

**MINUTES OF THE
SENATE COMMITTEE ON GROWTH AND INFRASTRUCTURE**

**Eighty-first Session
April 21, 2021**

The Senate Committee on Growth and Infrastructure was called to order by Chair Dallas Harris at 3:31 p.m. on Wednesday, April 21, 2021, Online and in Room 2144 of the Legislative Building, Carson City, Nevada. [Exhibit A](#) is the Agenda. All exhibits are available and on file in the Research Library of the Legislative Counsel Bureau.

COMMITTEE MEMBERS PRESENT:

Senator Dallas Harris, Chair
Senator Chris Brooks, Vice Chair
Senator Pat Spearman
Senator Scott Hammond
Senator Keith F. Pickard

GUEST LEGISLATORS PRESENT:

Assemblywoman Shannon Bilbray-Axelrod, Assembly District No. 34

STAFF MEMBERS PRESENT:

Susan Scholley, Policy Analyst
Eileen O'Grady, Counsel
Debbie Shope, Committee Secretary

OTHERS PRESENT:

Alphecca Muttardy, Macroeconomist, Coalition for the National Infrastructure Bank
Lynn Chapman, Independent American Party
Janine Hansen, Nevada Families for Freedom
Robert Benner, Building and Construction Trades Council of Northern Nevada
Cyrus Hojjaty
Sean Sever, Administrator, Division of Management Services and Programs, Department of Motor Vehicles
Piper Overstreet, Nuro, Inc.

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Mathew Lipka, Nuro, Inc.
Chris Anderson, Zoox

CHAIR HARRIS:

We will open the hearing on Assembly Joint Resolution (A.J.R.) 7.

ASSEMBLY JOINT RESOLUTION 7 (1st Reprint): Urges the Congress of the United States to pass the National Infrastructure Bank Act of 2020. (BDR R-765)

ASSEMBLYWOMAN SHANNON BILBRAY-AXELROD (Assembly District No. 34):

I am here to present A.J.R. 7. According to the nonpartisan Congressional Budget Office, for more than a decade revenues to the federal Highway Trust Fund have fallen short of federal spending on highways. If excise tax on fuel were to continue at today's rates, and funding for highway and transit programs were to increase annually at the same rate of inflation, by 2030, the total accumulative budget shortfall for the Highway Trust Fund will total \$189 billion. It does not account for the fact the term infrastructure properly refers to airports, transit, bridges, dams, energy, infrastructure, solid waste and waste water treatment plants.

The American Society of Civil Engineers (ASCE) reviews and evaluates the infrastructure for each state and the entire U.S. on an annual basis. It provides a report card intended to give a snapshot evaluation of the State's infrastructure. The 2021 infrastructure report card is based on 2018 data. The ASCE averaged America's infrastructure and gave it a C minus rating. Nevada received a C rating. It was a modest improvement from Nevada's prior rating of C minus.

The ASCE estimates that failure to close the national infrastructure funding gap will cost more than \$10 trillion in gross domestic product (GDP), over 3 million jobs and approximately \$2.4 trillion in exports if we do not sufficiently address the issue by 2039.

To put this in perspective, the lack of investment for infrastructure today will cost the average American household \$3,300 per year or \$63 per week by 2039. In Nevada, we face the following cost estimates for rehabilitation and future maintenance of various infrastructure: For critical dams \$40 million; drinking water infrastructure over \$5 billion over the next 20 years, and for the backlog of road and bridge repairs mostly in rural Nevada nearly \$450 million.

Assembly Joint Resolution 7 urges the Congress of the U.S. to pass House of Representatives Resolution 6422 of the 116th Congress, which is known as the National Infrastructure Bank (NIB) Act of 2020. This is a funding model that has been successfully deployed four times in our Nation's history. It requires a minimal amount of initial appropriation but ultimately designed will be budget neutral.

I will note the passage of A.B. No. 399 of the 79th Session created the Nevada State Infrastructure Bank within the Department of Transportation. Under the governance of the Bank's Board of Directors, the Infrastructure Bank is responsible for providing loans and other financial assistance to various units of State and local governments for the development, construction, repair, improvement, maintenance, decommission operation and ownership of certain transportation facilities and utility infrastructure.

