NEW YORK CITY DOT Department of Transportation
POLLY TROTTENBERG, Commissioner

February 11, 2020

Chair Janice D. Schakowsky
Consumer Protection and Commerce Subcommittee
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington DC 20515

Dear Chair Schakowsky:

Thank you for holding today's hearing on this important topic. Please find attached for the record, my July 13, 2018, testimony before the Senate Committee on Environment and Public Works to resubmit to today's hearing, "Autonomous Vehicles: Promises and Challenges of Evolving Automotive Technologies." The concerns I raised in 2018 remain relevant today, as we confront the increased deployment of autonomous vehicles in cities across the country. In particular, we are concerned about the lack of mandates for safety standards for vehicles and the potential impacts on the environment and workforce. New York City is committed to continuing to work with the Committee in the interest of promoting federal commitment to safety standards and the importance of partnering with cities.

Sincerely,

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**TESTIMONY OF POLLY TROTTENBERG**
**COMMISSIONER, NEW YORK CITY DEPARTMENT OF TRANSPORTATION**
**SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**
**"INNOVATION AND AMERICA'S INFRASTRUCTURE:**
**EXAMINING THE EFFECTS OF EMERGING AUTONOMOUS TECHNOLOGIES ON AMERICA'S ROADS AND BRIDGES"**
**JUNE 13, 2018**

Good morning Chairman Barrasso, Ranking Member Carper, Senator Gillibrand and Members of the Committee. On behalf of Mayor Bill de Blasio, I thank you for inviting me here today to share New York City's perspective on the policy and infrastructure questions surrounding the deployment of highly automated vehicles (HAVs) and other emerging automotive technologies in major urban areas.

As the nation's largest and densest city, with a population of 8.6 million and growing, New York City is responsible for the operation and maintenance of a highly complex surface transportation network, including 6,000 miles of heavily traveled urban roadways, 12,000 miles of sidewalks, over 13,000 signals, and nearly 800 bridges and tunnels, many of them well over 100 years old, including the iconic Brooklyn Bridge. I hope my perspective as a city DOT Commissioner will prove useful as the Senate deliberates on the opportunities and challenges we face with HAVs. I also previously served as Under Secretary for Policy at USDOT.

In many ways, New York City stands alone in its size and complexity, with an annual budget of $3.5 billion and nearly 5,500 employees, and our City DOT is larger than many State DOTs. But we have found that major U.S. cities share a common interest in ensuring HAV technology is deployed in a way that dramatically enhances urban mobility, safety, and environmental sustainability. As an active member of the National Association of City Transportation Officials (NACTO), our perspective on HAV technology is guided by both our own experience as well as an ongoing dialogue with our peers.

Few innovations have shaped American society and our modern landscape as much as the automobile, which has provided Americans with unprecedented mobility and economic opportunity. New HAV technologies have the potential to bring further dramatic change to the U.S. transportation system. But the automobile has brought significant challenges, including congestion, sprawl, too many roadway deaths and negative environmental impacts. In many ways, urban areas feel these challenges most acutely. If we do not proceed carefully, HAV technology could instead exacerbate many of these problems and could potentially create new unintended consequences.

While my testimony today focuses on the challenges cities face, I do want to note that of course rural communities will also have their own, potentially quite different, concerns and priorities as HAVs are studied and tested further.

**Urban Environment**

New York City, with its thriving economy, continues to attract more visitors, workers, and residents than ever before. Since 1990, we have added 1.2 million people to our population — nearly the size of Dallas. Last year we saw 62 million tourist visits alone, and we are also experiencing a citywide construction boom, the growing use of for-hire vehicles, and home delivery services adding more freight to our roadways than ever before. Our subways, streets, and sidewalks are overflowing, and NYC DOT is challenged with trying to make all these moving components operate safely and harmoniously in cooperation with the MTA, which runs our subway and bus system with over 8 million trips per day. It is a big job which never ends.

Comments about HAVs from automakers and industry personnel continue to suggest that cities and other localities need to "get ready" for the deployment of HAVs and that we need to rethink

our approach to roadway design and infrastructure maintenance. I would argue just the opposite. New HAV technology should instead be prepared to operate safely and effectively in complex urban environments, on streets with pedestrians overflowing into parking lanes, construction workers waving instructions to redirect vehicles, time-of-day restrictions on bus lanes, and sometimes deteriorated pavement conditions and lane markings.

The promise of an HAV is that it can be "more aware" and less distracted than a human driver. These vehicles then should be able to drive in all the conditions human drivers can: in snow, with traffic control officers managing an intersection, or in situations where a signal is out and judgment and discretion are needed.

Moreover, with an enormous backlog of critical infrastructure needs nationwide and insufficient federal, state and local dollars to pay for it, governments must prioritize the investment of scarce dollars. It is not realistic or feasible to expect cities and states to overhaul their existing roadway infrastructure to accommodate a still somewhat unproven new technology. This would potentially add an unsustainable financial burden to the hundreds of millions of dollars we currently spend annually on maintenance and rehabilitation of our heavily used roadway network.

