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Testimony of Tina Quigley, General Manager, Regional Transportation Commission of Southern Nevada

United State Senate Committee on Commerce, Science, & Transportation

Hearing on the Transportation of Tomorrow: Emerging Technologies That Will Move America

September 13, 2018

Good morning, I am Tina Quigley, and I serve as the General Manager of the Regional Transportation Commission of Southern Nevada. I would like to thank Chairman Thune, Ranking Member Nelson, Senator Cortez-Masto, and Senator Heller for inviting me to be here today. I appreciate the opportunity to speak about one of the most exciting and critical issues affecting the transportation industry today.

ABOUT THE RTC

The RTC oversees the Las Vegas region's public transit, traffic management, transportation planning, and roadway funding. We also are the metropolitan planning organization (MPO) and administer Southern Nevada Strong, our regional planning effort to build complete communities throughout Southern Nevada.

In addition, our integrated Intelligent Transportation System (ITS), housed at our traffic management center, spans all local jurisdictions in the Southern Nevada region. This centralized traffic management operation makes it easier for transportation and technology companies to access data and demonstrate products.

In 2017, Nevada passed Assembly Bill 69, which provides a regulatory structure that welcomes advance mobility. Given our regional transportation authority combined with an innovation-friendly regulatory structure, we have the ability to forge public-private, multi-jurisdictional, and intergovernmental partnerships that leverage technology as a solution to our region's current and future mobility challenges.

UNCERTAINTY OF INNOVATION AGAINST THE YOKE OF CONVENTION

Our community, like many communities across the county, is at a crossroads when it comes to urban mobility and transportation investments. We can no longer afford to develop, implement, and invest in policies and infrastructure that rely on yesterday's transportation and mobility solutions.

This is especially critical at a time when today's cities and citizens require more of our infrastructure investment. We are, and have always been consumer focused. However, consumer preference and expectations are rapidly changing, and a failure to keep pace could have far-reaching effects on urban mobility.

Over the last several decades, while we were investing in traditional solutions, private sector innovation shifted the terrain of urban mobility, making it more personalized, nimble, accessible, and convenient throughout the country. This entrepreneurial spirit created companies like Uber, Lyft, Aptiv, BCyle, and Lime focused on ride sharing, autonomous vehicles, bike share, and electric scooters. These companies and their innovative ideas are transforming the way people choose to move in and around our communities.

As the market continues to evolve, we have seen a seven percent decline in transit ridership across the country. Today, we are forced to weigh the uncertainty of innovation against the yoke of convention. As our communities continue to grow and technology evolves, there is a constant stream of new mobility options; however, our ability to access and integrate them is limited because they do not fit into a traditional transportation mold.

Ultimately, we need to work better with private industry and the federal government to develop and invest in communities that create and encourage an ecosystem of mobility solutions foundational to a "smart community," creating workable pathways that promote mobility, safety, and economic development while ensuring that we have transportation options that are affordable, equitable, and accessible.

REVOLUTIONIZING OUR TRANSPORTATION NETWORK IN THE DIGITAL AGE

We believe that "technology is the new asphalt" given that new technologies, when integrated into existing and new transportation infrastructure, can deliver significantly higher returns on investment compared to the traditional approach of simply building another lane. Advanced technology developments such as connected and autonomous vehicles, faster wireless communications, and greater data sharing, offer unprecedented opportunities to create safer, less congested, and more efficient communities.

In this decade alone, private industry is paving the way and transforming our transportation network. From ride share to bike share, connected and autonomous vehicles to Hyperloop and The Boring Company, these developments have and continue to disrupt the movement of people, goods, and services.

Transportation agencies, like the RTC of Southern Nevada, are working tirelessly to learn about and test new technologies because we see firsthand their potential to improve the quality of life of our citizens and to leverage our existing infrastructure. We believe that we must lean in and not only embrace innovation—but also facilitate and drive it. This requires us to overcome our natural inclinations to be apprehensive of unconventional partnerships and to distrust private sector's financial motivations.

To achieve that goal, collaboration between public and private partners and among local jurisdictions and government agencies at all levels are critical. We need to work together to ensure we are developing policies, building infrastructure, and creating vehicles that can accommodate the mobility of the future.

SMART MOBILITY TECHNOLOGY AND INNOVATIVE SOLUTIONS

All six jurisdictions in Southern Nevada, the Nevada Department of Transportation, and the RTC recently adopted a unified "Southern Nevada Smart Community Vision." This vision guides the introduction of technological solutions that seamlessly interact and complement each other, regardless of jurisdictional boundaries. The "Southern Nevada Smart Community Vision" provides a blueprint for continued coordination and cooperation among government and community stakeholders as they work with various private-industry companies to leverage advanced technology to build a smarter and more connected Southern Nevada. Currently, multiple jurisdictions and agencies are working together with private industry partners to test and deploy technologies that can provide solutions for our mobility challenges.

