, it's really about that. So help me understand a couple of things.

First off, what's the cost of an electric bus versus a diesel?

MR. SIFUENTES: So the cost of an electric bus is about \$750,000 at the current time. A non-electric bus, a traditional internal

combustion engine bus, is about \$500,000. However, there are estimates that show, and other agencies have shown, that there is significant maintenance cost savings, every single year, from operating what ends up being a simpler means of technology -- an electric bus.

SENATOR CRYAN: Is there-- Because in preparing for this, I looked at-- There seems to be a lot of integration issues. You mentioned Los Angeles, I think, in particular, in your comments. Yet I saw a story in the *L.A. Times* about how they couldn't keep the batteries functioning; the same thing in Albuquerque, and other places -- that the buses only go about 200 miles on a battery charge.

One of the things I'm interested here is, in terms of how you roll this out, how you integrate it with a diesel platform, because that's what you would do.

And I'm interested in bus garages; because the way I understand it, through the Chair, is our bus garages are at 128 percent of capacity. These things are bigger -- right? -- never mind the infrastructure to charge them. So I assume you need more bus garages, which I don't think are free.

And I'm also interested in this weight of the battery, and how many seats there are, and all those sorts of things that go with electrification.

Can you start with-- So they cost 50 percent more, right?

MR. SIFUENTES: Roughly, yes.

SENATOR CRYAN: So the MTA, which you referred to -- I assume they've been planning for this for some time, right?

MR. SIFUENTES: Right.

SENATOR CRYAN: They didn't just decide to go to electrification. And we all agree this Agency's not had that opportunity for close to a decade, right?

MR. SIFUENTES: Right.

SENATOR CRYAN: So how does-- When you try to integrate electric buses into the process-- First off, talk to me about the batteries.

MR. SIFUENTES: Yes.

SENATOR CRYAN: My understanding is the weight of the batteries actually creates less seating -- I don't know this for a fact; I'm asking you guys -- and that there are issues in terms of duration and how that's done.

Can you talk to that first?

MR. SIFUENTES: So yes, let me try to tackle those. There are kind of a lot of topics, and I'll see if I can get there.

We'll start with batteries. So the first thing to note is that battery technology has been improving, year after year after year. Current iterations of buses can, one, be designed to agency specifications. We've seen that happen at the MTA and with LA Metro right now. And so New Jersey Transit should take advantage of the opportunity to tell the market, "All right, this is what we need. These are our specifications."

The MTA's current pilot that they're engaging in-- They have 15 buses operating on three routes right now. They have gone back with the manufacturers multiple times to redesign the chassis, to redesign the actual layout of the bus itself--

SENATOR CRYAN: Okay; did you say 15 buses? I'm sorry.

MR. SIFUENTES: I'm sorry?

SENATOR CRYAN: Did you say their pilot is 15?

MR. SIFUENTES: Their pilot is 15 buses--

SENATOR CRYAN: For New York City?

MR. SIFUENTES: Yes, that pilot began last year.

SENATOR CRYAN: And we're doing eight in Camden; is that the correlation?

MR. SIFUENTES: Yes; eight in Camden in mid-2021. So if you're looking at mid-2021, the MTA will have over 100 buses operating at that time. So they are a few years ahead in terms of having their pilot on the ground and testing the technologies.

SENATOR CRYAN: Okay.

MR. SIFUENTES: So to go back to the questions; with battery technology improving, we're not seeing the seat reduction and even the bus sizes are about the same. The MTA has very, very tight specifications, because of the nature of their depots, of what size buses can even fit in their depots at all.

The primary depot challenges are twofold: The first of those is, you need to actually put the infrastructure in place, the actual charging infrastructure within the depots to electrify -- to charge the buses overnight or between deployments.

The second challenge is making sure that there's enough power from the utilities, literally from the power lines flowing in.

And so those two challenges are entirely surmountable. If the MTA can get its head around them with the space limitations in New York City, we feel pretty confident New Jersey Transit can do it too.

It is true that NJT will need additional depot space. You're right, they're at capacity. North Jersey needs a new depot. If we're going to go

through the process of locating space and building new depots, we need to make sure they're electrified. It would be a waste to not do that now.

SENATOR CRYAN: Is the North Jersey depot -- is this the one in Oradell?

MR. SIFUENTES: I believe that's correct.

SENATOR CRYAN: All right; so is this the one that floods?

MR. SIFUENTES: No, no, we're talking about the need for a new depot entirely, actually.

SENATOR CRYAN: Okay.

MR. SIFUENTES: So as far as flooding of depots-- I mean, obviously, a broad conversation needs to take place around resiliency and sustainability.

SENATOR CRYAN: So are you familiar with this -- that this depot floods, and they literally have to take the buses out--

MR. SIFUENTES: Yes.

SENATOR CRYAN: --because it's over a floodplain of some sort? Is that correct?

MR. SIFUENTES: Right; this was a major issue during Sandy in particular. And New York had similar problems as well.

SENATOR CRYAN: Okay; so when there's bad weather, does New Jersey Transit actually empty a bus depot and move buses? Is that correct?

MR. SIFUENTES: I mean, in cases of bad weather, the Agency has contingency plans. So I think that is something that the Agency is working on.

SENATOR CRYAN: Okay.

MR. SIFUENTES: Certainly I think more transparency is needed into that. But electric buses need to be part of that resiliency program. The only way we're going to actually get the problem--

SENATOR CRYAN: How far can a bus go on a battery?

MR. SIFUENTES: How far does a bus run on a battery? Is that your question?

SENATOR CRYAN: Yes.

MR. SIFUENTES: It actually varies. The primary challenge of bus batteries is cold weather. Bus batteries use far more energy in heating, like, literally, actually running a heater to keep passengers comfortable. And that is one of the primary constraints. So it really depends on weather conditions, as well as the terrain conditions. But, on average, we're seeing that buses can actually go ahead and run a full shift on a battery charge. That's really not so much an issue.

SENATOR CRYAN: Well, how many miles is a full shift? I mean, the bus in Elizabeth is different than the bus that's going to New York City.

MR. SIFUENTES: Yes, it depends; it depends on the city, and the city conditions, and it also depends on what routes those buses are running. I mean, some of these routes we're talking about -- if you're looking at New York City or Los Angeles intercity routes, you're talking about a total route distance of about 15 miles. You know, New Jersey Transit -- a challenge that New Jersey Transit will face is making sure that on longer haul routes the buses and the batteries will actually be able run the full route.

I think the technology is there. But one thing that we recommend is New Jersey Transit should look at making sure shorter intercity

routes are the routes that are electrified first, so that the buses are clearly able to handle the kind of mileage that we're talking about there.

SENATOR CRYAN: Okay; thanks for the insights.

Through the Chair, how many miles do they go? If you charge a bus, how many miles does it go?

MR. SIFUENTES: It really depends; that's why I can't give you a good answer here. It depends on the company, it depends on the conditions--

SENATOR CRYAN: Well, what is the MTA designed for? That would be similar weather.

MR. SIFUENTES: We can get you a series of numbers from what other agencies have seen, in terms of that, to help out.

SENATOR CRYAN: Okay.

Last piece, because I know I'm going too long.

These articulated buses-- I'm fascinated by the infrastructure piece. And we all like -- I think we all like-- *Articulated*, meaning the buses that bend, right? That's what we're talking about?

MR. SIFUENTES: Yes.

SENATOR CRYAN: Is there spacing for those? Are they part of the capital plan? Have you seen that in any way? I mean, I'm just curious as to where those buses park at night.

MR. SIFUENTES: Do you mean the MTA, or NJ Transit?

SENATOR CRYAN: I'm sorry; NJ Transit.

MR. SIFUENTES: NJ Transit. I don't know off the top of my head.

Do you know about the articulated buses?

MS. CHERNETZ: I don't know the details, but I'd be happy to provide as much information as I can regarding New Jersey Transit's plans, moving forward, especially with the \$500 million bonding -- as far as what they plan to purchase.