**Safety**

New York City is working aggressively to improve our streets to increase safety. We are proud to be the first U.S. city to embrace the concept of Vision Zero, which declares that all traffic deaths and serious injuries are preventable. In the four years following the adoption of Vision Zero, our results have been encouraging. Traffic deaths in New York City have declined by 27 percent and pedestrian fatalities have decreased by 44 percent. We have achieved these results through a strong partnership between NYCDOT and the NYPD, as well as a robust investment in a comprehensive,

data-driven roadway safety program relying on engineering, education and enforcement. And New York City stands in contrast to the national trend, where tragically roadway fatalities have increased by 15 percent over the last four years.

If developed and implemented with a rigorous safety process, HAVs hold the promise of dramatically reducing traffic deaths and serious injuries nationwide. But to achieve this promise, the U.S. should establish rigorous foundational HAV safety standards across the board as we are seeing other countries do.

For example, the European Commission (EC) recently proposed that, starting in 2020, all new vehicles sold in Europe must be equipped with Intelligent Speed Assistance pedestrian and cyclist recognition systems, and automated braking, which are all core elements of HAV technology. According to studies for the EC, utilizing Intelligent Speed Assistance in Europe could prevent 30 percent of auto collisions and 20 percent of road deaths, while cutting motor vehicle emissions by 8 percent.

In the U.S., we should be advancing similar safety standards for motor vehicles and the National Highway Traffic Safety Administration (NHTSA) should build on and integrate the best elements of the approaches being used by the State of California and the City of Boston, adopting an approach of incremental testing for HAVs with data sharing requirements. Certified testing in controlled environments, paired with a gradual ramp up for larger metropolitan areas, would be more responsible than the current proposed deployment strategy.

**Congestion**

We also need to ensure that HAVs reduce, rather than increase urban congestion, which is costing the New York metro area approximately $20 billion annually in lost economic productivity

and poorer quality of life. Congestion in New York City is at record levels and we have seen in recent years that the app-based For-Hire-Vehicle (FHV) sector has been a significant driver of this growth. In the core of Manhattan alone, combined trips by yellow taxis and app-based FHVs have increased by 17 percent between 2013 and 2017 and travel speeds have dropped significantly.

And recently, New York City has started to see a decline in annual subway ridership for the first time in almost a decade. Our travel data and that from other major cities suggests that a portion of FHV trips are by users who would have previously taken mass transit. New York City and other cities depend on a wide range of modes for their transportation networks to function each day and reduce congestion and gridlock.

If not implemented carefully, HAV technology has the potential to congest our streets and worsen our air quality even more dramatically. But if implemented appropriately, HAVs could bolster more efficient ridesharing services and potentially lead to a reduced demand for personal vehicle ownership in transit rich cities like New York.

Over time, cities will need to study appropriate regulations to mitigate the congestion impacts of this growth, and we will need continued support from states and Congress to improve and encourage the use of public transit and other sustainable modes of travel. If HAV technology just results in thousands more single-occupancy, or even zero-occupancy vehicles flooding our city streets, it would be a major setback for mobility and quality of life in urban communities. A key way we can do this is with data. Data sharing can help us better assess and manage the negative congestion impacts we are currently facing within our City. Whether it's a particularly troublesome intersection or an routinely congested street, data, as I will address further, can help us resolve these issues and keep New Yorkers moving.

**The Role of the Federal Government**

Because there are such profound implications for our infrastructure and the safety of our residents, cities must have a seat at the table and the opportunity to provide input on HAVs to policymakers and regulators. Unfortunately, the Federal government has not meaningfully involved cities to date. NHTSA recently revised its voluntary guidance on HAVs to States and other stakeholders. This revised framework contains few references to city transportation officials, leaving them out of critical recommendations such as involvement in State Commissions. Just as cities and local officials must be included in the Advisory Committees that would be established in the AV START Act, the Federal government should clearly articulate the importance of local government engagement in any guidance to State officials. We are also concerned that this guidance does not include mandatory manufacturer safety assessments.

Moving forward, we continue to request that USDOT and NHTSA engage with cities more directly, and create more opportunities to share best practices across all levels of government. The bulk of the U.S. population lives and travels in urban areas and local transportation officials have deep expertise, particularly in on-the-ground infrastructure operations and maintenance. We should be included in this process formally on an ongoing basis.

**Partnerships**

As I noted, we will all be most successful if we can partner: cities, states, USDOT, and manufacturers, in order to develop meaningful solutions now for the eventual testing and deployment of HAVs and address future infrastructure needs. The Federal government is already doing this in some instances and should continue and expand its efforts.

The National Science Foundation is investing in research partnerships involving government, industry and academia on next generation internet technology — and New York City is home to one such 5G research testbed. Similarly, USDOT launched a program to test the deployment of Connected Vehicle (CV) technology. These vehicles are not HAVs, but can use technology to communicate with other vehicles and infrastructure to prevent crashes and increase roadway throughput.