Innovation in Infrastructure

A groundbreaking technology currently deployed in Southern Nevada is a partnership with Waycare, whose technology helps improve safety and efficiency on freeways and major arterials. Waycare compiles and analyzes data to report in real-time the location of accidents and predict where dangerous driving conditions or congestion may occur. This technology enables faster validation and response to roadway incidents. It also more efficiently uses resources to proactively deploy traffic patrols and abatement efforts with the goal of preventing incidents. The RTC Traffic Management Center uses Waycare's real-time analytics to better optimize traffic flows. So far, through Waycare, the RTC's early incident identification is on average approximately 12 minutes faster than prior modes of incident identification. By identifying incidents sooner, we can clear them faster, restoring normal traffic flow, and reducing the chance of secondary accidents. As a result, this technology is increasing safety and reducing traffic congestion on our roadways.

Our regionally coordinated, traffic management operations also prompted Audi to select Southern Nevada to debut the first of its kind "Time to Green" dashboard feature, which enables the car and driver to receive real time alerts when traffic lights will change. This information not only allows drivers to be more informed, prepared, and alert, but it is also a first step to developing autonomous vehicles and a data exchange that will help better manage congestion on crowded roadways.

As connected and autonomous vehicles continue to evolve, a central challenge to consumer acceptance is the question of how the vehicles will operate safely and obey local rules of the roads. To address this challenge, the RTC most recently partnered with the world leader in connected car services and transportation analytics, INRIX, on a first-of-its-kind platform called AV Road Rules (AVRR) to help ensure the safe and effective operation of highly automated vehicles (HAVs) on public roads. INRIX's state-of-the-art platform allows cities and transportation authorities to digitize their traffic rules and restrictions, such as speed limits, crosswalks, turn restrictions, and bikes lanes. This platform can be communicated to HAVs, allowing them to operate safely and effectively. The AVRR platform also enables HAVs to report infrastructure needs, such as potholes, inadequate lane striping, and signage issues, to the appropriate transportation authorities. This is a valuable tool for cities to more quickly identify infrastructure needs and leverage HAV operations to improve the safety and comfort of public streets for all users.

Innovation in Public Transportation

Building on this regional cooperation and data exchange model, the RTC, along with the city of Las Vegas, provide traffic signal data to the nation's first self-driving shuttle that operates in mixed traffic. Sponsored by AAA and Keolis, the autonomous bus is fully integrated with "smart city" infrastructure along a half-mile loop in downtown Las Vegas. This pilot project tests autonomous and intelligent infrastructure technology, and it will also help develop standards for how government agencies can share data with vehicles, as federal standards do not currently exist.

The project enables the RTC, the city of Las Vegas, and project partners to better understand the customer experience and learn more about how autonomous vehicles operate in mixed traffic so autonomous vehicles can be deployed for public use in the future. Over the course of the yearlong pilot, the self-driving shuttle provided a quarter-million residents and visitors to Las Vegas with a first-hand experience of autonomous vehicle technology, exposing most riders to the technology for the first time. People have embraced the shuttle, which averages 150 riders per day and has transported more than 23,000 passengers so far. It is critical that people have the opportunity to experience in-person these advanced technologies so they are comfortable with the changes that will occur in the near future.

We also recently collaborated with Lyft to launch a six-month on-demand pilot program to provide non-ADA paratransit service to approximately 145 existing customers. This pilot was designed to help reduce response time; improve mobility management; create an on-demand, individualized service; and reduce cost. We performed 5,000 trips, saved more than $100,000, significantly reducing wait times and improving service for our paratransit customers.

In addition, Aptiv, a global technology company that develops safer, greener, and more connected transportation solutions, launched a fleet of 30 autonomous vehicles in Las Vegas on the Lyft network. On an opt-in basis, passengers have the ability to hail a self-driving vehicle equipped with Aptiv technology to and from more than 20 high-demand locations including the Las Vegas Strip. Lyft and Aptiv's self-driving program is the largest commercial program that is available to the public today and represents a major milestone in mobility and the future of transportation. This partnership further exposes our residents and visitors to autonomous vehicle technology and its benefits.

EDUCATION AND MAINTAINING OUR INFRASTRUCTURE

According to a RAND Corporation study: "allowing wide use of autonomous vehicles when they are just 10 percent better than current American drivers could prevent thousands of road fatalities over the next 15 years and possibly hundreds of thousands of fatalities over 30 years, compared to waiting until they are 75 percent or 90 percent better."[1]

Yet, the public's perception about whether autonomous vehicles improve safety stands in stark contrast to this data. In 2016, Cox Automotive found that 63 percent of respondents felt roadways would be safer if all cars were autonomous, versus only 45 percent this year.[2] Moreover, in a study conducted by AAA, more than half (54 percent) said they would feel less safe sharing the road with AVs[3]. Clearly, technology may be moving full-steam ahead, but the travelling public may not yet be on board.