SENATOR CRYAN: Well, did you look at that? It says-- And I don't know what a *NABI*-- N-A-B-I -- what does that mean?

MS. CHERNETZ: I don't know what that acronym stands for.

SENATOR CRYAN: So it's 1,338 NABI buses, starting in 2021, over six years, as part of that \$500 million. And as I understand it, from looking at the stuff here, there was an additional \$100 million already invested in new buses. Did they buy the right buses?

MS. CHERNETZ: Well, I mean, as Nick said, you can't be putting electric buses on right now, because we need that strategic plan for all of the reasons that Nick spoke about and all of the great series of questions that you asked. A lot of those questions should be part of the answers in New Jersey Transit's -- which they don't have -- strategic plan to roll out the electrification.

However, it was not clear to me -- I know which article you're referring to -- as to exactly where and what buses they are purchasing. I believe that the money was being borrowed for a bus purchase that was already approved by the Board.

SENATOR CRYAN: Some of it was, yes.

MS. CHERNETZ: Yes.

SENATOR CRYAN: So are you seeing new buses out there, or are they all like-- What's the deal?

MR. SIFUENTES: Are you talking about the MTA in this case?

SENATOR CRYAN: No, NJ Transit.

MR. SIFUENTES: Okay.

SENATOR CRYAN: From the story I just referenced, and the fact that there are others out there.

MR. SIFUENTES: Okay; because I think the 500 buses we were talking about just a moment ago -- that was a reference to the MTA.

SENATOR CRYAN: No.

MS. CHERNETZ: Yes, I think that might be a specific question for New Jersey Transit--

SENATOR CRYAN: I apologize; I just wanted to be clear. I'm referencing an article that talked about the \$500 million. And in that story, it talked about 1,338 NABI buses over six years, right? -- which I don't know what that acronym means; if you guys do, somebody help me, I don't know what it is -- North American Bus Institute? -- beats me. And then I know, in addition, we had learned from the previous-- *Non-articulated*; so they are the short buses; they're not the bendables; okay.

And then there's, as I understand it-- Because in Transit's own thing they talk about how many buses they purchased, which looks like a lot of buses -- 182 cruisers -- and they didn't have drivers, right? Everybody agrees on that, right?

MR. SIFUENTES: Right.

SENATOR CRYAN: We heard that in the first hearing -- the driver issue was a huge issue -- right? -- the CDL competition?

So the 182 cruisers, 183 more in 2020 -- this is off their website -- 85 articulated buses.

I guess what I'm wondering is, given where we are it seems like, at least to me, the right approach at the moment. Would you disagree with that? Or is what I'm hearing from you, we need a long-term plan to do more and better things, which includes zero-emissions. But is it the right decision now, or isn't it?

MR. SIFUENTES: Yes, I agree with you.

SENATOR CRYAN: Okay.

MR. SIFUENTES: The \$500 million that they're spending now on new buses -- we support that. We think it's important to have new buses roll out on the streets to support people, and we need a long-term plan to get to the---

SENATOR CRYAN: I'm surprised.

MR. SIFUENTES: --full zero-emissions fleet by 2040.

SENATOR CRYAN: Thanks so much; I'm just surprised.

Thanks.

SENATOR SWEENEY: Senator Weinberg; then I'll get over to Senator Kean.

SENATOR WEINBERG: Yes, I just want to give a little input on this particular subject. Because what we heard -- I guess, mostly, over social media -- from the bus riders is that they are buying the single-door buses rather than dual-door buses, which affects what we just saw in the study about loading and offloading. So although nobody's arguing with the amount of money here, whether or not the purchase is appropriate is what I raised earlier; and that is still my question.

And when I posed that question to NJ Transit, they did say that the dual-door buses result in a reduction of a couple of seats on the bus. So I think that all has to be taken into consideration.

SENATOR SWEENEY: Thank you, Senator.

And we're going to go to Senator Kean-- But I guess the point is, they're going to borrow \$500 million, and we should start the transition. Not abandon what we're doing, but start the transition; because if we don't, it's going to be too late.

Would you agree?

MR. SIFUENTES: Yes, I think that's correct.

The best way to handle the \$500 million, we think, is with the actual plan, whether it's written into statute or NJ Transit is required to produce a transition plan very soon.

I'll note that the MTA produced a full transition plan, year-by-year, within one year of announcing a commitment to a fully zero-emissions fleet. So it's entirely possible for them to turn this around. Because that \$500 million commitment is one that stretches over several years of procurement, it's entirely possible that some of those 500 busses could be electric towards the end of that cycle. But we need a plan, and they need to be tied to a plan to do it.

SENATOR SWEENEY: I think that's an excellent idea.

Senator Kean.

SENATOR KEAN: Thank you, Mr. President.

On the bus-- I think we all agree that part of an appropriate long-term plan is a short-term plan, and a bridging technology, and a bridging capacity.

Senator Gordon, it's good to see you.

Part of the bridging capacity that we want to try to figure out is, are there other technologies or other fuels that are used in other parts of the country or other parts of the world for buses that are safe, reliable, and/or environmentally protective? And can you use those -- can you cite some of those?

MR. SIFUENTES: Yes. So if you look around the world, there are obviously hybrid buses, there are buses that run on compressed natural gas, or CNG; there's RNG as well as -- renewable natural gas.

The challenge, however, is, I would say, two things: One, we're on a bit of a compressed timeline here. And with that compressed timeline comes the infrastructure costs as well. So in Nassau County, the NICE bus just finished about a year-and-a-half ago, two years ago, the installation of a brand-new CNG facility that cost them several-- Gosh, I wish I knew the exact number off the top of my head. I want to say it was around \$10 million to \$12 million; I could look that up.

But the point is, I went out there for a tour, and they showed me their nice, shiny facility that they spent a lot of money on. And in my head I was thinking, "You guys are going to have to electrify in just a few years. This was not a smart way to spend money."

If you kind of take that same sort of model and you just multiply it by the need across the state, you're going to be making significant infrastructure investments in the technology that will quickly become outdated. And so I think that's a primary challenge.

RNG, for instance, is something that gets floated from time to time; but at the end of the day, the infrastructure costs of installing RNG

might actually be more expensive than the requirements of just doing straight up electrification.

SENATOR KEAN: Okay.

So when you're talking about one of these funding things -- and this may be for the panel -- during the value-capture mechanisms-- Can you talk a little bit more, in greater detail, about the transportation utility fee -- how you would define that, and other places that have used a transportation utility fee?

MS. CHERNETZ: Sure.

So with transportation utility fees, that's a concept that transportation is treated like a utility. This would be paid by property occupants, not by property owners, like impact fees; and it is based on land use intensity. So it uses trip generation -- there has to be a trip generation to assess the fees, and this would require ordinance changes, state legislation, and possible constitutional language. It's one of the more complicated ways to implement value capture. But I'd be happy to provide a more detailed explanation of transportation utility fees and ways that they have been used in other places, and perhaps how it could be implemented in New Jersey.

SENATOR KEAN: And then, also, if any of these other value-capture mechanisms are anything other than the afore-stated-- What our understanding of what a *joint development, negotiated extraction* -- I mean, that's basically a sale -- *special assessment districts*. If any of those things are nontraditional definitions, can you get that -- through the Chair, can you get that to the Committee as well?

MS. CHERNETZ: I would be happy -- I would absolutely be happy to provide that to the Committee members through the Chair.

SENATOR KEAN: Okay, thank you.

When I talk to my constituents -- whether it's on the two rail lines that go through my Legislative District, or the bus lines that go through -- the communication and the technology, real time, is horrible. I mean, even a couple of Sundays ago when there was that weather pattern that came through, depending on whether New Jersey Transit was sending you -- or pushing a text and pushing information flow onto your smartphone or whether you were going to the website, people in my District got different information, real-time, saying that certain rail lines -- for example, on the M&E Line, that they had gone through, for example, the Short Hills train station; they had not gone through the Summit train station, which is to the west. And then, depending on other technologies, that, number one, it didn't go to either at the time. But number two, certain technologies said that the train was going to end, because they couldn't cross the tunnel at the time. So depending on which app you were looking at, from New Jersey Transit, they had different definitions of what the status of these various rail lines were.