To date, nearly 35 other states followed suit by implementing infrastructure banks of their own. Infrastructure banks remain a popular method of producing long-term need to close infrastructure funding gaps. The NIB may carry out the same goals.

ALPHECCA MUTTARDY (Macroeconomist, Coalition for the National Infrastructure Bank):

I have a visual presentation ([Exhibit B](#)) that has information on how this works. The resolution before you urges members of Congress to pass a bill that was introduced in the House of Representative in 2020, H.R. 6422 of the 116th Congress. The bill creates a \$4 trillion to \$5 trillion public bank to lend for infrastructure projects across the U.S. It was introduced in the last Congress by Congressman Danny K. Davis from Illinois with Democratic cosponsors. We seek to have it reintroduced into Congress with Republican and Democrat support because it is a complementary measure.

The reason for this bank is because we are not able to finance infrastructure through federal, state or local budgets. The concept for a NIB was successfully completed four other times. There was the First Bank of the United States under George Washington and Alexander Hamilton. They built roads, bridges, canals and the first industrial centers.

There was the Second Bank of the United States under two presidents, but expanded significantly under John Quincy Adams for more infrastructure. There

were a set of banks under Abraham Lincoln to finance items such as the Transcontinental Railroad. Then fourth was the Reconstruction Finance Corporation to help move us out of the Great Depression and World War II. This is not a new concept and was completed successfully to meet our infrastructural needs.

The ASCE gave a report card for 17 different categories of infrastructure. The ASCE broke out what the total need was in our Country for these categories. They estimated we need \$6.1 trillion over a 10-year period and further estimated approximately \$3.5 trillion is already funded. What does it mean? It means state, county or city budgets or utilities, airports or transportation authorities are seeking private funding. Private entities give approximately three quarters of the infrastructure financing and the federal government gives approximately one quarter.

The infrastructure plan President Joe Biden is negotiating with members Congress comes to \$2.25 trillion. However, less than \$1 trillion is earmarked for infrastructure in the 17 categories listed on page 4 of [Exhibit B](#). Any refinancing authorization will be included in the already funded amount. It means \$2.6 trillion is not financed by any means. It includes \$1.2 trillion for surface transportation and \$1.1 trillion for water infrastructure.

We want the NIB to cover the financing gap after state, local and federal governments put in their portions. We extended the categories to include affordable housing, high-speed rail, broadband everywhere and large water projects. Altogether, we hope the Bank will be reconfigured to provide funding for \$5 trillion worth of infrastructure.

The Bank works similarly to a U.S. government corporation, such as the Federal Deposit Insurance Corporation and the Export-Import Bank of the United States. The Bank is a deposit-taking bank and can be thought of as a commercial bank. It not only gives loans for infrastructure, but operates like a commercial bank.

To maintain a commercial bank, it needs to be capitalized at a ratio of 1 to 10, \$1 in capital to \$10 in loans. Instead of using the federal budget to capitalize, we will go to the private sector and ask if they will temporarily sell their treasury securities into the NIB, in exchange for equal preferred stock in the Bank. The preferred stock will pay an extra 2 percent and will initially come out

of the federal budget. It will be reimbursed every year out of the interest earnings from the loans.

It means this bank is budget neutral; does not require any new taxes such as a gas tax, and does not create any new debt.

State and local governments can ask for any type of loan configuration needed in the transportation, energy and community development areas. When a loan is requested, the Bank places it as an asset and creates an off-setting deposit on the liability side. This is the money distributed in the loans. The Bank will charge a low rate of interest, the U.S. Treasury Bonds Rate, and will be competitive with municipal bonds and keep the financing costs for these borrowings to a minimum.

Essentially, it is similar to receiving free money because those interest rates are below the cost of inflation. You can acquire long and flexible term loans from the NIB. For every dollar borrowed and spent on an infrastructure project, it will reinvest \$3 to \$7 into the economy.

That new GDP will stimulate and supercharge economic growth with this level of spending. The federal budget will capture its share of the new GDP in income taxes and other taxes. States and local governments will capture their portion of taxes to pay back the loans.