We must collaboratively work together to educate the public about emerging transportation technologies such as connected and autonomous vehicles and better explain their benefits and how they will transform transportation. We need to enable our constituents to experience these advanced technologies in-person, so they are comfortable with the changes that are coming.

As driving continues to become less burdensome, motorists may be more inclined to get inside their vehicles and commute, adding miles traveled to the infrastructure requirements. We are already seeing that to a certain extent with the growing use of ride-hailing companies like Uber and Lyft.

If autonomous cars are added to the mix, they become even more attractive transportation options, allowing riders to work and read while on their commute. Thus, vehicle miles traveled (VMT) will likely increase as self-driving cars becoming more prevalent, and increased VMT forces policymakers to strongly consider increased investment and expansion in smart infrastructure.

As the metropolitan planning organization for the Southern Nevada region, we have the responsibility to revitalize our infrastructure and modernize our outmoded transportation system to ensure that we are accommodating the needs of all roadway users. In some cases throughout Las Vegas, we can no longer add capacity by adding more roads – so we must look to technology to help manage congestion and capacity.

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[1] RAND Corporation, "Introducing Autonomous Vehicles Sooner Could Save Hundreds of Thousands of Lives Over Time." https://www.rand.org/news/press/2017/11/07.html (November 7, 2017).

[2] Cox Enterprises, "2018 Cox Automotive Evolution of Mobility Study," https://d8imphy647zzg.cloudfront.net/wp-content/uploads/2018/08/2018-Cox-Automotive-Evolution-of-Mobility-Study_Autonomous-Vehicles-Research-FINAL.pdf, (August 2018).

[3] AAA, "Americans Feel Unsafe Sharing the Road with Fully Self-Driving Cars," https://newsroom.aaa.com/2017/03/americans-feel-unsafe-sharing-road-fully-self-driving-cars/, (March 7, 2017).

ULTIMATELY BUILDING THE TRANSPORTATION OF TOMORROW

Over the last decade, we have witnessed technology rapidly transform mobility; and, as it does, policy and cultural questions continue to evolve. I assure you that your constituents' expectations are evolving at a similar, if not faster, clip. It is my sincere hope that we do not fear this change, but embrace it, by establishing new funding opportunities, updating regulations, and rethinking planning practices.

Congress has a significant opportunity, with the upcoming reauthorization of the FAST Act, to help develop, support, and invest in the infrastructure of tomorrow that empowers local communities to partner with the federal government and private industry to advance mobility, data, and intelligent transportation systems.

Federal funding for private and public partnerships in this realm is essential. We need to identify and support flexible policies that provide additional opportunities to pilot and test new ideas and technologies. We need workable definitions of public transportation including the guidelines for funding eligibility and mechanisms. We need the federal government to be our invested partners with these new and innovative approaches. The creation of the Advanced Transportation and Congestion Management Technologies Deployment Program, in the FAST Act, was a good start by providing competitive grants for advanced transportation technologies to states, local governments, and transportation agencies. The authorized $60 million a year, however, is not sufficient to meet the nationwide demand for automated vehicle deployment.

Additional opportunities are in Senator Cortez Masto's *Moving and Fostering Innovation to Revolutionize Smarter Transportation (Moving FIRST) Act*, Senator Cantwell's *Smart Cities and Communities Act of 2017*, and Senator Heller's recent Smart Cities amendment to the Transportation-HUD Appropriations minibus legislation. Senator Cortez Masto's legislation will enable more communities, regardless of size, to compete for resources to fund efficient and innovative transportation projects. The legislation will expand the 2015 Strengthening Mobility and Revolutionizing Transportation (SMART) Cities Challenge administered by the U.S. Department of Transportation, and its funding can help meet a community's transportation needs and support the development of groundbreaking partnerships. Senator Cantwell's legislation will direct the Departments of Commerce, Energy, HUD and Transportation, and the National Science Foundation to establish the Interagency Council on Smart Cities to promote coordination among the federal agencies on smart cities. The legislation also requires the council to develop a multiyear strategy for the coordination of smart cities, the development of partnerships with the private sector, and the promotion of international cooperation. In addition, Senator Heller's amendment would require the U.S. Department of Transportation to engage with and assist local communities, metropolitan planning organizations, and regional transportation commissions on advancing Smart City solutions.

In conclusion, the opportunity is real, and the timing could not be better to embrace it. As communities like ours face the risk and uncertainty of being among the first to embrace a new brand of urban mobility, the decisive factor is simple: *collaboration*. Absent Congressional support, there is no realistic pathway to think differently -- much less do differently -- relative to transportation. Together, however, the opportunities to improve lives and accelerate the economy through advanced mobility are boundless.