That happens -- in my District, and on those two rail lines, the bus lines -- all the time. And I don't understand how years later, whether it was this Administration, or any previous Administration, or any future Administration, can think that the online timing, the communication, or anything else has improved. Because that's not the experience of the people who are trying -- whether to get to work, whether it's to the shopping centers, whether it was home, are having on a real-time basis.

And that's the kind of thing that you are also starting to see on your survey -- where you're saying the bus survey -- you're having 53 percent, and three times they're late.

So when we're looking at technology, now or in the future, we have to make sure that communication technology is far better than it currently is.

MS. CHERNETZ: Wouldn't it be nice if we didn't have to worry about having your train or your bus be late. I mean, that should be, really, the number one priority -- is to make sure that they're not running-- Of course, communications, so that people can plan accordingly-- And I live on the Raritan Valley Line, so I can share -- I do share those experiences. And having the up-to-date knowledge so that people can plan accordingly is very important.

Again, it was highlighted by North Highland, and hopefully -- I know that New Jersey Transit has just contracted with another consulting agency to implement the North Highland report, with absolutely better use of technology. But really, use of technology to make sure the trains and buses get where they need to be on time is the number one priority.

SENATOR KEAN: Right, right. I mean, that's what people want in this area, or any area. They want the predictability, they need the reliability. But while it's happening, also, in real time they need to know that New Jersey Transit, or any other provider, has an alternative plan. That is not being communicated in real time as well.

Thank you.

SENATOR SWEENEY: Thank you, Senator.

Also, just for the panel -- the third panel are experts in actual buses, electric buses.

SENATOR BATEMAN: Right.

SENATOR SWEENEY: But with that, Senator Corrado -- or Senator Bateman.

SENATOR BATEMAN: Just a follow-up on the emissions -- the buses.

The 2040 deadline -- is that due primarily because of the funding issue, or because of the life expectancy of the current buses? I'd like to see that time frame moved up; maybe it's not realistic, but maybe you can explain.

MR. SIFUENTES: Right. There is no specific reason why 2040 is necessarily the date, other than to say that in New York -- New York has a CLCPA legislation; the CLCPA has a mandated timetable of emission reductions to get to 85 percent by 2050. So this is kind of tied to that timeline, essentially; it's kind of one of the benchmarks that they set for themselves.

Other agencies have set other deadlines; we're really not seeing anything later than 2040; either 2040 or 2045. L.A., if I remember correctly, is 2035. The key here is the 12-year life cycle of buses that are tied to, obviously, Federal rules. And so just making sure that agencies have enough time to cycle out those buses in that 12-year life cycle.

One thing we think is important is, as we move to the electrification, we shouldn't be getting rid of assets that haven't reached the end of their useful lives.

SENATOR BATEMAN: Thank you.

Thank you, Mr. President.

MS. CHERNETZ: And just to put it in perspective, there are 60 transit agencies that have affirmatively committed to electrification across the

country, to which New Jersey Transit, obviously, has not. And Doug O'Malley will be speaking about those other transit agencies, and we do have a handout for the Committee members regarding what other agencies have done and their timelines.

SENATOR BATEMAN: Thank you.

SENATOR SWEENEY: Any other questions from the panel?

If not--

SENATOR CORRADO: I just have one quick--

Senator Corrado.

SENATOR CORRADO: Thank you, Mr. President.

Has anybody taken a look at-- I come from North Jersey; in particular, Passaic County, where we have a number of jitney buses. A number of them are unlicensed drivers without driver's licenses, and they use the same routes that New Jersey Transit uses.

Has anybody looked at what impact they're causing -- whether it's ridership or time delays, or the fact that they're not held to the same standard as New Jersey Transit is?

MR. SIFUENTES: We have started primarily looking into that as part of the call for New Jersey Transit to reimagine the bus networks.

It's pretty clear that the jitney operators are serving a need; they're just not doing it in a way that's necessarily safe or appropriate. And so we think it's really, really important that as New Jersey Transit does its analysis of the bus network, especially in the areas where the jitneys operate, they take into account there's this whole shadow market that exists there that they need to take very seriously.

SENATOR CORRADO: Thank you.

SENATOR SWEENEY: Thank you, Senator.

No other questions? (no response)

Thank you very much.

As some of the members said, the questions that were asked -- if you could provide to the Committee. When they say "through the Chair," that means they're asking you to provide us with the written answers to some of the questions that we're giving, okay?

MR. SIFUENTES: Thank you; we'll do so.

SENATOR SWEENEY: Thank you so much. It was a very informative panel.

Next is the Regional Plan Association, with Kate Slevin and Nat -- I'm horrible with names -- Bottigheimer.

Whenever you're ready.

(refers to PowerPoint presentation)

KATE SLEVIN: Good afternoon.

My name is Kate Slevin, Senior Vice President of State Programs and Advocacy at Regional Plan Association.

I am joined here today by my colleague, Nat Bottigheimer, RPA's New Jersey Director.

RPA is a nonprofit civic organization that conducts research, planning, and advocacy to improve economic opportunity, mobility, environmental sustainability, and the quality of life for those who live and work in New Jersey and the rest of the New York City metropolitan region.

Thank you, Senate President Sweeney and Senate Majority Leader Weinberg, for convening this Select Committee, and for holding these hearings, and for your strong leadership on transportation issues.

Improving and expanding NJ Transit service throughout the state is vitally important to New Jersey's economy, environment, and the hundreds of thousands of people who use it and rely on it daily. Using Transit produces 50 percent less carbon per mile compared to automobiles, and it is a necessary component of a state climate strategy when transportation represents the single largest component of greenhouse gas emissions.

To make progress on this critically important mission, RPA makes the following four recommendations, which we will discuss in detail today.

One, provide reliable, increased funding for Transit, especially Transit operations; two, prepare for a shutdown of the Hudson River tunnel; three, improve the bus system, especially in New Jersey's cities; and four, work with New Jersey Transit to develop a strategic plan with clear reporting requirements, and connect it to a longer-term vision.

First: provide reliable, increased funding for Transit.

Janna talked a lot about this, this afternoon, but I'll go into a little bit more detail.

For too long, New Jersey Transit has suffered unpredictable funding, especially for day-to-day Transit operations. This annual uncertainty about resources available has a paralyzing effect on Transit agencies. This hampers not just the ability to meet basic needs, but also the ability to plan strategically for the future. This diagnosis of funding came through loud and clear in last year's North Highland audit: Funding is inadequate, uncertain, and unsustainable.

Every year, the Agency is forced to transfer at least \$400 million from its capital budget to meet basic operating needs. New Jersey Transit's

operation and maintenance costs have risen nearly 30 percent in the past 10 years, while subsidies have declined, forcing the Agency to fund operations through dollars intended for capital projects. We likened this process last year to using the college fund to pay for groceries.

Fares have risen during this time, and now cover 60 percent of operations for New Jersey Transit's Rail service, a percentage that ranks among the highest in the nation.

While State support has grown somewhat over the past few years, anyone who consistently rides New Jersey Transit will tell you that the existing level of service is only very basic, it is generally unreliable and unacceptable. It is infrequent, and the trains and buses are often overcrowded. Again, the North Highland audit underscored this.

On-time performance was found to be highly variable, a key indicator that the physical assets are in dire need of repair, upgrade, or replacement. The operation of assets contributes to over 50 percent of the total delays, on average; and cancelations are frequent due to the undersupply of engineers and other staff.

NJ Transit has started working on these issues, but without more reliable funding -- along with reforms within the Agency that I will speak to in a moment -- success will be limited.

The Legislature and Governor must identify new, dedicated sources of funds that NJ Transit can count on for the long-term. These funds must be sufficient to end the cannibalization of capital funds to meet the annual operating requirement, and to allow for an expansion of bus and rail service to meet the growing demands of New Jersey's economy and growing ridership.

