



NEVADA LEGISLATURE JOINT INTERIM STANDING COMMITTEE ON GROWTH AND INFRASTRUCTURE AND JOINT INTERIM STANDING COMMITTEE ON HEALTH AND HUMAN SERVICES

(Nevada Revised Statutes [NRS] [218E.320](#))

MINUTES

July 17, 2024

The fifth meeting of the Joint Interim Standing Committee on Growth and Infrastructure (JISCGI) and the sixth meeting of the Joint Interim Standing Committee on Health and Human Services (JISCHHS) for the 2023–2024 Interim was held on Wednesday, July 17, 2024, at 9 a.m. in Room 4100, Legislative Building, 401 South Carson Street, Carson City, Nevada.

The agenda, minutes, meeting materials, and audio or video recording of the meeting are available on the JISCGI's [meeting page](#). The audio or video recording may also be found at <https://www.leg.state.nv.us/Video/>. Copies of the audio or video record can be obtained through the Publications Office of the Legislative Counsel Bureau (LCB) (publications@lcb.state.nv.us or 775/684-6835).

COMMITTEE MEMBERS PRESENT IN CARSON CITY:

Senator Dallas Harris, Chair, JISCGI
Senator Fabian Doñate, Chair, JISCHHS
Senator Skip Daly
Senator Ira Hansen
Senator Rochelle T. Nguyen
Senator Robin L. Titus
Assemblywoman Tracy Brown-May
Assemblyman Brian Hibbetts
Assemblyman Duy Nguyen

COMMITTEE MEMBERS ATTENDING REMOTELY:

Assemblyman Howard Watts, Vice Chair, JISCGI
Assemblyman David Orentlicher, Vice Chair, JISCHHS
Assemblyman Max Carter

Assemblywoman Jill Dickman

COMMITTEE MEMBERS ABSENT:

Assemblywoman Danielle Gallant (Excused)
Assemblyman Ken Gray

LEGISLATIVE COUNSEL BUREAU STAFF PRESENT:

Kristin Rossiter, Senior Policy Analyst, Research Division
Patrick B. Ashton, Principal Policy Analyst, Research Division
Davis Florence, Senior Policy Analyst, Research Division
Julianne King, Assistant Manager of Research Policy Assistants, Research Division
Sarah Baker, Research Policy Assistant, Research Division
Cameron Newton, Deputy Legislative Counsel, Legal Division
Jessica Dummer, Senior Principal Deputy Legislative Counsel, Legal Division
Eric Robbins, Senior Principal Deputy Legislative Counsel, Legal Division
Aaron MacDonald, Principal Deputy Legislative Counsel, Legal Division
Julie Waller, Principal Deputy Fiscal Analyst, Fiscal Division
Kimbra Ellsworth, Senior Program Analyst, Fiscal Division

*Items taken out of sequence during the meeting have been placed in agenda order.
[Indicate a summary of comments.]*

AGENDA ITEM I—CALL TO ORDER AND OPENING REMARKS

Chair Harris:

Today is a special meeting for the Committee, as we are hosting a joint meeting with the JISCHHS. As we begin the meeting today, I would like to extend a warm welcome to the Members of the JISCHHS as well as acknowledge the efforts made by its Chair, Senator Doñate, to work with me and identify areas of focus for our two committees. Today's meeting acknowledges the intersection that exists between the infrastructure of our communities and the health of the people who live and work in our State, both north and south, in urban and rural locations, as well as those who make Nevada their destination for travel and recreation. Key issues we will be addressing today include traffic safety, pedestrian safety, the Complete Streets Program and initiatives, and efforts to mitigate excessive heat in the urban environment. We will also receive an update on the Healthy Homes Program. With that, I would like to ask Chair Doñate of the JISCHHS to share any remarks he may have.

Chair Doñate:

Thank you, Chair Harris. It is an honor to be back in Carson City and to see everyone. I am grateful for our efforts to collaborate for this meeting. Sometimes when we think of health care and growth and infrastructure, you probably do not see a lot of synergy. I think this is a good example of how public health can extend to other factors of our daily living. I am excited to talk about how we can improve the lives of our community and am excited for the Committee Members to engage in these conversations, so thank you.

Chair Harris:

Thank you, Chair Doñate. Before we begin today's presentations, I want to go over a few housekeeping items. Today's meeting is being held in Carson City with the opportunity for community members and presenters to attend the meeting virtually as well. Due to the relocation of the meeting rooms in Las Vegas, there is not a Las Vegas location for today's meeting.

[Chair Harris reviewed meeting protocols.]

I would like to mention the solicitation of recommendations (SORs) memorandum and related information has been uploaded to the Growth and Infrastructure Committee web page. This memo asks all interested parties to submit recommendations to us for potential legislation. The Joint Interim Standing Committee on Growth and Infrastructure may request up to ten bill draft requests (BDRs). I encourage all Members of the Committee as well as individuals and organizations to bring forward recommendations on possible legislation by July 31, 2024. That is right around the corner. We will now move on to public comment.

AGENDA ITEM II—PUBLIC COMMENT

Chair Harris:

Public comment will be limited to two minutes per speaker. An additional opportunity to make public comment will be available at the end of the meeting. You may provide public

comment in person in Carson City or via telephone at the number posted on today's agenda. Is there anyone in Carson City who would like to provide public comment?

Nick Shepack, Nevada State Director, Fines and Fees Justice Center (FFJC):

Good morning, Chairs Harris and Doñate and Committee Members. The FFJC is pleased to see the conversation on traffic safety continue during this interim. I have had an opportunity to review the materials, and many of the findings, while unsurprising, are deeply concerning. They are concerning not only because they show a clear disparate impact on low-income and Black, Indigenous, and people of color (BIPOC) communities, but because the top priority on the zero fatality slides remains automated traffic enforcement (ATE), a policy which in nearly every case actively and aggressively extracts wealth from communities. According to the data, it appears clear that our most dangerous streets exist in our most under-resourced communities. The same communities that were originally built often had the worst infrastructure and, today, often receive infrastructure updates last. If we are to use safety data to identify locations for ATE, it is hard to understand how these cameras would not be placed disproportionately in these communities. On the other hand, infrastructure solutions like we see in the Complete Streets Program and in cities like Hoboken, New Jersey who have gone seven years without a traffic fatality, invest in these communities in ways that promote public health and public safety by increasing the public's ability to safely walk, ride bikes, and access public transit while also increasing green spaces. When addressing safety for marginalized communities, investment, not wealth extraction, has proven time and time again to provide better safety results, increase community trust in the government, and improve overall public health. On top of this, our current traffic enforcement system fails to hold higher income drivers responsible for dangerous driving, while at the same time levying harsh punishments on low-income drivers for minor infractions. We should be looking to fix our current traffic enforcement system before implementing a new one. We look forward to continued conversations with all stakeholders and today's presentations. Thank you very much.