The benefit of the bank is as follows: We spend up to \$5 trillion repairing the infrastructure; we will create up to \$25 million new direct and indirect jobs as a result of the contracts, projects, construction and spending in the economy. The majority of jobs will be blue-collar, and 85 percent will be for people with a high school diploma, an associate's degree, or less with specialized training. Training will be provided. The projects will require paying Davis-Bacon wages and require buying American-only products. This will stimulate economic development within the U.S. and manufacturing centers.

The emphasis on the bill is not replacing road transportation but complementing it with a new rail system. It envisions mechanisms similar to the high-speed rail line between Los Angeles and Las Vegas, and the high-speed rail will stretch to the New York area with branches from it as well.

The legislation in H.R. 6422 of the 116th Congress has special provisions to help Native American lands, provide rural development, including rolling out broadband across the entire U.S., intercity community development and providing new affordable housing.

SENATOR SPEARMAN:

Is the economic multiplier is between \$3 and \$7 for every \$1?

ASSEMBLYWOMAN BILBRAY-AXELROD:

Yes.

SENATOR SPEARMAN:

I read an article in *The Washington Post* regarding older people. In the service sectors, the average age is 47. It is a barrier if no money is available for their retraining. Will there be money to retrain those who are older? Even if they possess a sellable or marketable skill? Many employers are reluctant to hire people past the age of 40. They think of them as a liability; not an asset.

Most of the jobs discussed in the article are jobs held by women. Does this resolution ensure the diversity includes age and gender, because women are the hardest hit in the pandemic?

MS. MUTTARDY:

We will be enhancing federal programs for training. In addition, we approached labor unions who are willing and able to scale up training on the job at no cost. It will attract workers who want to reenter the workforce and retrain in a new field. Older fields may not be coming back.

We had a webinar on our coalition website last week on how we will provide training. We are confident we can secure the training. In consideration to gender and minority groups, specific language is in the bill which requires compliance with Titles VI and VII of the Civil Rights Act and with disadvantaged business enterprises, provisions of small contracts to small businesses, and women-owned businesses to provide this new construction work.

SENATOR PICKARD:

In the late 1990s or early 2000s, there were 30 or so states that had state-run infrastructure banks and they gave loans out at zero or near zero percent interest. It was unsustainable. Those banks ultimately were closed or collapsed.

How does this differ structurally from our prior attempts, and how will it be successful?

MS. MUTTARDY:

There were two kinds of state infrastructure banks in history. The first ones set up in the early 2000s used revolving funds. They were seeded with money in small amounts from state budgets. What ended their useful lifetime is the fact that they were not large enough and ran out of money to lend.

As Assemblywoman Bilbray-Axelrod has mentioned, a new batch of state banks in existence were enacted through state Legislatures. They are state-owned and have been established. Those state banks will be of a smaller nature and are not able to take on large projects similar to high-speed rail or large mega projects which cross state lines. The NIB will be able to interface with the local state banks who will operate the retail portion of the lending with the customers they know. We can then provide the mezzanine financing in the background.

We look at it as a matter of scale. We estimated what the total needs are; then make the Bank large enough to cover all of our needs. That is how the four large infrastructure banks in our Nation's past were successful and ended their tenure in the black.

SENATOR PICKARD:

I agree; scale makes sense. There has been a big push for high-speed rail between southern California and Nevada for decades. Even when we backstopped it with guaranteed funds, they never succeeded. It did not work in southern Nevada.

Looking at Las Vegas and the phenomenal success of the monorail system, it has been in the red from the beginning and has remained in the red ever since. How is the existence of the NIB changing the financial side? How does the existence of this lending push the ridership up and succeed as a profitable business?

MS. MUTTARDY:

It pays to look at the success where it has been accomplished on a large scale, such as China, and how it propelled their economic development. They maintain infrastructure banks and doubled their coverage of high-speed rail across their country and its Belt and Road Initiative to jump-start economic development.

When you look at the before and after pictures of how it grew, it was quite phenomenal.

It is a matter of scale. They are putting out 8 percent or more of the gross domestic product into infrastructure investments. Europe is putting in 5.5 percent and they maintain an infrastructure bank. The U.S. is putting in less than 2.5 percent.