At a bare minimum, you can estimate about \$60 million in increases annually for contractual obligations related to labor. So if the State wants to see substantial improvement on the service side, State allocations will have to grow at an even faster pace.

To end the diversion of capital funds for operations and to provide a stable foundation for strategic planning and strategic behavior, we recommend two specific actions.

First: Identify a regular, forecastable source of new revenue dedicated to supporting Transit operations. There are any number of potential sources for such revenues that have been discussed, including restoration of sales taxes to past levels, permanent extensions of business income tax surcharges, and the establishment of a so-called *Millionaire's Tax*.

RPA also supports generating revenue from new fees established by the Transportation Climate Initiative, which was talked about earlier today. Participating states have formally agreed to move forward with a policy to reduce transportation emissions and help address carbon.

The system would work by setting a ceiling on the amount of carbon dioxide emissions in the 12-state region that stem from combustion of fossil fuels used in transportation. Wholesalers and distributors of motor fuels throughout the region would bid against one another in an auction of carbon allowances for the right to generate emissions. The payments received by the participating states would be shared and made available for other productive uses.

California has adopted such a system, and 25 percent of the revenues are dedicated to California transportation.

RPA recommends that the Legislature support New Jersey's participation in TCI, and should advocate for a dedication of some of the TCI-generated funds for Transit operations, system reinvestment, and Transit network expansion.

Because TCI-generated revenue may not be available for several years, RPA also recommends that the Legislature identify other funding sources that could be tapped in the near-term to meet the needs of operations and of capital expansion. For example, we continue to be strong supporters in New York, New Jersey, and Connecticut for new fees on busy highways to manage traffic and raise revenue for transportation. New York City's new congestion pricing program will result in \$15 billion into the next capital program of the MTA, all dedicated to fixing subways, buses, and commuter rails. In Connecticut, we similarly supported new tolls to fund the transportation capital program.

Longer term, in our Fourth Regional Plan, which laid out a blueprint for growth of the region, we called for bolder strategies, such as replacement of the gas tax with a fee-per-mile driven over the next few decades.

Whatever the funding approach, a capital investment strategy to fix the system will not come cheap.

Second: Prepare for a shutdown of the Hudson River tunnel.

Every day that passes without Federal funding and a firm schedule to build and repair rail tunnels under the Hudson River is a day closer to a longer-term closure -- planned or unplanned -- of all rail tunnels for New Jersey Transit and Amtrak.

Let us be clear: This shutdown would be an economic calamity for which we are woefully unprepared. The possibility that a tunnel closure would coincide with disruptions related to the rebuilding of the Port Authority Bus Terminal in New York is truly frightening.

Our *Preventable Crisis* report -- which you have in front of your today -- released earlier this year, looked at the effect of a possible shutdown of the existing Hudson tunnel for four years. The report underscored this need. We estimated that travel delays resulting from even a partial closure of the Hudson rail tunnels to Penn Station would result in a cost to the national economy of \$16 billion in direct impacts; \$7 billion in tax revenue across the region, with the largest portion of those costs impacting New Jersey; and a \$22 billion reduction in real estate value in New Jersey.

RPA's study showed how riders displaced from New Jersey Transit trains would filter on to other systems, like PATH and commuter buses. It also showed that the new drivers on the road displaced from Transit in the peak period would cause travel delays for a whopping 250,000 other New Jersey motorists of 10 minutes or more, and delays of 60 minutes or more for 100,000 motorists. In other words, a failure in the rail infrastructure is not just an inconvenience to rail riders; it is a threat to everyone in the transportation network.

New Jersey's and New York's future success becomes increasingly intertwined every year. The importance of New York City jobs for New Jersey's economy, and of New Jersey housing and residents for New York's labor market, has grown significantly in the past few decades. Every day, over 400,000 New Jerseyans commute to jobs in New York City, or one out of every eight employed residents of Northern New Jersey.

Since 2005, 85 percent of new jobs created in our region were created in New York City. As a result, the City's economy is growing in regional significance.

Reflecting that change, there has been major growth in travel to New York for employment since 2000, with nearly 120,000 more New Jerseyans making daily trips since then. And obviously, the increase in housing prices in New York City has contributed to this as well.

The jobs that New Jerseyans commute to in New York tend to be high-wage jobs, providing an outsize positive impact on New Jersey's economy and to local and municipal budgets.

The value of Transit connectivity to New York is reflected in New Jersey's real estate values. And RPA's research has shown that for homes within two miles of a rail station, for every minute of travel time savings to the city, a home will increase an average of almost \$2,000. These numbers, combined with the existing vulnerability of the system, are worrying. And when you consider things like the Port Authority Bus Terminal; the need to fix the approach to the Lincoln Tunnel; the Portal Bridge replacement, which is similarly stuck at the Federal level; and the fact that the PATH trains are full, it is really a crisis that needs to be addressed.

The Legislature and Governor must task an organization with the responsibility for coordinating trans-Hudson transportation well in advance of a disaster, to share that plan with the public, and to invest ahead of time in actions that support a continuous connection between New Jersey's and New York's tightly linked economies.

Third: Improve the bus system, especially in New Jersey's cities.

My colleagues at the Tri-State Transportation Campaign talked a lot about this earlier today, so I will shorten my part of this testimony.

But essentially, more than half of Transit trips made each day in New Jersey are on a bus, but the buses get much less than half of the attention and investment. New Jersey Transit has more than 3,000 buses operating on more than 250 routes, and this means over 6,000 route-miles. Despite the importance of bus travel to so many New Jersey residents, buses remain second-class citizens on New Jersey's roads. They often get stuck in traffic, and they are not given priority on local streets.

While there have been strides in making information available about bus arrival times, compared to rail riders the state's bus passengers have access to much less extensive information about routes, schedules, and other information. In fact, there is not even a comprehensive New Jersey bus map.

Improving the quality of bus service is not just important for the 478,000 trips per day; it is also important as an investment in the places that will be powering the state's growth for the coming decades. Focusing more attention and resources on buses is important to support the lives of those who depend on bus transit and, increasingly, those who choose not to own cars.

As communities across the state make good on their commitments to deliver more housing, and as cities around the state grow and revitalize, bus service is a strategic element that can reduce traffic impacts, support health and safety, and accelerate community reinvestment. These improvements also can be made faster and at a lower cost than rail improvements. Buses offer the greatest potential in the near-term to increase the Transit system's reach, to connect affordable communities with

employment centers, and to support equitable growth in New Jersey's established urban centers.

And we are pleased to share many of the requests and thoughts of the Tri-State Transportation Campaign this morning, and we'll be working with them, going forward, on improving bus service.

Three (*sic*): Work with New Jersey Transit to develop a strategic plan with clear reporting requirements and connected to a long-term vision.

The Legislature must demand and support articulation by New Jersey Transit and DOT of a vision for Transit and Transit's future as part of a comprehensive economic development and mobility plan for the state. The vision should clearly acknowledge the importance of economic growth of walkable, transit-accessible places that affordably houses the workforce of the future. It should acknowledge the reality of climate change, sea level rise, and electrification as companion issues that must be addressed systemically.

The vision should also adapt the models of past Transit service delivery to the opportunities presented by new ride-share and micro-mobility technologies.

To start, New Jersey Transit should prepare a comprehensive statement of Transit capital needs and operating needs for the coming decade. The inventory of needs should be accompanied by funding needs, and recommended implementation strategies and schedules.

Similarly, the agency desperately needs a five-year strategic plan that includes clear benchmarks for things such as agency governance reform, Transit service delivery, and customer communications. Such a plan permits the public to track and follow improvements. We are pleased to hear that the Agency is moving forward to advance a 2020 strategic plan, but that

document absolutely needs near-term benchmarks within the next couple of years.

But absent of a comprehensive five-year plan, things we know the Agencies are doing -- such as increasing the number of locomotive engineers, hiring new bus contractors, triple construction contract awards -- we don't understand how it's going to benefit the State in the long-term without this broader vision.