Olivia Tanager, Executive Director, Sierra club Toiyabe Chapter:

Good morning, Chair Harris, and Chair Doñate. The Toiyabe Chapter believes we all have the right to a livable planet. We work on supporting equitable renewable energy, increasing access to public transportation, and protecting and conserving the land, water, and wildlife in our region. We represent 40,000 members and supporters. As such, [we] are the largest grassroots environmental group in the State. To JISCGI, you all will be seeing recommendations from us shortly based on conversations and support from our large membership. We encourage you all to heavily consider the proposals and believe they all have the potential to positively impact the day-to-day lives of people across the State of Nevada. We are recommending legislation on reporting and fair clean energy considerations. We are recommending legislation that would allow for increased transparency and shut offs due to nonpayment, allowing for aid providers to better assist and help prevent folks' lights from being shut off. We are recommending support of agrivoltaics. I look forward to working with you on these proposals. Our members wanted me to relay that they are counting on you, and they look forward to supporting you and these proposals in 2025. In terms of the items on today's agenda, we unequivocally support efforts that make it easier for folks to move around without needing to use a single occupancy vehicle. We need to continue to improve walkable and bike infrastructure in the State and support our friends in the transit authorities who are working to expand public transportation access in Washoe County and Southern Nevada. We also must continue to mitigate the urban heat island effect and its disproportionate impact on low-income and communities of color in the State. Thank you for your support and consideration of these issues.

Stephen Hamile, Nevada Solar Association:

Good morning, Chairs Harris and Doñate and Committee Members. We are an association of six current like-minded solar companies grounded and founded in the State of Nevada. Some of us [have been] operating since 2007. We are also representing today Kirsten Stasio from the Nevada Clean Energy Fund and Solar for All. Our concerns today are what is taking place in the Public Utilities Commission (PUC) with regards to the interconnection charge being increased but most importantly, the potential threat against net metering. As we know, the Inflation Reduction Act did two things for us. It legitimized solar so the average household individual would feel comfortable with purchasing solar. It also legitimized the solar industry with regards to worker base, creating thousands of jobs across America and over 1,000 jobs here in the State of Nevada. Our concern is that these jobs would be taken away with a potential change in net metering. Most importantly, the Inflation Reduction Act was meant to bring solar to the doorstep of every Nevadan by creating tax credits. A tax credit alone will not provide for solar without proper net metering fees and low interconnection fees. Without these, you virtually paralyze the intent of the Inflation Reduction Act. The consumers that are most affected are your low-income consumers where \$2 to \$3 per month on their energy bill can make the difference between going solar or staying with fossil-burning fuels. Many of them continue to move forward and are impacted. They cannot use the tax credit. What is important to them is the interconnection fee and also the basis for a low and reasonable net metering. As we know, the fastest heating city in America is Reno, Nevada. Number two is Las Vegas, Nevada. We owe our allegiance to Nevada homeowners to be able to move to renewable energy and not to the shareholders of an investor-owned utility.

Chair Harris:

Mr. Hamile, you are at your two minutes, if you could wrap up.

Mr. Hamile:

We are hoping for your support this year to assist us not only in maintaining the current net metering status that we have, but also to push forward more renewable and sustainable measures. Thank you.

Tucker Desmond, Intern, School of Public Health, University of Nevada, Reno (UNR):

Good morning, Chair Doñate, Chair Harris, and Members of the Committee. In the past century, the field of public health has grown significantly with remarkable results. Between 1900 and 1999, life expectancy in the United States increased by 30 years. Of these 30 years, the Centers for Disease Control and Prevention (CDC) attributes 25 to public health advancements. That is, targeted initiatives to keeping communities safe and healthy. Public health initiatives not only improve the health of communities; they also bring substantial economic benefits, increasing workforce participation and productivity, reducing absenteeism, and reducing health care costs. However, despite its contribution to health and the economy, the field of public health is not often viewed or funded like other public goods and services, which are vital to the function and advancement of society, and often fall to the government to supply. For instance, roads are widely accepted as public goods and [are] funded by the government because they serve a fundamental role in society's function and yield large economic returns. Roads facilitate commerce, increased labor mobility and productivity, ensure access to critical services, and foster social cohesion. Similarly, streetlights, sidewalks, clean air, and parks are all public goods critical to the function and safety of communities. Ensuring pedestrians have well-lit places to walk, green

spaces for recreation and exercise, and clean air to breathe all contribute to keeping communities safe and healthy and are all public health interventions. Like roads, streetlights, clean air, and parks, many public health interventions are public goods that reap broad benefits. Immunization campaigns and clinics safeguard against disease and increase social mobility, social cohesion, and other productivity. Other core public health services such as preventing and controlling infectious disease, preventing chronic disease and injury, and improving maternal, child, and family health improve the health of communities and add significant economic value but are inadequately or inefficiently provided by the market. As a result, it often falls to the government to establish robust programs, regulations, and initiatives to ensure such services are available. I want to thank these Committees for acknowledging the connection between growth and infrastructure and the health of our communities. As a society, we recognize the importance of the government providing public goods for progress and improving quality of life. It is important to recognize and fund public health like other public goods.

August Lemaire, Reno Resident, Private Citizen:

My wife and I are retired and live on a fixed income. We have invested considerably in trying to reduce our energy needs, including building a home built with insulated concrete forms and putting rooftop solar on our roof for both hot water and electricity. This has resulted in a lifestyle that we feel our investment can protect us from rate increases. As those rate increases happen, because we have these energy conservation situations built into our lifestyle, we can control our cost of living. The current proposal to increase the basic rate from \$16.50 to \$44 something is an unfair burden on people who are conserving and on people who are in a lower income bracket and just do not have the money to pay for, let us say, air conditioning, which is a huge bill. Net metering has been largely vilified by the utility as being an unfair load on the utility. The reality is, rooftop solar generates a good deal of electricity in the summertime during the heat, which decreases the need for additional infrastructure to carry the energy to and from those homes, is not only a good idea, but it is also healthy for our planet. [I] really hope this kind of proposal, which unfairly challenges people who have taken investments to rooftop solar and also people who want to invest in it in the future. We need these kinds of initiatives and incentives to help literally save our planet. Thank you.

Chair Harris:

Broadcast and Production Services (BPS), is there anyone on the phone lines who would like to provide public comment today?

BPS:

If you would like to participate in public comment, please press *9 now to take your place in the queue.

Leann McAllister, Executive Director, Nevada Chapter of the American Academy of Pediatrics:

Good morning, Chair Harris, Chair Doñate, and Members of both Committees. Today, you will review data and policy options for two issues critical to the safety and wellbeing of Nevada's children: pedestrian safety and extreme heat. Usually, playing and exercising outside boosts a child's physical and mental health in many ways. However, a heat index at or above 90 degrees Fahrenheit poses a significant health risk. High temperatures and extreme heat can cause children to become sick very quickly in several ways. It can cause dehydration, heat exhaustion, heat cramps, and heat stroke, which is a medical emergency.

High heat can also make everyone more irritable and impact mental health. Reno pediatrician and a member of our Board, Dr. Deb Hendrickson, is a nationally recognized expert on this subject and recently published a book. She and I are at your disposal should you have any questions. On a good day in Nevada, when it is not dangerously hot and the air is clear of pollutants from wildfires, pediatricians strongly encourage all children to have at least two hours of exercise as prescribed in the Healthy Eating and Active Living (HEAL) Nevada 5-2-1-0 Program. Traditionally, pediatricians have encouraged families to have their children walk or bike to school as a routine form of daily exercise. However, in the United States, 16 percent of children killed in traffic crashes are pedestrians. The American Academy of Pediatrics calls for communities to adopt and promote policies, programs, and legislation that result in a safer environment for pedestrians. These policies are detailed in the links in my written testimony today. Thank you for your leadership. ([Agenda Item II](#)).