One of the points helping with these rail projects is having government guarantees where the financing will not back out. My understanding of the Los Angeles to Las Vegas line is it had private financing. With the Covid-19 downturn, and the economy of Las Vegas shut down, the financing was pulled out.

It will provide sustainable long-term financing for the big mega projects to begin and help with needed mobilization to start projects similar to a high-speed rail system in the U.S. It will help the economy of Nevada and the cities they are linked to.

SENATOR PICKARD:

I am surprised you compared the NIB to China because they do not pay a prevailing wage. They do not have the Davis-Bacon Act of 1931; they go in the opposite direction. It is more affordable for them to achieve major infrastructure projects which are prohibitively expensive in the U.S. given the Davis-Bacon requirement.

You hit on an interesting point, our GDP spending on infrastructure. In the infrastructure plan, the money will flow into the NIB and the deals will be financed with this money or is it separate and this will be above that?

MS. MUTTARDY:

Yes.

SENATOR PICKARD:

What is the State's involvement in funding the NIB? How will we fund the projects in this Bank if it is not coming from the infrastructure plan?

MS. MUTTARDY:

The Biden plan is a spending plan and will be financed at a point with new taxes. I do not foresee them creating more deficit spending for the infrastructure. The NIB is a different concept altogether. It is a deposit-taking bank and the advantage of deposit-taking banks is they can create money each time they give a loan. It is a bit magical. Commercial banks create 90 percent of the money supply when somebody comes in for a loan.

This Bank will be no different. To capitalize the Bank, we are not asking for federal government outlays. We will go to the private sector to acquire the capitalization, and then we will give out money, similar to a commercial bank when it gives out loans.

SENATOR PICKARD:

Is there enough private interest in the infrastructure bank and do you anticipate obtaining enough depositors for the Bank to fund it to the scale needed?

MS. MUTTARDY:

Yes, the First Bank of the United States was capitalized in approximately one week. This Bank will be capitalized quickly because we only need approximately \$500 billion to capitalize it. We will be paying an extra 2 percent. We assume pension funds and anyone holding treasuries having earned low amounts for these long-term savers, will be interested in investing in the Bank. Any state with a Rainy Day Fund can boost the interest earnings on it or have pension plans for its workers; we will pay them a little extra, the 2 percent, to invest in the NIB.

SENATOR PICKARD:

I thought the First Bank of the United States failed and Andrew Jackson came back with another version which finally took off. My memory is not like it once was.

LYNN CHAPMAN (Independent American Party):

The Independent American Party is here in support of A.J.R. 7. Our infrastructure is in dire need of help. I read an article prior to the first meeting on this bill in the Assembly regarding our Nation's terrible infrastructure. In the article our infrastructure was described as, "third world and in desperate need of upgrading." The roads are not the only thing we must worry about; power and water come to mind.

The terrible winter storms in early February left at least 12 people dead and the temperatures went below zero degrees in parts of Texas. It put the elderly and infants at high risk. If we can find a way to not hurt family budgets and help fix the infrastructure problem, we should move forward.

The infrastructure banks were used before with much success. We should use American companies and American workers in the rebuilding and fixing of our infrastructure systems. It appears that is what is being looked at.

JANINE HANSEN (Nevada Families for Freedom):

Assembly Joint Resolution 7 provides an innovative way to create jobs and revive the economy without tax dollars or debt. In order to put money into the economy the U.S. borrows money from the private Federal Reserve Bank which then charges interest on the money borrowed. The U.S. Treasury prints the money and the U.S. taxpayers pay the interest. This process will never allow us to pay off the national debt.

Beginning with Alexander Hamilton with the First Bank, the U.S. used the creative power of government and created credit for Americans which cost the taxpayers nothing. Through this successful program, the federal government paid off the war debt for the American War of Independence.

Henry Clay served in the U.S. House of Representatives from 1806 to 1852 and then ran for President. He supported the idea of the American System to fund national production with sovereign U.S. money and credit. President Abraham Lincoln printed the U.S. greenbacks through the U.S. Treasury which helped to pay for the Civil War using these same ideas. This allowed him to avoid borrowing money from British banks and paying them interest.

President Franklin D. Roosevelt's Reconstruction Finance Corporation, 1932 to 1957, used these same principles to build infrastructure to help move the U.S. out of the Great Depression without using additional tax dollars or going into debt to the Federal Reserve Bank.