And for the longer term, the Governor's Office, New Jersey Transit, and DOT must paint a detailed picture of an expanded, statewide Transit network and how it supports broader economic growth, environmental health, and housing affordability goals. Such a long-term picture would include strategies for how to fund and deliver system extensions throughout the state that have already been planned, including light rail expansions, new bus rapid transit routes, and the PATH extension to Newark Airport, which we support; and promote and encourage other low-carbon transportation options in municipalities, such as bike share, protected bike lanes, and electric bicycle adoptions in cities and downtowns.

And also, making New Jersey Transit a Cabinet-level position might be necessary as we advance.

So I want to thank you all for your time today, and we continue to be here as a resource and partner for you and the entire Legislature.

Thank you very much.

SENATOR SWEENEY: Thank you.

That's the -- you're wrapped up with your presentation?

MS. SLEVIN: I'm it; that's it, yes.

SENATOR SWEENEY: Thank you.

I'm going to start with Senator Bateman, and we'll go around.

SENATOR BATEMAN: Are we going to hear the rest of the panel? Is there another member?

SENATOR SWEENEY: That's it.

SENATOR BATEMAN: Oh, that's it.

MS. SLEVIN: Nat's just here to help me answer questions.

SENATOR BATEMAN: Oh, okay.

Well, thank you very much for your presentation.

Obviously, from your testimony, the increase in ridership-- Ridership has increased, especially in urban areas, Bergen and Hudson counties.

Are you in a position to handle that increase the way the current system is functioning now?

MS. SLEVIN: I'm sorry, I was having trouble hearing you. Were you saying--

SENATOR BATEMAN: Yes, I'm sorry.

MS. SLEVIN: --are Bergen and Essex counties--

SENATOR BATEMAN: Yes.

MS. SLEVIN: --able to handle that increase?

SENATOR BATEMAN: Yes.

MS. SLEVIN: Well, I mean, first of all, we want more people on public transportation. It's good on all accounts. It's good for the environment, it's good for our economies; it's good for people's health, because they walk to and from Transit.

But no, right now we do not have a system that supports the growth that we want to see. And ridership has grown. I mean, in the past

few decades we've seen trips across the Hudson River, for example, grow by over 100,000. I mean, it's just incredible -- the growth; and we are not providing more service; we're actually providing less than we used to.

So we absolutely need to accommodate that growth, and do more: local buses, interstate buses, and eventually more rail service as well.

SENATOR BATEMAN: And I was interested in your testimony on the bus-- We have no comprehensive bus plan -- strategy right now?

MS. SLEVIN: There's no map that shows all of the bus routes in the state. There's no map that shows it within cities. It's only per-route information that's available.

There's some real-time information that is available through the app and through the website; but there's no-- Like, if you want to go from Essex to somewhere in Bergen, you can't look on a map and say, "Oh, I need this route and then that route."

SENATOR BATEMAN: I would think that's something we should be working on.

You also mentioned -- identify new revenue sources. I mean, obviously, we don't want to go back to our consumers. What are your suggestions there?

MS. SLEVIN: Well, I mean, I think the presentation this morning highlighted how other states have been doing it. You know, the MTA has a variety of different sources that fund transit: operations and transit capital; they use real estate taxes, they use a portion of the sales tax, they use various business taxes. And they just put in place -- which will start in early 2021 -- a congestion pricing program to pay for capital as well.

So funding both is absolutely vital, and getting more -- fixing the Transit operations side is necessary, and then ensuring there's money for capital expansion is also necessary. But obviously, as we discussed earlier today, they are very intertwined.

SENATOR BATEMAN: All right; thank you.

SENATOR SWEENEY: Thank you, Senator.

Senator Kean.

SENATOR KEAN: Thank you for your testimony today. It is good to see you.

When you're looking at the reverse patterns of the commute change over the course of the last couple of decades, it strikes me that there can be a variety of different causes for that. One of them could be economic and fiscal policies of the State. I mean, New Jersey, historically, always wanted to be a lower tax environment than New York, than Connecticut, and maybe some of its other peer states. And given certain tax changes over the last several decades that has not, certainly, always been the case. So there could be job creation in other places because of the comparative tax changes.

Secondly, it seems to me that we don't only want to have a policy -- in the case in my District, where people are only going east to seek their jobs, we have to have a clear and consistent economic growth strategy, tied in with the infrastructure strategy, that says that communities like Bridgewater, and communities like Westfield or Plainfield or anybody else along-- Whether it's the Raritan Valley Line, or whether it's the M&E Line, or anything else, also have a focus of economic growth so that you're going to be able to-- One of the ways to reduce cross-Hudson congestion is to have more economic opportunities, and job opportunities; and a stable, and

predictable, and mapable bus/rail -- what have you -- online; long-term growth so we have more-- That would also be one of the ways to reduce the congestion across the river, right?

NAT BOTTIGHEIMER: Yes, that's absolutely correct.

And I'll just give a couple of examples. For example, Audible's expansion in Newark is a terrific example of that. It's the largest employer of actors in the New York City region, and a large number of their employees actually commute outbound from Brooklyn there, to the point that they actually worked with New Jersey Transit to provide a 5:30 train going from Newark Broad Street back into the City so Audible employees could get back there. That point is exactly right.

One of the things that we can do to help ourselves in that respect is to make the job growth locations in the state accessible to out-commuters from New York City by Transit; so locating future growth, like Audible, right at a rail station that people can get to, from New York.

We recently recommended, as part of our study on extending the PATH train to Newark, to make as part of the money that's being spent on rebuilding the Airtrain and rebuilding the PATH -- to use that as an opportunity to open up the Newark Airport rail station to a tremendous economic development opportunity for hospitality, convention, aviation support, that might be located right next to that rail station in the currently underdeveloped part of the city.

And then finally, going out the Raritan Valley Line -- there's been tremendous growth in Transit-oriented development with housing near the stations. It's a great example for the rest of the state to follow. But those kinds of walkable places are the perfect locations for jobs as well -- looking at

Metro Park, and places like that -- to attract outbound. But creating places that have jobs that are walkable, have the characteristics that people like -- in the future workforce -- is a great strategy to get exactly what you're talking about.

SENATOR KEAN: If we're only talking about the Raritan Valley -- and I'm happy to talk about the M&E Line as well -- but if you're only talking about-- I want as many people commuting from Union, going into Westfield, into Cranford, into Roselle Park, into Plainfield, into Dunnellon, into Somerville-- So I want the internal New Jersey commute to be stronger, east and west; but I also want the inbound from New York City, because you're talking about -- whether it's Audible, which has set up an extraordinary structure, and other entities, that we have to be consistent that-- I mean, part of that commuting pattern change is, in part, because New Jersey hasn't focused on ways to truly structure entire state growth and have consistent economic policies over time. When you talk to Massachusetts, or North Carolina, or anybody else, they've got consistent economic policies and structural -- port and otherwise, development policies that we just haven't had.

MS. SLEVIN: Yes; I mean, you're absolutely right, and we agree. And places-- You know, we've always encouraged center-based development, center-based economic growth so it's easier for people to get there, there's more likelihood to have good bus or rail transit. And you have so many examples of that in New Jersey where that growth can happen.

And we have seen a lot of people making choices on where they live and how they want to live. They want to live in walkable places, they

want to have public transportation options or even cycling options to their job; and I think that's going to continue.

So yes, absolutely.

SENATOR KEAN: And given some of the other areas we even look at-- Because I do think that if we look at Massachusetts, overall, or if you look at Illinois, overall, or you look at North Carolina, overall, for example, you can actually have a broader regional focus that is sort of state-specific. Because I don't think we really are a New York City blend. We are three unique states that have strategic growth opportunity within each of our entities. And we need to be looking at its component parts, not just as a -- only New York City-centric development strategy.

MS. SLEVIN: Yes, but that's absolutely -- we've always agreed with that; and have really seen potential for so many places in New Jersey because of the proximity to public transportation, great workforce, great diversity of people.

So yes, absolutely.

SENATOR KEAN: Thank you.