Melissa Ramos, Senior Manager, Clean Air Advocacy, American Lung Association:

Good morning, Chair Harris, Chair Doñate, and Committee Members. Thank you for bringing forward this important discussion between health and transportation experts. These elements need to be better aligned in support of clean air for all communities. Land use and transportation planning decisions are health decisions impacting how people move, whether they are bound to vehicle travel, or have healthier, less polluting modes like walking, biking, or transit. We have some of the most polluted air in the nation. Transportation is a key source of that burden, especially in high impacted communities, communities of color, or with lower incomes where access to good transportation options are often lacking. The *American Lung Association's State of the Air* report reveals 95 percent of Nevadans live in a community with at least one failing air quality grade. Vulnerable communities including kids, seniors, and people with underlying health issues are most at risk. People of color are also disproportionately exposed to unhealthy air and are more likely to be living with one or more chronic conditions that make them more vulnerable to the health impact of air pollution, including asthma, diabetes, and heart disease. We can protect the health of Nevadans by pivoting away from the combustion of harmful fossil fuels for zero emissions technologies in the energy and transportation sectors. We need to see more great conversations between health and transportation planners to ensure we are building a transportation system that moves us to a healthier, more sustainable future. You all have a role in informing the future health of our communities, and we want to be sure this investment of time really does result in investments in a healthier less polluting transportation system that serves all people, regardless of income and access to personal vehicles. Thank you.

BPS:

Chair, you have no more callers wishing to participate at this time.

Chair Harris:

With that, we can roll straight into our presentations.

AGENDA ITEM III—PRESENTATION ON EQUITY IN TRAFFIC SAFETY

Chair Harris:

Let us begin with the first presentation on equity and traffic safety. We have representatives from the National Highway Traffic Safety Administration (NHTSA), which is a part of the U.S. Department of Transportation (DOT), presenting virtually.

Allison Beas, Program Data Analyst, NHTSA, DOT:

Good morning, everyone. Today, I will cover equity and traffic safety on more of a federal perspective. ([Agenda Item III](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact>.]

First, I want to start with the Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. This is a foundational document I want to highlight. This Order directs each federal agency to assess their programs and policies to identify and eliminate systemic barriers that hinder people of color and other underserved groups. By conducting these assessments, agencies can develop and implement policies that ensure equitable access to resources and benefits for all communities. Additionally, the Order emphasizes the importance of creating new policies, regulations or guidance, and documents when necessary to advance equity in all Agency actions and programs. This initiative aims to foster a fair and inclusive environment where every individual has the opportunity to thrive.

It is important to define equity under this Executive Order, which is the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatments such as: Black; Latino; Indigenous and Native American persons; Asian Americans; Pacific Islanders; other persons of color; members of religious minorities; lesbian; gay; bisexual; transgender; queer; LGBTQ+ persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

We wanted to show a depiction of equality versus equity. Under equality, everyone gets the same resource. As shown, some individuals cannot use the bikes because they have specialized needs. Under equity, the specific historical and present-day circumstances and abilities of individuals and communities are taken into consideration to provide appropriate solutions that provide everyone with opportunities to live safe and healthy lives. There are different types of bikes. There are adapted bikes specially designed to accommodate individuals with different physical abilities and include features like hand cycles. These adaptive bikes enable individuals with disabilities to enjoy cycling and maintain an active lifestyle, so they are able to enjoy the built infrastructure.

This takes us to the history, zip code, destiny, and exploring impact. The environment you grow up in can significantly impact your life trajectory. Recent research from the U.S. Census Bureau and top universities, highlighted in the *Opportunity Atlas*, show that neighborhoods can influence where you end up in life. This comprehensive database tracks the economic outcomes of children across different neighborhoods. It reveals that children growing up in disadvantaged areas are more likely to experience lower incomes, higher incarceration rates, and reduced educational attainment as adults. Unfortunately, many of these disadvantaged areas are historically affected by redlining. Redlining was a discriminatory practice that denied financial services to residents of certain areas usually based on race or ethnicity, leading to long-term disadvantages. Moreover, the Federal Highway Safety Act of 1956 further exacerbated these issues. While it was designed to improve vehicle mobility by creating an extensive network of highways, it often did so at the expensive price of pedestrian mobility, especially in urban areas. Highways were built through neighborhoods, dividing communities, restricting access to essential services, and decreasing the quality of life for residents.

This brings us to the concept of social determinants of health. Social determinants of health are conditions in the environment where people are born, live, learn, work, play, worship, and age. These conditions affect a wide range of health, functioning, quality of life, outcomes, and risk. The five are: neighborhood and built environment; economic stability; education access and quality; health care access and quality; and social and community context. Our main concern is access to transportation.

What does that look like? You have infrastructure that was designed for vehicle mobility but not pedestrian mobility. There are people with different needs and different mobility issues. You can see there is a young woman who is visually impaired walking on a rural road without a sidewalk and an elderly lady where there is no sidewalk along an arterial road with vehicles traveling at high speed. It is a dangerous interaction. Older adults, Black, American Indian and Alaskan Native (AIAN) people, and people walking in low-income communities tend to be disproportionately represented in fatal crashes involving people walking. According to the Federal Highway [Administration], 8.6 percent of U.S. households do not have access to a vehicle. Lower income households were more likely to use public transit, walk, and bicycle for their travel. In 2017, 8.5 percent of the population age five or older had a travel limiting disability, an estimated 25.5 million people. The top three medical devices used are walking canes, which is 36.7 percent, walkers at 22.9 percent, and wheelchairs at 11.6 percent.

There has been persistent overrepresentation. The National Highway Traffic Safety Administration did a study from 2006. In 2006, American Indians experienced the highest fatality rate per 100,000 population at 31.17, white was 12.5, African American was 12.31, and Hispanic was 12.27. There was a report covering 1999 to 2004, so we have 17 years plus, and it is still the same trend where AIAN were disproportionately affected.

In terms of alcohol impaired driving fatalities from that time frame, AIAN and Hispanics had the highest percentage of driver fatalities who were alcohol impaired at 53 percent and 40 percent, respectively.

The overrepresentation still persists today. We have approximately 109.5 million people living in disadvantaged situations nationwide. Thirty five percent are disadvantaged, and the total population was 329.8 million at the time we used the data.

That overrepresentation still persists today. This is the exposure to risk. This is the most recent data we have from NHTSA in terms of race and ethnicity. It is important to note, traffic fatality injury costs in 2020 were approximately \$475 billion for the U.S. This chart shows the traffic crashes per 100,000 population broken down by race ethnicity. Looking at the years from 2017 to 2021, it is important to understand the proportion of risk. This chart illustrates how different groups bear different levels of risk when it comes to traffic fatalities. For example, the group represented by the orange line consistently has the highest fatality rate, indicating they bear a higher risk compared to the other groups, which is the AIAN group. The goal for NHTSA is lowering the risk across all groups. Ideally, we want these rates to be as low as possible and more equal across all groups, indicating no particular group is disproportionately affected. Looking at trends over time, you notice how the lines change over time. Some groups show a decrease in risk, while others experience fluctuations or increases. By studying these trends, we can identify which groups need more attention and resources to improve their safety and reduce risk.

Looking at other factors of risk—this is looking at unrestrained—we can see the different types of vehicles. We have passenger vehicles, passenger cars, and light trucks. We can see

AIAN continues to have the highest percentage of unrestrained, so there is an opportunity there to improve safety.