The NIB will put Americans back to work creating many jobs in this devastated economy without tax dollars and debt. We support A.J.R. 7.

ROBERT BENNER (Building and Construction Trades Council of Northern Nevada):
The Building and Construction Trades Council of Northern Nevada supports A.J.R. 7. The NIB has the potential to rebuild American industry and create millions of new jobs with no new taxes or debt. These jobs are primarily in the construction industry, will use project waiver agreements and will pay Davis-Bacon wages with full benefits. Jobs similar to this will be essential for Nevada's economic recovery.

CYRUS HOJJATY:

It is important we rescue and improve our infrastructure which is in need of repair. It creates many economic opportunities. I lived in California for 25 years and noticed public money for state and local use has been wasted on public employees and pensions that was slotted for infrastructure. Passing federal infrastructure programs encourages this ugly incentive.

It is why Nevada has better highways and freeways than California. You discussed high-speed rails. It depends on the cost to speed the efficiency. The one in California wasted money and was essentially canceled. I do not want a complete boondoggle.

Ms. Muttardy discussed raising taxes. Specifically, who are they raising taxes on? Wall Street and many large corporations such as MGM Resorts have a tax haven. I would be in favor of it. Most of these taxes are likely regressive and will harm the middle class. Ms. Muttardy discussed the credit market expanses, how long would they continue? The national debt is increasing at high levels faster than GDP levels. When is the funnel breaking?

The economy is disproportional on credit; interest rates go up. It will be game over, not only for the U.S. Government but also the state and local governments. One of the largest components of our economy in Las Vegas is housing developments, and the rates go up. The real estate bubble will burst.

We should be careful. Public infrastructure is important, but it depends on how it is done.

ASSEMBLYWOMAN BILBRAY-AXELROD:

The bill originated in 2016, and everyone thought it was such a good deal that it would pass with no problem. You need to take a deep dive to understand how creative this bill is and what it can accomplish for our Nation. With this joint

resolution passing, and it being passed in other states, it will urge Congress to take a look and pass it. It is great for Nevada.

CHAIR HARRIS:

We will close the hearing on A.J.R. 7. We will open the hearing on A.B. 150.

ASSEMBLY BILL 150: Revises provisions related to punitive actions concerning special license plates. (BDR 43-473)

SEAN SEVER (Administrator, Division of Management Services and Programs, Department of Motor Vehicles):

I am presenting A.B. 150. This bill is the result of the Commission on Special License Plates voting unanimously to draft a bill giving the Department of Motor Vehicles (DMV) the ability to suspend or terminate a special license plate pursuant to *Nevada Revised Statutes* (NRS) 482.38279, subsection 4, paragraph (b).

The Commission on Special License Plates may determine that a charitable organization receiving revenue from the sale of a special license plate is not complying with certain laws governing these plates. The Commission may recommend that DMV suspend the collection of the additional fees collected on behalf of the organization and the production of a special license plate if DMV is still producing that design.

The DMV has no authority to change the status of a special license plate such as suspend with conditions or terminate the special license plate. This allows a vacancy in the Special License Plates program which opens a spot for another organization who has been waiting patiently for issuance of a special license plate.

This bill gives the authority to DMV. We had a case where a charitable organization was receiving revenue from the sale of a special license plate, but was not complying with certain laws governing special license plates. A suspension will give the organization time to make necessary changes and a termination will be necessary if they refuse to comply.

CHAIR HARRIS:

We will close the hearing on A.B. 150. We will open the hearing on A.B. 412.

ASSEMBLY BILL 412: Revises provisions governing motor vehicles. (BDR 43-1050)

PIPER OVERSTREET (Nuro, Inc.):

I am joined today by Mathew Lipka, head of policy for Nuro. We have several written support letters. One letter is from the Governor's Office of Economic Development ([Exhibit C](#)), another is from Smith's, also known as The Kroger Co., food stores ([Exhibit D](#)) and the last is from Zoox ([Exhibit E](#)).

The intent of A.B. 412 is to update sections of NRS 484B to reflect the advancements in autonomous vehicle (AV) technology; specifically, AVs that are designed for transportation of goods only.