SENATOR SWEENEY: Senator Weinberg.

SENATOR WEINBERG: Thank you.

First of all, again, thank you for your advocacy over the last year or so, as we've been attempting to address the problems, as well as the solutions, for NJ Transit.

I'd like to comment on one of your four recommendations, which I think is extremely important -- where you say "work with New Jersey Transit to develop a strategic plan, along with clear reporting requirements, and connect it to a long-term vision."

That is lacking at New Jersey Transit. I have reached out to both NJ Transit and to the Governor's Office over the last number of months on that very subject. And hopefully, with a more robust NJ Transit Board we will be able to see some progress in that area, not only with clear reporting requirements, but with timelines.

And I think if the public understands that something is going to take three months, whereas something else is going to take three years, that will help alleviate a lot of the misunderstanding around this.

And so a comment -- that I'm glad you included that as one of your four main recommendations.

And the other, number three, about improving the bus system-- Now, we each tend to talk about our own parochial areas. In the case of where I live, we have no train; it is all bus. And I will tell you, in the community in which I live and work, there is a spate of -- there is a new increase in multifamily housing: 600 units here, 300 units there. We were told by New Jersey Transit that on certain routes, particularly during rush hour, the roads just can't accommodate any more buses, even if they had the vehicles and had the drivers. There's just no room anymore.

So I think what you are pointing out here -- about a comprehensive bus plan -- is of the utmost importance. And to add in -- and I don't know if this is something we will be considering along the way -- for a requirement for municipalities to work with NJ Transit when they are granting building permits for all of this multifamily housing, so that at least they have some input.

So those are general comments; not really questions.

But thank you for raising those issues. And if you have any input, I'd be happy to hear it.

MR. BOTTIGHEIMER: Thank you, Senator Weinberg, for your leadership as well, and for your kind words.

I think we agree entirely with the points you've just been making.

Now, I think, maybe the only thing I would add, as a thought, is to include New Jersey DOT in that partnership. When you have the number of people per hour on buses in a single lane, probably exceeding the number of people in cars, you start to think about whether or not you should be creating, at least during rush hours, lanes for buses, just because that is the most efficient way to get more people through. It may impact some people who are driving in cars today, but it may actually make things better for them if they choose to make that choice to move onto the bus.

But that's an area that's really ripe for a partnership between New Jersey Transit and New Jersey DOT for a strategic goal that's important to the state as a whole.

SENATOR SWEENEY: Thank you for the answer; and Senator Weinberg, I think it's imperative when we have these major developments that Transit is consulted so it can work before it's built.

Senator Cryan.

SENATOR CRYAN: Thank you, Chair.

And through you, that's actually my first point.

Do you have any recommendations-- The comments about -- Senator Weinberg and I actually have a bill -- the comments about growth around Transit areas. We see and we learned, again in Hoboken, in our comments, about the multi-unit, mixed-use type of developments that are so

much of growth along the line, but we don't bother to tell Transit about it, literally, until the day it's open.

Any thoughts on that?

MS. SLEVIN: Yes; I mean, I think that's always been a frustration of ours when the local municipality and the Transit agency don't coordinate on a transportation plan for new development.

SENATOR CRYAN: So do you have any recommendations on how to do that? It's Kate, right?

MS. SLEVIN: Yes.

SENATOR CRYAN: Yes.

MS. SLEVIN: I mean, I think if you have -- if you kind of have a statewide vision of where you want to go with transportation, and the local municipalities can work within that to meet their own goals in terms of affordable housing, and development, and economic growth, I think you have to do it hand-in-hand. And it's going to become increasingly important, as we see the impacts of climate change, to do that. Because, frankly, a lot of places are going to start to see more flooding and there's going to be more challenges that we need to address.

SENATOR CRYAN: You guys are a regional planning association, right?

MR. BOTTIGHEIMER: That's right.

MS. SLEVIN: Correct.

SENATOR CRYAN: Do other states do this well?

MS. SLEVIN: I mean, I was just thinking of examples where they haven't done it well, so it's a typical thing.

MR. BOTTIGHEIMER: I would actually say that the State Department of Planning in the state of Maryland is actually pretty effective at this; and their state planners act, in their interactions with municipalities and counties that are adopting plans, to alert the State Department of Environment and State Department of Transportation about issues that might arise at the local level.

I guess my recommendation would be if a state planning function could be resourced as the eyes and ears at the local level, not just of the transit agency, but of also State DOT, DNR, the environment department, that would be a help to all of the State agencies.

MS. SLEVIN: And, you know, New Jersey has such a great history. The State plan -- a lot of the growth in transit that the state has seen over the past few decades was intentional, you know? As a state, the State plan said, "We want to grow around transit, we want to grow in this sort of way," and it's a success story. And so continuing that, and getting that sort of process going again so you have a clear vision, I think would be very helpful.

SENATOR CRYAN: Yes, even through-- Transit numbers continue to rise, right? They're at plus 1.6 every quarter; plus -- right? -- both on Bus and Rail. I believe so; I think that's--

MS. SLEVIN: Generally, Bus transit within cities is not keeping pace with some other options, and that's because of a lot of the challenges we talked about today, of being -- buses being stuck in congestion and the like.

SENATOR CRYAN: Okay; I thought I saw data where they were all--

MS. SLEVIN: But overall-- And people might be shifting, say, across the Hudson River from rail to bus; and there's been various outages. But overall, transit is growing, yes.

SENATOR CRYAN: So it's growing, even in a decade of decline and, it's fair to say, a weakened performance; it's still growing.

MS. SLEVIN: Correct, correct.

SENATOR CRYAN: So we need to figure that out, right?

MS. SLEVIN: Correct.

SENATOR CRYAN: So two other areas, two other quick areas for you. One is -- I was hoping you could help me. The East River tunnels are being-- You're regional folks, right? So the East River tunnels are being repaired by (indiscernible), now, right? Is that correct; they're going to be done by 2022?

MS. SLEVIN: Correct; you mean the L-train tunnels for the subway?

SENATOR CRYAN: Right, that goes into a nice, brand new station in Penn Station, right? Ultimately, that's where they'll go -- to the post office, right?

MS. SLEVIN: Oh, you mean East Side Access coming into Grand Central?

SENATOR CRYAN: Yes.

MS. SLEVIN: Okay, that's another different project; yes.

SENATOR CRYAN: Right. Is there any -- to your knowledge, is there any plan, at this point in time, to repair -- to do any repairs on the Hudson River tunnels? I'm just asking; there were stories about repairs and 2025. You guys do regional planning; are there any of those out there?

MS. SLEVIN: Well, I mean, there's ongoing maintenance of the tunnels. But in order to really repair them from Sandy, you need to close them down to make those fixes. And so that's-- We don't want that to have to happen before new tunnels are built that can accommodate all the passengers.

SENATOR CRYAN: To your knowledge, what's the plan? To your knowledge, is there a plan date? I did see a story about 2025, and it's a year old. Is there any current data on that?

MR. BOTTIGHEIMER: I don't think there is a plan date, because we're still all crossing our fingers that new Hudson River tunnels will be built to provide replacement service under the Hudson River before those repairs would happen.

SENATOR CRYAN: So they're going to fix the East River, where there are no tolls -- right? -- for the commuters, right? -- for the cars, right? The Port Authority doesn't charge tolls over the East River (indiscernible).

MS. SLEVIN: Well, the congestion pricing plan that is starting in early 2021 would require everyone driving into Manhattan, south of 60th Street, to pay a fee, including the people--

SENATOR CRYAN: We would have to pay the same thing in New Jersey if we crossed over, right? We would have to pay the same toll.

MS. SLEVIN: Well, it depends on how they implement the--

SENATOR CRYAN: Well, we would pay too, right? Correct?

MS. SLEVIN: It depends on how they implement the program. You would not necessarily have to pay, too; they might give toll credits for people crossing the river. That's to be determined.