We continue to look at alcohol impaired driving fatalities by race and ethnicity. We see overall AIAN people had the highest proportion of alcohol impaired driving fatalities in 2017, at 39 percent and in 2021, at 43 percent. Looking at the raw numbers, we see the highest increase for Hispanic or Latino, with an increase of 705 followed by Black or African American with an increase of 704 for alcohol impaired driving fatalities. It is important to notice what groups need our attention so we can tailor our interventions to meet the needs of these respective populations and create culturally sensitive programming that resonates with each community.

Another risk factor is speed-related fatalities. Speed also plays a role. High driving speeds lead to higher collision speeds and thus, severe injuries. Higher driving speeds also provide less time to process information and act on it, and the braking distance is longer. It is important to notice that before 2017, it was Native Hawaiian Pacific Islanders. In 2021, our highest percentage is Hispanic Latino and also the AIAN group.

Looking at overrepresentation by rural and urban, we can see AIAN and white individuals experience more traffic fatalities in rural areas compared to urban areas. By 2021, AIAN individuals continue to have higher fatalities in rural areas, while other race ethnicity groups have more traffic fatalities in urban areas. However, there are still groups, such as Black or African American and Hispanic or Latino, who are affected by fatalities in urban areas.

In terms of looking at what approaches the DOT and NHTSA are using to combat overrepresentation, we were fortunate with the passing of the Bipartisan Infrastructure Law. There was an influx of money, and that influx of money has also been funneled down to the states. There are different strategies we are using. It is holistic. One of them is the national growth rate strategy that is comprised of the Safe System approach. One of the spokes is safer people. One of the unique things that is different now is for the safer people, our regulations also require community engagement. Asking the community members what type of interventions and resources they would like to see and how to bring them into resolving the issues. Because of past mistakes, let us say, with the other 1956 regulation, this is to make sure we do not do any harm. We want to make sure people are part of that process and they are engaged. That way, we are also promoting responsible driving and responsible behavior in terms of prioritizing everyone.

We have the safer roads, which is more of that redesign designing for pedestrians and also the interactions. Before, it was mostly designing for vehicles and the movement of vehicles. Safer vehicles [includes] having more of that technology, and what can we add to prevent crashes? Also, thinking not only of the vehicle occupants, but people outside the vehicle and how they interact. Another important thing is safer speeds and lowering that speed when there are those interactions. By lowering speeds, the danger and injury is less. At higher speeds, it can be fatal. If there is the ability to lower speeds, we encourage that.

Focusing on post-crash care is vital. In terms of getting the individual to the adequate treatment facility, especially for people in underserved areas or rural areas where they might not have access to a trauma center or a health care facility because of a lack of resources, making sure emergency medical services (EMS) is there in a timely manner and can get them to adequate treatment so we can save lives is important. Within the Safe System Approach, we now have 123 allies in action, 67 advocacy organizations, 29 private sector, and 27 governmental agencies because we understand we cannot do this alone. It has to be a collaborative approach where all of us are working together in a synergistic

manner to resolve these bigger issues that are not just within our silo but interact with everyone. We have provided more funding in terms of investment in travel, transportation safety, and speed management. Those are new initiatives we have not done so much of in the past but now is a priority for this Administration.

In terms of working together and using different approaches, more of that public health approach as well, we are seeing reductions from our latest numbers. From 2022 to 2023—these are estimate numbers—we are around 40,900, which is minus 4 percent. What we are seeing is promising. We want to continue to see those reductions. It is important for us to focus on those overrepresented populations that have been affected by traffic fatalities for a long time. Before, there might not have been those resources, but now, there are additional resources where we can focus on those populations. Looking at Nevada's traffic fatalities—I believe my counterparts from the Nevada Highway Safety Office will go more in depth—it seems like the same trends looking at Nevada traffic fatalities per 100,000. American Indian and Alaska Native was 32.6, followed by Black African Americans, then white, then Hispanic, and Asian. Looking at pedestrians with the most recent—this is just one year of data—it seems Black African Americans are overrepresented, and then you have Hispanic, white, and Asian. The pedestrian fatality seems to be concentrated in underserved areas such as North Las Vegas, Las Vegas, Paradise, Spring Valley, Reno, and Sparks. In terms of the approach NHTSA is using, it is much more of an integrated approach—the Safe System approach—and bringing in partners, looking at different ways of how we can work together to resolve this issue, and involving the community. The community is the expert. They have lived there. They know and understand infrastructure, and we should be respectful of their needs.

Chair Harris:

I appreciate you going into such detail and taking the time to present to us in Nevada, although your duties are mostly on the federal level. Do the Committee Members have any questions? You explained it so thoroughly, the Committee Members have no questions. We will close out this presentation.

AGENDA ITEM IV—OVERVIEW OF NEVADA ROAD SAFETY ISSUES AND COMMUNITY IMPACTS

Chair Harris:

Giving an overview of Nevada road safety issues and community impacts, we have representatives from the Office of Traffic Safety (OTS), Nevada's Department of Transportation (NDOT), and the Division of Public and Behavioral Health (DPBH), Department of Health and Human Services (DHHS).

Amy Davey, Administrator, OTS, Department of Public Safety (DPS):

Today, we are bringing you a coordinated presentation. You heard good data and overarching information about equity and traffic safety. We are here today to bring this to a personal level, a Nevada level, a level in our own communities—one we believe you can impact and relate to. I am going to provide a brief overview of roadway crash data with an emphasis on Nevada demographics and equity disparity issues that were touched on in the previous presentation. Then I am going to turn the presentation over to my colleagues. The data I am using is from the NHTSA, but it is specific to Nevada. The next few slides are data heavy, so while I will move rather quickly for the sake of time, I am happy to provide follow up or answer questions as the opportunity allows. ([Agenda Item IV](#)) [Due to copyright

issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact.>]

You heard referenced earlier the State Highway Safety Office, that is the Nevada OTS. We are the designated State Highway Safety Office for the State. One of our responsibilities is to analyze crash data and distribute this data to inform and support programs and policies that implement proven countermeasures to reduce fatal and serious injury crashes. It is likely the most dangerous thing any of us do today is walk, drive, or ride. It is important to us that the transportation conversation go further than convenience and capacity. This is an introductory data slide that gives you an idea of what we are seeing on our roads in Nevada regarding safety. We have experienced a significant increase statewide of 36 percent in a four-year period for which we have final data. At the bottom of this slide, I have included a few trend lines related to specific issues or road user types, such as driving under the influence (DUI), speeding, and vulnerable road users (VRUs), all of which are also trending up. Our 2023 preliminary fatality number is around 390. In 2024, we have surpassed 2023 year to date, so we are not yet seeing meaningful decreases in our roadway incidents. While we are seeing that at a national level, we are not seeing that in Nevada. Nevada is in NHTSA region eight. There are seven states in NHTSA region eight. Six of them had decreases in 2023, and we were not one of them.

How do population increases contribute to our fatal crashes? We take our fatal crash numbers and turn that into a fatal crash rate by 100,000 people to account for population increase. The crash rate is still trending up when adjusted for population.

This tracks fatalities by vehicle miles traveled, which creates a rate that helps answer the question, how much does tourism or increased road use contribute to our crashes? Overall, and by all measures, we are in a sustained period of increases in fatal crashes on our roads.