MATHEW LIPKA (Nuro, Inc.):

Nuro, Inc. is a robotics company. We are building a fully autonomous on-road vehicle that is specifically designed for delivering goods.

Nuro has a vehicle called the R2 shown on page 2 ([Exhibit F](#)). It is custom designed for safety. There is no space for human occupants inside the vehicle. The vehicle, software and operations are done by Nuro. We operate this service in partnership with retailers including Smith's and CVS to deliver groceries, medicine and other essential goods in Houston, Texas and in Scottsdale, Arizona. When we first launched service in 2018 it was the first time that a fully autonomous service opened to the general public.

The way this technology works is you go online to Smith's website, you state you want to purchase milk, cheese and eggs at a certain time of day. The Nuro vehicle will go to the store, it will be loaded by store employees with your items, and it will then drive to your address. You will receive a text message notification that Nuro is at the curb. You go outside to the vehicle and enter a private pin code. The relevant compartment door will open, and you grab your items, tap "done" and it drives off autonomously.

We service an area of approximately 150,000 people in Houston, and we plan to expand to new areas in the future.

Over the past year, during the pandemic, we found an increased demand for this service of contactless deliveries in our commercial services. We partnered with food banks and were asked to complete mass deliveries of food. We

partnered with California where temporary hospitals were set up and we delivered medical supplies and linens.

Once it is safe, we plan to resume the work with schools and local robotics clubs we partner with to host students to help them learn the technology.

In Nevada, we plan to open a Clark County testing facility. Thanks to the efforts of Governor Steve Sisolak and Director Michael Brown at the Governor's Office of Energy for their work to make this facility happen. This facility will create jobs and investment in the State. It is the star of our work in Nevada. We hope it will grow to additional facilities and a full commercial service in the years to come, provided we are allowed under the regulations.

We have a photo of our R2 vehicle on page 3 of [Exhibit E](#). To provide some information on how we prioritize safety, because Nuro's top priority is always safety. It includes our software, our vehicle and our operations. The software in the vehicle can avoid the human causes of crashes such as drinking and driving and other distractions. In addition, we have a variety of sensors that see 360 degrees around the vehicle.

The hardware of the vehicle is custom designed and has no occupants which reduces the number of people on the road. We have innovative design features such as a narrow width and a lighter weight. The critical systems of hardware are redundant. Even if something were to fail the vehicle can still operate, pull itself over and come to a safe stop.

Before we launch, we continually interact with law enforcement and hold meetings, trainings and provide documentation to ensure they are comfortable on how to interact with this novel vehicle. We have several other capabilities to monitor the vehicle remotely, to tow the vehicle from a local fleet team and all the operating personnel receive extensive training. This has resulted in a positive safety record with no serious safety incidents, and we have not caused any crashes.

This technology has great benefits for the public. Page 4, [Exhibit E](#), is a report put out by the transportation economist firm, the Steer group, in the fall of last year. They calculated in the ten years 2025 to 2035, nationally, the AV delivery technology could create several million jobs, stimulate economies with

investment, reduce crashes and decrease emissions from carbon and local air pollution.

We are focused on the benefits for people who live in food deserts from this technology. During the pandemic, we began deliveries in Houston with the Houston Food Bank and were operating in an area next to the Third Ward which is a historically Black community. It showed us by partnering, we could reach people in food deserts.

We conducted an analysis and learned there are 20 million people who are low income and live in food deserts Nationwide. We determined that if we were to scale everywhere in the Country, our technology had the potential to reach 70 percent of these people within 30 minutes if the AV can drive on 45-miles-per-hour roadways.

We calculated the numbers, specifically for the Las Vegas metro area, where 125,000 low-income residents live in food deserts. With the ability to drive on 45 mile per hour roads, we can reach 86 percent or 107,000 people.

Assembly Bill 412 will update the vehicle equipment requirements in statute before novel vehicles similar to this emerge. The vehicle is operated with machine vision and does not need mirrors or windshield wipers and because it has machine controls, it does not require dashboard indicators or a brake pedal.