SENATOR CRYAN: I guess-- Just let me just word it this way. So the East River tunnels -- or whatever the correct nomenclature is -- are being repaired. So if you live on Long Island you can come in on a tunnel that's repaired from Sandy, with the same kind of damage -- you don't have the risk that we have with the Hudson. You don't have the Port Authority tolls, which just increased; and, by the way, with a cost of living; and, for a lack of a better way to put it, no real plan on the bus terminal.

So if you live in Jersey, you're really getting out-manuevered at this point, along with a COLA on the toll increases that I can see. Is that correct? I mean, that's just from looking at this stuff.

MR. BOTTIGHEIMER: Well, I think that's-- So, I mean, it's possible that you could be correct, depending on the way that it's implemented. I think our view of the congestion pricing regime was that it actually was going to force commuters from the East Side, from Long Island, to catch up to what New Jerseyans have already been paying, which is why we've advocated for a credit against a congestion fee of the Port Authority tolls. So it's the same price for everybody to get into Manhattan.

SENATOR CRYAN: What are the chances of that credit happening?

MR. BOTTIGHEIMER: Excuse me?

SENATOR CRYAN: What are the chances of that credit happening?

MR. BOTTIGHEIMER: I think the chances increase if we talk about it and about what the motivations to that are.

SENATOR CRYAN: Okay, all right.

Last thing, through the Chair.

I'm sorry; oh, go ahead.

MS. SLEVIN: But your bigger point about transportation improvements to Long Island, from New York? Yes.

SENATOR CRYAN: It sure looks like home values in Long Island and around the City are going to increase, while ours are going to struggle, based on this transportation infrastructure network issue, correct?

MS. SLEVIN: That is a good assumption.

SENATOR CRYAN: Okay.

The last thing is on-- Your first point is "reliable, increased funding." Do you have specific recommendations for the Committee where they should be?

MS. SLEVIN: Where they should come from?

SENATOR CRYAN: Yes.

MS. SLEVIN: So we talked a lot about TCI; I think that has a lot of potential -- the Transportation Climate Initiative.

In other states, what they've done is, they've cobbled together a number of sources. So there are portions of real estate fees, portions of business fees. And we can get you more specific information. The SEPTA example was brought up today, the MTA also has a dedicated pot of funds--

SENATOR CRYAN: Right.

MS. SLEVIN: --that I think provides a good model.

SENATOR CRYAN: Through the Chair, last question.

What is the-- You mentioned the TCI, and I tried to Google it. I don't-- Could you just explain, for this dumb fellow, what it is?

MR. BOTTIGHEIMER: So it's a coalition of states in the Northeast and in the Mid-Atlantic that are working together to try to find a

regionally coherent way of putting a price on carbon emissions from the transportation sector.

SENATOR CRYAN: Oh, okay; all right.

MR. BOTTIGHEIMER: The idea is that you would probably charge a wholesaler's fee to-- They would have to, basically, buy allowances to emit carbon; at least, this is the model that's been in place in California. And then that allowance that is purchased by wholesalers is then, generally, passed on at the pump to the consumer. So it does result in an increase in the cost of gasoline to the consumer. There are obviously issues with low-income households; and a lot of places that implement regimes like this dedicate a portion of revenues to hold harmless low-income households. But places like California have also taken a quarter of the revenues that are generated like that and dedicated that to transportation purposes. In California, I think 25 percent of the revenues are going to a high-speed rail network; so billions of dollars going to transportation investment.

SENATOR CRYAN: Thank you.

SENATOR SWEENEY: Thank you.

Senator Diegnan, do you have questions for this panel?

SENATOR DIEGNAN: Real quick -- I just want to thank you for what you do.

I'm Chair of the Transportation Committee. Keep us in the loop as you go forward; you know, what Joe just -- what Senator Cryan just said.

You know, I know Kip Bateman in Somerville, Tom Kean in Westfield, and my District in Metuchen are exploding because of the train station. And I know Governor Corzine, at one particular point, was talking about the possibility of *monetizing* -- I hate that word -- the assets that are

around the train stations. And I've always thought, you know, if you look at a town like Somerville or Metuchen -- if they were able to build apartments right over the train station, how much money that could generate for the state on an annual basis.

So that's just something I wanted to, maybe, brainstorm with you. Because let's admit it; as the old joke goes, it's not about the money; but yes, you're not going to do it without the money.

So we have to find a way to-- We cannot continue to increase tolls, we cannot continue to increase fares. We have to look for some alternate ways. And any input you can give in that regard is greatly appreciated.

MS. SLEVIN: We strongly support land value capture -- which is the mechanism you're talking about -- to raise money for transportation. We don't think it can be the only solution; it will be important, but it's not going to contribute a huge amount of money. It would be a vital source, but not 80 percent of what we need.

But I also would urge you to look at the-- As technology comes on, we have more for-hire vehicles; people want walking and cycling routes to train stations. There's a lot of land around train stations that's parking, and we've done some research and found that you can put hundreds of thousands of new homes there for people, and sort of an expansion of what's already happening, so they can live right next to the train station.

So we absolutely agree; and I urge you to -- we can send along some more materials so you can take a look.

SENATOR SWEENEY: Thank you, Senator.

Senator Bateman.

SENATOR BATEMAN: Just real quickly, Senator Sweeney; thank you.

We continue to push for a one-seat ride, too. Obviously, you are well aware of that issue.

MS. SLEVIN: Yes.

SENATOR BATEMAN: It's very important, as the Senator said, to my District, and Senator Kean's District, and Senator Cryan's District. So thank you; keep pushing.

SENATOR SWEENEY: Thank you.

I know what a train looks like (laughter); I've seen a bus.

SENATOR BATEMAN: You got buses down there, do you?

SENATOR SWEENEY: I saw a bus once, too, where I live.

Again, thank you so much for participating.

MS. SLEVIN: Thank you.

SENATOR SWEENEY: And the last panel is going to be Pam Frank, ChargeEVC; and Doug O'Malley, from the Environment New Jersey.

And we have another Committee waiting, so we'll try to move this quickly in fairness to the people who are waiting.

Whoever wants to go first.

P A M E L A F R A N K: Hi; good afternoon.

My name is Pamela Frank; I'm a Vice President at Gable Associates, and I also serve as CEO of ChargeEVC.

Charge EVC is a business association made up of a wide variety of interests: utilities, manufacturers, equity, environmental consumer advocates, power generation owners, labor -- all trying to get to electrify the transportation sector.

I've been working at this for four years. I would be remiss if I didn't mention and thank a lot of the folks up there for their leadership on an electric vehicle Bill that, hopefully, we're going to get done in this lame-duck session. And a lot of what is contained in that Bill kind of dovetails to some of the remarks we want to make today about electrification of Transit, in particular.

I just want to start by highlighting a few important trends for all of you, in terms of what is accelerating adoption of electric buses that we are seeing today.

First and foremost, you should understand the cost of battery prices, which are falling rapidly. They've fallen 87 percent, in real terms, in 2019. This is certainly driving electric vehicle adoption and electric vehicle bus adoption, in particular.

The market penetration of electric buses has exceeded 10 percent. That surpassed, actually, light duty vehicles, which is about 2 percent.

Again, the other thing driving this is that states, municipalities, and transit agents have all -- throughout the country have all pledged to go zero-emission or all-electric by dates certain. Those kinds of goals are contained in the Bill under consideration that I mentioned previously. And also, there are a number of government subsidies available to help defray costs of these electric buses. So all these things together are really making this technology take off fairly quickly.

There's a bunch of reasons why electric vehicles benefit all of us. I'm not going to cover that, because I think a lot of that has been covered here today. I want to, kind of, get right to the heart of the matter, which is

economics for electric buses. And I'm happy to submit some more detailed information to you after this hearing.

On the total cost of ownership basis, electric buses have the lowest operational life cycle compared to diesel, CNG, or hybrid buses. The fuel savings alone for electric buses are significant. They clearly also offer superior performance, preferred customer experience, they're quiet. There is the urbanization trend, so we may be relying on busing more than we are today, given there are more people moving into crowded areas.