We are going to get into some specific demographic information. As previously mentioned, we also look at how traffic crashes are impacting a variety of communities and demographics in Nevada. There are a number of data analyses I am not touching on today, such as rural versus urban environments, different types of road classes, and exploring all types of crash causing factors. In this part of the presentation, I am focusing on specific crash victim demographics. Fatality data from 2018 to 2022 was obtained from NHTSA's fatality analysis reporting system, and Nevada population data was obtained from the 2020 U.S. Census American Community Survey. This data forms the basis for calculating and comparing fatality rates of Nevada's total population to fatality rates for various racial and ethnic groups population in this State.

These analyses compare traffic fatality rates per 100,000 population across racial and ethnic groups using the overall statewide fatality rate for 100,000 population as a baseline. The percentage difference between each race ethnic group's fatality rate and the total population's fatality rate indicates if the rate for that group is higher or lower than the baseline. Fatalities involving victims from groups with smaller populations do have a disproportionate impact on fatality rates. This shows total fatality rates by demographic as well as rates for lane departures, speed related crashes, and impaired driving-related crashes. Our data is trending similarly to what the national data looks like, which was presented earlier.

The analysis was applied to critical emphasis areas identified in the State Strategic Highway Safety Plan and incorporates road user types, behavioral factors, and locations. In some instances, such as work zone crashes, the race ethnicity analysis may not tell an effective

story, but as work zone crashes are a safety emphasis area, we included them. This provides information for pedestrian, bicyclist, young drivers, and intersection fatal crashes. There is an error on the young driver chart. The data for Black youth was inadvertently omitted. In fact, the data shows they represent 170 percent more involved in young driver crashes over the baseline.

Presenting information in this way helps inform interventions to impacted communities, such as education, additional services and outreach, and community-based roadway safety projects. Where we might recognize the potential for disparate treatment, we also need to acknowledge we are seeing disparate outcomes in our various communities. For example, analyzing crash data in this way helps me see that safety programs for child passenger safety should include increased support for low-income, Black, Native American, and Hispanic populations.

We do a different type of analysis where we focus on income equity and traffic fatalities based on the location of crashes within the U.S. Census Tract Block Groups in Nevada. Geographic information system (GIS) techniques were employed to identify crashes occurring in U.S. Census Block Groups with differing median household incomes less than \$50,000 and \$50,000 or more. Income data is available for the U.S. Census Block Groups where a traffic fatality occurred, not the individual, meaning this data represents the income information of the Census Block Group where the crash occurred and not the income of the crash victim. Of course, people drive in more locations than their own neighborhoods, but this helps us understand that infrastructure, the way a neighborhood and its roads are designed and built, and the way road users use these roads have critical impacts on safety. Of course, neighborhoods change, and road use can change with it. For example, I and my two colleagues are currently engaging with a local neighborhood that has significant safety concerns with speeding and a lack of pedestrian facilities. There is a heavily trafficked multilane road which bisects housing on one side and a local grocery store on the other side. Land use planning for street design, zoning, and development play a significant role in neighborhood safety. Nowhere is this more evident than with pedestrians and bicyclists.

In the next sections of today's presentation, there will be more discussion of specific interventions or countermeasures that can be considered. You heard NHTSA discuss the Safe System Approach, and there is good detail found within the U.S. DOT National Roadway Safety Strategy and on their website. Primarily, I want to drop a pin that interventions that can intersect with the work you do as policymakers can be a focus area. Good policy sets the standard for safe and sane shared roadways and helps us form a strong safety culture as Nevadans. By and large, traffic crashes are not random. They are an interaction of roads and human behavior. As the saying goes, "If you can predict it, you can prevent it." We can predict traffic crashes.

Lacey Tisler, Chief Traffic Safety Engineer, NDOT:

I manage the Highway Safety Improvement Program. It is a core federal aid program funded by the Federal Highway Administration (FHWA) that receives guidance from all transportation bills, most recently, the Bipartisan Infrastructure Law. As part of the Bipartisan Infrastructure Law, the FHWA required all states to develop a VRU Safety Assessment Program as part of their Highway Safety Improvement Program. A VRU is someone who faces an elevated risk of harm or injury in traffic scenarios due to the absence of protective features typically found in motor vehicles. Vulnerable road users encompass pedestrians, cyclists, and individuals using wheelchairs, among others. This assessment is designed to tackle and mitigate the rising number of traffic fatalities among VRUs. The assessment was developed by the DOT team. It was reviewed by multi-agency partners,

such as our OTS and Public Health. It was approved by Governor Lombardo and was published in November 2023. The NDOT's *Vulnerable Road User Safety Assessment* can be found on the Zero Fatalities Nevada website.

The NDOT team reviewed the best available data sources for the assessment. They began with five years of VRU crash data, which includes information on the crash location as well as details for injury, age, user type, and primary resident zip code for those involved. The data was cross referenced with census data, available bus stop data, roadway type, and more. The analysis did not include a detailed break in ethnicity information because that data is not available for serious injury, injury, and non-injury crashes. The equity analysis did use census data and concentrated on areas of annual incomes around or below \$35,000 a year.

The analysis reviewed all 17 counties and included all VRU crashes regardless of the severity. As expected, there was a high number of VRU crashes in urban areas. This highlights the top ten counties reviewed in the assessment. The remaining counties accounted for another 15 VRU crashes. It is important to note these crashes are not limited to urban areas in Clark and Washoe Counties. Vulnerable road user crashes can, and do, occur in any community, whether urban or rural, wherever people move outside the protection of a motor vehicle.

Cross referencing the data, the team uncovered there is a high correlation between VRU crashes and high poverty neighborhoods. Vulnerable road users who live in high poverty neighborhoods often use public transportation. The age group most frequently involved in VRU crashes is 25 to 54 years old, which coincides with the largest segment of drivers in the U.S. These crashes occur most often in Clark County followed by Washoe County, but they are not limited to these urban areas. Where we have the data available, Clark and Washoe Counties, we were able to find that VRU crashes occur within 250 feet of bus stops. Vulnerable road user crashes occur on all types of roadways, but they are most common on our local roads and tend to be more severe on arterials where there are higher speeds and a mix of users. The crash locations and zip code data referenced with the Census data showed a surprising trend: our VRUs are not necessarily involved in crashes in their own neighborhoods. Rather, these crashes occur when they are traveling in the community to use amenities. With this information, NDOT is collaborating with traffic safety partners like DPS's OTS and DHHS to implement safe systems approach interventions looking at all our opportunities to provide interventions for these VRUs.

Julia Peek, Deputy Administrator, DPBH, DHHS:

I serve as the representative for DHHS on the Nevada Advisory Committee on Traffic Safety (NVACTS). The Nevada Advisory Committee on Traffic Safety was created during the 2021 Legislative Session. I was thankful to be nominated to serve on the Committee at that time to present. We are appreciative DHHS was named during that legislation as a representative on that Committee, as were other nontraditional partners, like Nevada's Department of Education (NDE). It has allowed our Department to have a voice at the table for traffic safety and motor vehicle safety and has allowed us to frame it in a public health focus. To highlight this, the CDC noted motor vehicle safety is considered one of the top ten public health achievements of the 20th century. In the public health context, morbidity and mortality as a result of motor vehicle crashes are largely preventable. Past successes have been seen in safer vehicles, safer roadways, and safer road use. Examples include protective policies related to seat belts and child safety seats. However, a recent report from the CDC in May of this year noted traffic-related pedestrian deaths in the U.S. are at a 40-year high. I will also highlight in that report they noted the rate of pedestrian injury was

anywhere from 1.53 to 2.47 times higher for racial and ethnic minorities than non-Hispanic white persons.