Through a USDOT grant, New York City was selected to conduct a five-year CV tech deployment pilot along Manhattan's FDR Drive as well as in up to 400 locations in midtown Manhattan and Brooklyn. These intersections are being equipped with devices that will communicate with approximately 7,000 vehicles enrolled in the pilot. The pilot also connects with our existing network of smart traffic signals that communicate wirelessly with our Traffic Management Center. We will start full operations in 2019, and hope to move to citywide implementation with the lessons learned from this pilot. We feel strongly that HAVs need to incorporate CV technology in order to eventually operate safely and efficiently on city streets.

**Data Sharing**

It is also critical to establish protocols that allow HAV safety data to be shared with states and cities. Some data, when appropriate, should also be shared publicly. While we recognize that testing data is precious to each company and some may pertain to intellectual property, providing for a robust level of transparency and disclosure of safety and other performance data will be essential for establishing public confidence and in creating a safety culture akin to what we have developed in the U.S. aviation sector.

Currently there are no regulatory mandates requiring or even encouraging HAV data sharing, and some manufacturers have been unwilling to enter data sharing agreements with cities. This lack of regulatory mandates and industry participation concerning data sharing leaves cities unable to evaluate the results of HAV deployment, and externalities like congestion, for example. And it leaves us unsure that the technology is ready for the unique challenges of dense urban areas, especially in light of the tragic and disturbing pedestrian fatality that occurred during testing in Tempe, Arizona.

Although the AV START Act mandates the creation of an HAV Data Access Advisory Committee to make policy recommendations to Congress concerning data sharing, the Committee must be formed within 180 days after the enactment of the Act and has two years to make policy recommendations to Congress which may or may not be accepted and codified into law. In the interim years, cities may have no access to this critical data as HAVs are being tested on city streets.

The wealth of crash, travel demand, and traffic congestion data that HAVs will collect have the potential to inform municipal transportation agencies' on how they can better design safer and more efficient streets. For example, operational data has proven invaluable to New York City in shaping our understanding of the congestion challenges associated with the increased usage of FHVs. Data sharing will help us to address our congestion concerns, and it will help us to better understand and implement the most appropriate policies that seek to help our City with its unique infrastructure needs.

**AV START Act**

In addition to the lack of data sharing requirements within the AV START Act, many cities have other concerns regarding this legislation. While it is intended to speed the deployment of HAVs and streamline requirements, the current version of the AV START Act that was reported out of the Senate Committee on Commerce, Science and Transportation has the potential to cause confusion concerning the ability of state and local authorities to adopt and enforce traffic laws regulating the use and operation of HAVs.

Throughout U.S. history, traffic safety has always been a shared responsibility of the Federal, state and local governments. Having worked at both the Federal and local level, I know that NYC DOT's engineers and planners, working with our law enforcement partners in the NYPD, are best equipped to make local regulatory and enforcement decisions. In order to further reduce traffic fatalities, this authority must be unambiguously preserved, and HAVs must be programmed to follow all state and local traffic laws, including speed limits. Our experience with Vision Zero is that in the urban context, the biggest driver of roadway safety and saving lives is speed control, and HAVs must be integrated into our ongoing Vision Zero work.

Additionally, the legislation dramatically increases the number of HAVs that each company can sell or operate on public roadways that do not comply with Federal Motor Vehicle Safety Standards, but does not require that NHTSA develop specific safety standards for HAVs on any mandated timeframe. The legislation has some useful provisions regarding cyber security and makes safety evaluation reports (SERs) mandatory. However, the SERs are only created and self-certified by manufacturers for completeness and accuracy, with no opportunity for independent assessments and no enforcement mechanisms. We recommend the Senate revise and strengthen those provisions before enactment to require standards-based, verifiable testing of HAV systems.

**Workforce**

I know creating economic opportunity for working Americans is a common goal all the members of this Committee share. Of all the disruptive changes HAVs are poised to bring, none may be as consequential as the impact on our nation's workforce. According to recent Census data, there are more than 4.4 million Americans who make their living driving taxis, buses, vans, trucks and for hire vehicles. In New York City alone, we estimate that there are approximately 250,000 drivers whose jobs could be displaced by HAV technology.

Nationwide, many of these workers lack a college degree and are therefore potentially very vulnerable to major industry disruptions. As we consider all the safety and mobility implications of HAVs, all of our communities, urban and rural alike, will need to confront the potential human toll that this disruptive technology could take. The Federal government needs to lead here as well and help insure that innovation and opportunity for some does not mean we are leaving others without a livelihood.

**Conclusion**

As Congress considers its approach to fast-developing HAV technology, I urge you to enlist cities as partners. We all have an interest in reducing congestion, curbing traffic fatalities, improving air quality and protecting workers. We think U.S. cities can bring a lot of valuable expertise to the table and New York City stands ready to work with you. Thank you for your time this morning and I look forward to your questions.