And then, of course, there's all the health costs associated with fossil fuels.

I want to underscore -- when you do a comparable life cycle analysis cost for these vehicles, they are coming out ahead because of both fuel savings and because of operation and maintenance. It's very important-- There's also -- because these things are, essentially, batteries on wheels, there is also the potential for some new business models, new procurement strategies for getting these buses in the first place.

I'm going to offer as one example Park City, Utah. Park City, Utah happens to have about 43 buses in their electric fleet (*sic*). I actually ride these buses once a year when I go there in the wintertime. The elevation of Park City is 7,000 feet; it's high. These buses go up and down mountains. I've been riding in their electric buses for the last several years. There should be no question that these buses can perform in cold climates, and these buses can climb verticals and perform.

Thirteen of their electric buses -- out of a fleet of 43; that's 30 percent are now electric. There's a very important piece of this puzzle -- which we started to talk about earlier -- which has to do with infrastructure.

And I want to make the point that it is absolutely the case that electrifying public transit is going to mean that we need to think about charging/fueling electric buses -- I say *charging* -- in a very different way. And as one example, I'm going to offer you what goes on in Park City.

They have two methods of charging buses, right? They have buses-- And someone had asked before, how far these things can go on a charge. They go about 250 miles on a charge. It's impacted by weather, it's impacted by if you're going downhill or uphill, it's impacted by how fast you're accelerating. But these buses -- on the route trips that they travel, many of them can travel all day long, accomplish all of their routes, and then they go home to sleep at night at a place that's charging them with infrastructure that looks quite like the way I charge my electric car, giving them about 25 miles an hour per charge. So when they get ready to leave in the morning, they're full again, and the day starts anew.

They also have two enroute chargers -- that look like giant claws that come over the bus -- with contacts, and they charge while the buses are waiting -- we would say *idling*; but they don't idle, because there's no emissions -- but they're waiting for about 10 minutes to pick up passengers at two endpoints that are on their routes.

So they have redundancy built into their route planning and their charging, which is the kind of way we need to start thinking about infrastructure planning for New Jersey Transit.

It's important, also, to note that these assets, these charging assets are going to have many uses, potentially more than just buses. You could take a public charger that is going to charge cars; it could also be used to charge buses.

Further, I mentioned there are different financing opportunities. Park City has chosen to lease the buses that it is currently using. The latest buses that it got-- seven buses, brand new buses -- it is leasing the batteries on this bus. This means at the end of the lease period, the city can own the batteries. This can be used for a whole number of purposes, including resiliency, including providing charges to charging stations when the grid goes down, and many other uses.

I know we are pressed for time; I'd like to be able to answer questions that you have. And I want to turn it over to my colleague Doug, and then I suppose we'll take your questions.

SENATOR SWEENEY: Well, what we're going to do, just for fairness of time -- we have another Committee in this room -- when you finish your testimony the members of this Committee, through me, will put their questions in writing, and we'll ask you to answer them for us, and we'll make them public, okay?

MS. FRANK: Great plan.

SENATOR SWEENEY: Well, we have a lot of people waiting; I know that.

Doug.

DOUG O'MALLEY: Thank you. Mr. Senate President; thank you, Majority Leader; and thank you to all the members of the Committee who have stayed through this. It's almost as long as waiting for the bus or the train. (laughter)

Right now, of course, our focus is having New Jersey Transit to electrify their bus fleet over the course of the next two decades. This is not a revolutionary goal. A vast majority of the nation's largest transit agencies

have already committed to this goal; and New Jersey Transit, as a former national leader, should once again reassert its leadership.

Right now, though, we are in the back of the bus. And when we look at what New Jersey Transit has done so far, it is not measuring up. The rationale to move forward on electrification is really simple: Air pollution from our buses, in our cities especially, is incredibly deadly. It's like powering a mini power plant through our urban communities.

I'll talk briefly on the health impact and why it's so critical for us to move forward.

But the reminder here is that we cannot wait until the 2030s to start electrification. We need to start now, and that's what we're seeing for MTA; that's what we're seeing from SEPTA, across the river in Philadelphia, which already has 25 electric buses on the road; that's what we're seeing from more than 60 transit agencies across this country.

So Mr. Senate President, you talked about the bond measure of \$500 million to move forward on new purchases on some of the oldest New Jersey Transit buses. That procurement plan is at the very end of New Jersey Transit's current tranche; but those buses, when they're purchased in the mid-2020s, are going to be on the road for more than a decade. And that's why it's so critical that New Jersey Transit accelerate its process.

There's an old saw that Governor McGreevey always used to say, which is, "You need to work your plan and plan your work." And right now, New Jersey Transit does not have a plan for electrification. One of the recommendations from the Highland audit was to have a strategic plan. That has, obviously, not happened yet. As part of that strategic plan, electrification needs to be a key part.

I'm not going to run through all of the agencies in the country that have moved towards electrification, but I did just want to highlight a couple of them.

We've heard directly from New Jersey Transit's head, Kevin Corbett, that cold temperatures are a problem. Well, guess what? Juneau, Alaska, is moving forward with electrification. Minneapolis, Minnesota, canceled diesel buses. Mayor Lightfoot, in Chicago, has committed to have CTA move forward with a 2040 deadline. If those cities can do it, certainly we can as well.

And I want to talk about why this is so important, and especially important knowing that the Health Committee is waiting very patiently, and we have many parents sitting behind me. When we talk about health impacts of diesel buses, this is not some academic issue; these are real people's lives, and these are children's lives that are at risk.

And I want to specifically reference a 2017 Rutgers University study on asthmatic children living near the port of New York-New Jersey. "Heavy diesel traffic found that a greater exposure to carbon soot coincided with markers for lung inflammation." So there's a direct link between breathing in polluted air and having your lungs inflamed. There is a direct link with asthma and asthma attacks. And that's why our urban communities have some of the highest levels of asthma in the state.

I also wanted to reference PM 2.5, which is particulate matter 2.5. This is the invisible soot that comes out. We see that black smoke; it ends up in our lungs. And that is four times as impactful as the pollution that comes out of a power plant.

This also has tremendous economic costs, and this cannot be emphasized enough. Every electric bus that's on the road has an annual health savings of more than \$150,000; that's a Columbia University study from MTA. That's \$1.5 billion (*sic*) dollars over the course of a decade. And this is also why we need to be looking at the long-term cost of diesel buses because, right now, diesel buses are really expensive to maintain. And if you look at the operational expenses for an electric bus, they are more than half less expensive. So yes, there's a Delta; they are more expensive. It's \$750,000 to buy an electric bus, \$500,000 to buy a diesel bus. But you save \$500,000 over the course of a decade. You end up saving money by electrifying. That is a message that I cannot emphasize enough.

Now, does that mean that New Jersey Transit is ready to electrify right now? No; we obviously need to be looking at the Bus Depot, which Senator Cryan referenced. To answer a specific question, New Jersey Transit buses, if they're electrified, will be able to travel anywhere from 150 to 250 miles on a charge. And we can expect that number to increase, because we've had other cities that have shown that experience. Even the city that had the biggest problem with electric buses, Albuquerque, New Mexico -- guess what? They're ordering more electric buses right now.

So when we think of where we need to go for operational costs, where we need to go for impacts on climate, obviously electric buses are a lot better for climate. And where we need to go for help for the health of our kids' lungs -- electrification is the key way to go.

And I want to conclude my testimony by referencing that, close to 15 years ago, Governor Codey, Senator Smith, and Assemblyman McKeon pushed a ballot measure to retrofit our diesel buses. We cleaned them up

then, because that was the best technology we had available. It's 15 years later; it's time to get on the bus for electrification.

Thank you.

SENATOR SWEENEY: Thank you for your testimony.

And again, the panel will submit questions to me that we'll forward to you.

But here's the good news: They just approved the bonding of \$500 million; it's not too late to put electrification into the plan.

So with that, I'm going to adjourn the Committee, and give it 10 minutes for the other Committee to get started.

Thank you.

(MEETING CONCLUDED)