On NVACTS, as I conceptualized our discussion in these meetings, the best way I can frame it is to use the socio-ecological model. It helps me frame where interventions are possible and also understand the intersection and holistic approach to addressing those. It is not a new tool in public health, but it helps frame the interventions for change and illustrates the interconnectedness at all those levels. Public policy, at the highest level, is why we are in front of you today and why NVACTS has a role in providing guidance. This has to do with laws and regulation in government to help reduce or prevent an outcome. In this case, our goal is to prevent injury and death on our road systems. The next level is related to community. This is grassroots and is shown through cultural shifts and cultural expectations of road safety. Changes in public policy often eventually result in a social norm change. This can also be infrastructure changes to address any specific community design, transportation, access, and services.

The next level is organizational. This is developed within an organization through policies and procedures. In this case, an organizational intervention could be looking at what we do with work travel. Vehicles for example, as State employees, we take defensive driving courses prior to using our State vehicles. According to a report from the CDC's National Institute for Occupational Safety and Health, they noted crashes are the leading cause of work-related deaths, so that is still an area of much focus. Interpersonal is the personal social influence relationship that may impact the way in which you, your family, or friends approach road safety. For example, if someone in your life has passed away in a motor vehicle crash, the way in which you and those loved ones travel the roads changes. [I have] personal experience in that regard. Individual, though the smallest in the diagram, is hugely important. The individual includes personal characteristics, knowledge, attitude, and skills related to road safety. This also has a demographic influence as shown on the prior slide like age, et cetera.

One of the tasks of NVACTS is to provide guidance on policy priorities in hopes of making a change at the largest level to benefit the most people in our State. I want to highlight our current traffic safety policy priorities: road safety cameras in school zones; road safety cameras generally; primary seatbelt laws; higher fines in school zones; graduated driver's license; safe system intersections; traffic records; yield for pedestrians to stop for pedestrians; appropriate speed limits for all road users; and fostering DUI intervention programs. I will note there are asterisks indicated where legislation would be required, but for those items that do not have an asterisk [safe system intersections and appropriate speed limits for all road users], this group and the agencies working on these topics are actively working to make changes in those areas. All of these are needed to reduce the risks on the road. Road safety cameras and fostering DUI intervention programs are the two the Advisory Committee wants to highlight for this biennium and are related to road safety cameras generally and fostering intervention programs for those driving under the influence. I have provided a couple of links to those specific interventions. The NVACTS Committee, with subject matter experts, put together some background on that. I encourage everybody to visit those hyperlinks.

The primary benefit of road safety cameras is to get at speeding and aggressive driving, which are a major cause of injury and death on our roads. The DUI intervention programs are another focus DHHS is specifically interested in as well. While existing laws and penalties aim to deter and punish DUI offenses, there is a growing need for a more comprehensive approach that addresses the underlying issues contributing to this behavior. Despite widespread public awareness campaigns and stricter enforcement efforts, the

number of DUI-related incidents remain alarmingly high. Traditional approaches such as fines and license suspension have proven effective but still inefficient in addressing the root cause of the health issue. For those reasons, the committee proposes intervention tools to help prevent DUI recidivism and assist in aiding those offenders who may suffer from DUI-related issues. Tools could include screening and assessments that identify the highest risk and highest need individuals in our community for interventions. Requirement for pretrial services to supervise DUI arrests pending adjudication and amending the sober 24 driver's license restrictions to provide a 24/7 sobriety privilege driver's license. I also want to highlight some data because our youth risk behavior survey recently came out, and I wanted to share that. For our middle school students, there was an increase in both the number of students who reported they have ridden with somebody who has been drinking alcohol and ridden with somebody who has been using marijuana. Alcohol went from 18.5 percent to 21.9 percent, and marijuana went from 13.8 percent to 16.7 percent. Our high schoolers reported less but only slightly. With that, we are happy to take questions the Committee may have.

Chair Harris:

Committee Members, do we have questions? Assemblywoman Brown-May.

Assemblywoman Brown-May:

First, I was recently appointed to serve on NVACTS as a legislative member, and I am honored to be there and have completed my orientation. I am excited to be joining you in those efforts. Ms. Davey, it was part of your presentation. It is the orange or yellow bar graph that shows the high percentage of pedestrian fatalities. When you were talking about that, I believe I heard you say this is about where crashes are happening and the economics of the intersection as opposed to the person in the crash. It was \$50,000 or less, so low-income communities. We are seeing more crashes where there is less infrastructure, I believe is what I heard you say. Will you clarify that?

Ms. Davey:

I am looking at the methodology that was applied to create this document. I am going to read from that methodology, so I am clear on explaining this.

The analysis focused on exploring income equity and traffic fatalities based on the location of a crash within U.S. Census Tract Block Groups. Geographic information system techniques were employed to identify crashes occurring in areas with differing median household incomes. Those of less than \$50,000 or \$50,000 or more.

This is the location of the actual incident or the crash, not the location of the individuals involved in that crash. I think when we talk about the roles of infrastructure and the way a community is built or a neighborhood is built, there are two elements there: people travel outside of their communities, but also people from other communities travel through areas that can have insufficient infrastructure. There are both components there, but by and large, I think what we can say across the board is when you have insufficient infrastructure or infrastructure that discourages certain types of roadway use or encourages other types of roadway use behavior, you are going to see more risk.

Chair Doñate:

Ms. Davey, your first slide shows the increase of fatalities per 100,000 population. What are the risk factors you see in terms of why that is increasing over the years? I would assume most folks make the assessment it is because our population is growing, but there probably are other factors we are seeing on top of behavior leading to that. In your experience, what is driving that increase? What are some things, as Legislators, we can focus on to at least plateau and try to bring it down?

Ms. Davey:

The reason we turn crash numbers into rates is to answer the questions about how much our roads are traveled or how many people are moving here. Our top risk-causing factors right now in Nevada—first of all, our VRU crashes are high. Vulnerable road users are subject, in large part, to what is going on in the environment. They do not have the protection of a vehicle around them, and they are subject to how other road users are using the road. You heard our partners from NHTSA talk about the impacts of speed on VRUs, pedestrians, motorcyclists, bicyclists, and anyone using micromobility devices. Our VRU crashes are high in Nevada.

Additionally, our impaired driving crash rate is high in Nevada, which I think is a little baked into our culture. It is something we probably need to think about turning around. If I ask any of my colleagues across the country, "What comes to mind when you think of Nevada?" They say, "Las Vegas." What comes to mind when you think of Las Vegas? What happens in Vegas, stays in Vegas. We have a bit of a culture around come and have fun. I think we need to approach that differently. When we think about the people that live here and the people that—I am not against fun, do not get me wrong, but having fun in a way that is responsible and does not impact our community. In terms of impaired driving and fatal crashes, we track that information through my Office. Fifty-five to sixty percent of our fatal crashes include somebody in that crash who was substance involved. I do not use the word "impaired" because I do not make that determination as to whether or not they were impaired, but there were substances in their system. They were substance involved. That is very high, 55 to 60 percent.