Assembly Bill 412 will define the term "neighborhood occupantless vehicle" as a low-speed vehicle not designed, intended or marketed for human occupancy. These vehicles are permitted on roadways with a speed limit of up to 35 miles per hour. Under certain limited circumstances, this bill will enable the vehicle to operate on roadways of 45 miles per hour, subject to those safety restrictions. This is important because it will allow access to suburban and rural areas and people in food deserts.

Page 7, [Exhibit E](#), is a display of an Albertsons at the corner of West Flamingo Road and Durango Drive. Both of the roadways are marked 45 miles per hour. If you look at the Cimarron Apartments where there are blue lines, to reach that neighborhood, it is necessary to drive on a 45-miles-per-hour road for approximately half a mile to reach the community.

Why is this bill needed now? Because Nevada has leading legislation as the first in the Nation to adopt AV legislation and has updated several times over the years as new technologies emerge. We see new developments that merit the changes proposed by A.B. 412. We were first with new vehicle designs. Nuro's R2 vehicle was the first to receive an exemption from the U.S. Department of Transportation allowing us to operate without side view mirrors or a windshield. In addition, the U.S. Department of Transportation is in the process of finalizing regulations for vehicles without manual controls which will update the rules.

CHAIR HARRIS:

You mentioned you are operating in the Houston area. Was there a similar bill passed through the Texas Legislature?

MR. LIPKA:

A bill similar to this is pending in the Texas Legislature. In Texas, a subset of these requirements do not apply to a vehicle limited to 25 miles per hour, but the Texas House of Representatives Transportation Committee this week passed a bill addressing requirements for these vehicles that drive over 25 miles per hour. In Nevada, that distinction of not applying the same equipment requirements to low-speed vehicles is not present. It is why we can operate in Texas now.

SENATOR PICKARD:

You are undoubtedly familiar with the Keolis test run in Las Vegas. On the first day, it was involved in a crash. It was ultimately the fault of a delivery driver. We know from experience with other semiautonomous vehicles that sometimes the software and the equipment does not see or perform how it should because of human error in the design and construction of the system. Who is "at fault" when this vehicle makes a mistake? With no driver, Nevada law puts liability on the shoulders of the driver. I assume the liability will go to the operator? How will we deal with the accidents that occur? Where is the overlap?

MR. LIPKA:

The law passed in 2011 by Nevada deals with liability on AVs, and it will not change in any way by this bill. The law states or preserves the existing responsibilities of whoever is at fault is responsible. If it is the operator of the AV, whether in Nuro's case is the manufacturer, the operator, and designer of the vehicle's software, it will depend on who is at fault. If the other driver is at

fault, they will presumably be responsible. It fits well in the existing tort law system.

SENATOR PICKARD:

It is interesting you say that because in section 3, subsection 3 it states, in the 45-miles-per-hour provision, if the vehicle is traveling and operating in compliance with State law it is assumed it complies with the provisions of NRS 484B which is the law on the rules of the road. It creates a presumption that the operator is complying with the law and is not at fault. Is there exculpatory language for an argument that Nuro is not liable for any accident because it begins with a presumption they are complying with the law?

MR. LIPKA:

The intent of A.B. 412 is to focus on section 2, subsection 2 of NRS 484B.637 which limits it to 35 miles per hour. That is the restriction addressed along with any minimum speed restrictions.

SENATOR PICKARD:

How does it address the presumption that the vehicle is complying with the law if it is driving on the 35- or 45-miles-per-hour roadway?

MR. LIPKA:

The AV law requires compliance with the rules of the road. For example, if the vehicle was operating on the wrong side of the road, it will be a violation of that rule. This action should be read in light of the other AV section.

SENATOR PICKARD:

The proper legal approach will be reading all statutes in combination. In Carson City, as you drive on Carson Street from Minden, a section of roadway was rebuilt and went from 45 to 35 miles per hour. None of the maps or automatic systems have registered the change. Are you using those databases, or will you create your own and update it every time construction is complete or the State or local governments change the speed limit?

I am concerned about the other driver not anticipating the 45-miles-per-hour AV on a posted 25- or 35-miles-per-hour stretch of roadway and they pull out from a side street and cause a crash. It might create an unfair disadvantage to the motoring public.