Impaired driving, VRUs who are subject to every driver's behavior, and speeding. We also have a culture of speed in Nevada. We have big, long distances to travel. Those of you in Las Vegas, you have big, wide, fast roads through your neighborhoods. We treat speed and speeding—I joke with a colleague that speeding is the only law we all feel comfortable breaking. We will show up to a party and say, "I had to speed to get here" versus "I shoplifted this wine for the party today." I would say we also have a bit of a culture around speeding. I think we need to reverse that and look at that also. I hope that touches on what we are seeing. It is not just population increase, it is not just tourism, it is not just people traveling through our State to get somewhere else. There are certain behaviors that are contributing.

Chair Doñate:

It is interesting because as you are reiterating your comments, I think back to my public health classes. They taught us the three Es: education; enforcement; and engineering. I firmly believe most of our efforts to improve traffic safety need to be focused on engineering because by human nature, we cannot control behavior as much, but we can do a lot in terms of infrastructure. Do you think other states that have mass transit systems have lower fatality rates? Do you think the absence of having a robust mass transit system,

either in Southern Nevada or Northern Nevada or looped together, is what enables us to have such high traffic incidents? Your example of folks coming in from out of state, I think if we had a system where when you land at Harry Reid International Airport, you can go directly to the hotels without having to take a cab, as we see in other cities. If we had that ability, then maybe we would not be in that position. I would love your feedback on that.

Ms. Davey:

I would love to study that. I have never thought of it in that way. I think we inherently know public transportation tends to be a safer option than everybody in their cars doing their own thing. I would love to study that in a more comprehensive way. I think we can look and point to large metropolitan areas that do have strong public transit systems. One that comes to mind is Washington D.C. They have done a good job of lowering their fatalities. I have to believe public transit options contribute to that. One of the things you probably noticed in the VRUs assessment was NDOT identified there is a high preponderance of VRU crashes that occur within 250 feet of a public bus stop. That is something we need to think about. I work with everybody in all government agencies, so I do not want to sound like I am picking on anybody because public transportation is not my area of expertise, but I notice in Las Vegas, your bus stops are midblock. When you let people off in the middle of the block, and then ask them in 110-degree weather to go a long distance to find a crosswalk, you are going against human behavior. I also noticed people get off the bus and cross midblock in traffic. That is one of those intersections I think of. In transportation policy, you have to think about convenience, capacity, and also safety. Again, I am not an expert on public transportation.

Assemblyman Carter:

We have seen a move towards decriminalization moving to civil penalties instead of criminal penalties for traffic enforcement. We see quite a preponderance of high visibility enforcement efforts, especially in the DUI world and notifications there are going to be speed enforcement in different areas. Has moving towards high visibility patrols that create public safety and traffic calming been studied? What I am talking about is enforcement officers being in high visibility vehicles and high visibility clothing rather than the current system that is perceived by our constituents as "hide-and-seek" to generate revenue. We see that parent is stressed out and may be speeding trying to get their kid to school will slow down if they see an officer where an impaired person or a jerk will speed right on past. Has that been explored at all?

Ms. Davey:

The short answer to your question is yes. Enforcement has been studied as a measure to produce traffic calming and change behavior. Enforcement does work. Specific to the visibility of a law enforcement officer, what they are wearing, if you can see a law enforcement officer or car—I do not know about you guys, but I do not speed up when I see a law enforcement officer. There is a traffic calming impact to having law enforcement on the roadways. Beyond that, I cannot speak to how they patrol or if they are marked or not. My Office funds a lot of high visibility enforcement because it is a proven countermeasure. It is a proven intervention. We fund a lot of what we call "high visibility enforcement." That is a little bit different than what you are referring to, Assemblyman Carter. When we talk about high visibility enforcement, we are saying we want to see a lot of law enforcement out there where they can be noticed by the public, so they provide traffic calming. One of the requirements in our grants is that you always put out a press release to the public saying,

"We are going to be doing speed mitigation" or "Law enforcement will be looking for DUIs." You will see those spots come out in the newspaper and so forth.

Vice Chair Orentlicher:

You identified ten traffic safety policy priorities. Thank you, that is helpful to us. There are two, road safety cameras and the DUI intervention programs, that you bolded. One reason you might have bolded those two is because you thought those would have the biggest impact in reducing fatalities. Is that why you picked those two? For the ten overall, I am wondering what metrics you can provide for each of the ten. What is your estimated impact on reducing fatalities for each of the ten? Maybe you could adjust that for cost, so road safety cameras are going to cost more than higher fines in school zones. Could you tell us how much it will cost to reduce the fatalities? Do you have those kinds of numbers?

Ms. Davey:

I will give you the high level of how we got to this list and then talk about how we can go deeper into the list at your interest. This list was put forward by NVACTS. I sit on that Advisory Committee, Julia Peek does, as well as Lacey Tisler, and a lot of other people. There are 20-something organizations represented, including metropolitan planning organizations, law enforcement, courts, Legislators, State departments, and NDE all sit on this Advisory Committee.

What we did, Vice Chair Orentlicher, is look at national best practices and proven interventions. Then we looked at our data, and we cross-reference those. We said Nevada has a speeding problem. For instance, the National Roadway Safety Strategy has an entire list of recommendations to address speeding issues. That is where you see the road safety camera discussion. These were all policies that were put forth by—there is also a large body of working groups and task forces and subject matter experts in Nevada. They brought forward many of these ideas for discussion. It was a robust process with the Advisory Committee over several months of discussion, looking at data, national best practices, and prevention strategies to come up with this list.

Chair Harris sits on the Advisory Committee as well. She encouraged the Advisory Committee to put forward a couple of proposals for BDRs. The Advisory Committee reviewed all of this and the list in its entirety and selected those two countermeasures to put forward as proposals. That is why those two are bolded. Ms. Peek has done a good job of indicating with asterisks other proposals that would require legislative action of some type. If there is something you are specifically interested in, I would be happy to research that. There is a lot of research behind them already. I am sorry, I did not bring it with me today on every one of these proposals.

Vice Chair Orentlicher:

Getting back to best practices, presumably, they look at what will have the biggest impact. Can we conclude road safety cameras will have the biggest impact on reducing fatalities, or not necessarily?

Ms. Davey:

I think we can conclude there is a comprehensive approach needed. There are a multitude of approaches. The National Roadway Safety Strategy is complex, and there is a number of strategies involved. This was one the Advisory Committee felt would address, for instance, high-risk intersections where you are seeing red light runners, road rage, and aggressive

driving where people drive dangerously as a choice, and excessive speeding. Those were all discussed when we looked at road safety cameras. The data behind the road safety camera system from a safety standpoint is rock solid. For the same reason, a law enforcement officer is going to lower speeds, having a sign up that says, "Speed cameras in use, lower speeds" or "Intersection cameras in use, do not run red light" changes behavior. I cannot promise the outcome, but these are all tested and studied, which is where we derived our list.

Senator Daly:

If people remember, we had an old term for these. Today, you call them "road safety cameras." It went from cameras being used to enforce traffic laws to road safety, and who can be against road safety? Why are we not calling it what it is, which is enforcement? Then you have all the issues surrounding the revenue around it. Yes, we want to try to change behavior, but it also creates several other privacy problems. Who are you going to issue that citation to? You are going to issue it to a car, rather than a person. How are you going to get around all that stuff?

Ms. Davey:

I anticipate we will have a robust conversation if a bill is brought forward that will address a lot of those concerns. Automated traffic enforcement programs have changed significantly over time. In the last couple of years, those programs have changed significantly. You find them more and more adopted particularly in school and work zones where you have people that are very vulnerable. I think all those conversations around people's concerns will be vetted out.