MR. LIPKA:

We build our own custom maps everywhere we operate. The maps which are commercially available are not adequately detailed for our software needs. We are required to know, down to the centimeter, where lines are on the road. We operate consistently and monitor and update changes. The intent is definitely not to seek exemption from generally applicable laws other than this one section regarding speed.

SENATOR PICKARD:

I assume you will be operating in a limited or well-defined area. If someone from Gardnerville attempts to obtain delivery and the maps in that area are not set up, will you serve them? Regular updates will be made any time the local government changes the speed limit or reroutes a road; will you be on top of that change and update the maps immediately?

MR. LIPKA:

Yes, that is correct. If you live outside the service area and you go to Smith's website, you will not see an option for Nuro until we reach a community with our technology.

SENATOR SPEARMAN:

You mentioned something regarding the Third Ward in Houston?

MR. LIPKA:

Yes, that is correct.

SENATOR SPEARMAN:

You stated you were operating in the Third Ward?

MR. LIPKA:

Yes, we were working with the Houston Food Bank during the pandemic to bring food to needy families in Houston's Third Ward. It prompted us to begin doing research on food deserts, because that community is logged as a food desert.

SENATOR SPEARMAN:

There was a crash in Houston with a Tesla AV recently. It was speeding when it hit a tree. There will not be passengers in your vehicle; it will be food and other

supplies. What are the safety levers or procedures you put in place as a result of the recent crash?

MR. LIPKA:

Safety is our top priority. Unlike the Tesla vehicle you referred to, our vehicle is fully autonomous, which means the vehicle does not rely on a human operator. It means we are not subject to the same issues. Issues regarding misuse of the system is not applicable to a vehicle never having the ability for a human to drive it.

We have a number of points we check for safety. The leading cause of crashes is due to speed. Nuro can be programmed to never speed which is our most important safety feature because it is operated autonomously. It can sense 360 degrees around the vehicle and not only in one mode. The driver assistance system of the Tesla vehicle you referred to uses a camera. We have six different sensors on our vehicle including lidar, radar, long-range and short-range cameras, ultrasonic sensors, auto sensors and thermal cameras. These different sensors come together to give a more detailed picture of what is happening around the vehicle and to see if the AV finds other objects.

In the vehicle, we designed a number of innovative items to improve vehicle safety beyond avoiding the 94 percent of crashes caused by human error. One is a narrower width of vehicle. An example of how important the width is because it gives us an extra three to four feet of maneuverability around a pedestrian who may come out from between two parked vehicles and walk into the street.

A number of safety features are incorporated into the front end of the vehicle. The design looks like it has a windshield but can collapse around something and absorb energy if it were ever in a crash. We have a number of features we use in the vehicle to improve safety. Operational safety is critical. Having a safety culture where everyone is responsible for addressing any issues they find is important.

CHRIS ANDERSON (Zoox):

Zoox is an AV developer with testing operations in Las Vegas. We have been testing since 2019. Zoox appreciates this common sense update of the vehicle code which reflects advancements in the AV industry. We agree that A.B. 412 will streamline the AV regulatory structure in Nevada and enhance broad

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economic development in the State while reducing fossil fuel emissions and keeping the streets safer. We urge you to support the bill.

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CHAIR HARRIS:

We will close the hearing on A.B. 412. Seeing no further business to come before the committee, the meeting is adjourned at 4:45 p.m.

RESPECTFULLY SUBMITTED:

Debbie Shope,
Committee Secretary

APPROVED BY:

Senator Dallas Harris, Chair

DATE: _____

EXHIBIT SUMMARY				
Bill	Exhibit Letter	Begins on Page	Witness / Entity	Description
	A	1		Agenda
A.J.R. 7	B	4	Alphecca Muttardy / Coalition for the National Infrastructure Bank	Visual Presentation
A.B. 412	C	1	Piper Overstreet / Nuro, Inc.	Written Testimony from James Humm, Governor's Office of Economic Development
A.B. 412	D	1	Piper Overstreet / Nuro, Inc.	Letter of Support from Kroger
A.B. 412	E	1	Piper Overstreet / Nuro, Inc	Support Letter from Zoox
A.B. 412	F	2	Mathew Lipka / Nuro, Inc	Nuro Slide Presentation