Senator Daly:

I understand. I have talked to people that want to put them in work zones, et cetera. I worked on the road and know a lot of people that do are vulnerable there. Everyone wants to incrementally baby step, and it becomes, "If it is good enough for school and work zones, how come my neighborhood is not special too?" It is incremental progress towards having it everywhere, and I have my issues with it. The fancy new word did not help.

Senator Titus:

I am married to a retired sheriff, and I will requote that analogy. Breaking the law by speeding everybody seems okay with, but not stealing a bottle of wine. That was wonderful. My question revolves around the legalization of marijuana in states. You gave us a lot of information on accidents and impaired drivers. I was wondering what the data looks like for impaired drivers with marijuana in their system. What do those numbers look like now in the states that have legalized marijuana? Do you have that data set? Has that increased?

Ms. Davey:

I have a good chart I am going to send to you. I did not bring it today. To give you an abbreviated answer, we have been tracking this since the few years prior to legalization of recreational cannabis to now. What we are seeing in terms of DUI is polysubstance use is now the highest component. We always talk about drinking and driving, but it is polysubstance use now. We are seeing a high increase of mixing different substances. Of that group of polysubstance use, marijuana is the highest, most rapidly increasing subset of people that are mixing.

Senator Titus:

Along that same line, years ago, we adjusted legal driving limits in Nevada. We had to do something. Regardless of everybody is impaired at a different blood alcohol level, the State decided on 0.08 as whether you can demonstrate impairment or not, or we can prove impairment. You cannot drive past 0.08. We, and other states, have struggled with what we do with the marijuana levels. How do we document that? Have other states come to any better solutions on impairment with marijuana in your system? Are you aware of any of that information going on?

Ms. Davey:

In terms of setting standards and levels, no. Science has not caught up with that. Alcohol dissipation has been studied. There is a lot of research behind it. Dissipation of marijuana in your system has not yet been identified or pinpointed. I know [there are] conversations around trying to understand how to set a level. Nevada has what is called an "impairment standard." You need to prove impairment and that somebody was impaired versus—with respect to marijuana—a specific level.

Senator Titus:

I appreciate that. It is something we struggled with. I have been a medical review officer, so I do the drug screens. I review all those for employers, et cetera. It has been difficult to track, so I wanted to know if you had seen any later stuff. I would appreciate seeing that data and that chart you have. Thank you for what you are doing.

Senator Nguyen:

With the ongoing opioid crisis, have there been significant increases in the amount of prescription or otherwise lawful medication, whether it is sleeping pills or Xanax, with respect to DUIs?

Ms. Davey:

I would like to go back and run the data we have and see if we can get it down to those specific drug categories or drug types. The data we have is on fatal crash victims, so it comes from coroner's reports. With respect to DUI, we do not yet have consistent laboratory test processes across the State. Nevada is the only state without a state-level toxicology lab. We use local toxicology labs. Law enforcement uses Las Vegas Metropolitan Police Department (Metro) or Henderson Police Department (HPD) or Washoe County Sheriff's Office. They maintain their testing practices according to their own processes. They are working together as colleagues to create standardized processes. It also means we do not have access to good data because you cannot go to a single—in every other state in the country, you can go to their DUI forensic toxicologist and say, "Give me the information on DUI testing. What are your standards? What are your processes?" We have some catching up to do as far as toxicology goes.

Senator Nguyen:

You have that information when it comes to things like marijuana and alcohol, but you do not have that information when it comes to other statuses of impairment?

Ms. Davey:

I do have that information for fatal crash victims. Not for DUI, for fatal crash victims. I will need to see if I can pull it down to that level. Our Office reports all the data to NHTSA. I think NHTSA has only required those categories of drugs in recent years. I can get some recent year data, but I will need to go back and pull specific types of drug categories for fatal crash victims, so that is not the same thing as DUI.

Senator Nguyen:

We do not have levels when it comes to prescription drug use. In all candor, a lot of the DUIs I saw when I was practicing in that area were increasingly poly-use and were predominantly a lot of prescription medications. There was this understanding like, "I have been prescribed this medication, and therefore, I can drive with this medication," even though it had impairment. Are there any states that have looked at developing levels or other metrics other than general impairment when it comes to prescription drug abuse and driving under the influence of those?

Ms. Peek:

I am not, but we will go back and look.

Senator Nguyen:

I was also looking at those recommendations for the cameras. It is my understanding it is authorized in law to have traffic cameras, and they have to be maintained by actual law enforcement officers that are watching and monitoring those cameras. Is there something in these recommendations you are hoping to accomplish by way of legislation that does not exist in law?

Ms. Davey:

Currently, Nevada law says a device used to record a traffic infraction, a photographic or digital device, has to be held in the hand of a law enforcement officer or mounted to a law enforcement building. There has to be law enforcement presence. It is not a system that has been integrated into any other situation where an actual person is not there. Right now, we are prohibiting any type of ATE system that does not require a law enforcement officer to be holding a radar gun or have a camera mounted on a building.

Senator Nguyen:

In Southern Nevada, there are Metro cameras. When you see those cameras located in high-crime areas or in certain areas where they are mounted onto one of the Metro vehicles, is that considered acceptable?

Ms. Davey:

For a vehicle it would be within—

Senator Nguyen:

It is not on the vehicle. They are in parking lots. They are on a big post.

Ms. Davey:

I am not aware of what types of camera systems might be in use by law enforcement. There are camera systems in use. For instance, the road camera systems, but those are not used for any type of enforcement action. There is a whole camera system in Las Vegas that looks at roads if there is an issue, a slowdown, or a light out, but they are not used for any type of enforcement action. It could be that is what you are seeing. It is a little bit different when we talk about using a camera for an enforcement action.

Senator Nguyen:

I may have Legal look into that because I distinctly understood that law enforcement could enact these traffic cameras or red light cameras. They just had to have someone monitoring it. Obviously, I have concerns with the overuse a lot of these traffic cameras have with artificial intelligence (AI). I obviously do not want to see the automation of policing, so I have concerns with those cameras in that respect. I appreciate that, and I will do more research.

Chair Doñate:

When talking about driving under the influence, I want to talk about the education that occurs once an infraction happens. Several states have started looking at including harm reduction as part of the education structures of teaching folks the mistakes that occurred and what led to this mistake to make sure this does not repeat again. What reforms do you believe are necessary in terms of education when these infractions occur? Are there tips or guidance you can give the Legislature to start looking at certain examples?

Ms. Peek:

A lot of what we do in public health is prevention and intervention, ideally, as soon in the process—in primary or secondary—as possible. Some of the recommendations we talked about at NVACTS are trying to figure out how to intervene at the point of citation and ideally prior to that. That is what public health is focusing on, the primary prevention of the use of the drugs. This is more secondary prevention where we would come in at the point of citation and figure out high-risk individuals, high-need individuals, and what education and intervention can be provided for those individuals prior to their hearing. You approved specialty courts in the past, and I think that has been a huge opportunity to help folks get treatment. There are opportunities way prior to that to intervene.

Ms. Davey:

I have good news for you. One of the things we were recently involved in was a working group around—right now, there are a couple of elements in law you can consider. One is we have language in there that we have identified a certain alcohol level, so if you are 0.18, you are going to have an assessment or some type of screening because you are really drunk, so you should have an assessment. Under that, it is optional. One of the things we talked about at NVACTS is, should we provide screening and assessments? These are standardized tools and then identify high-risk, high-needs individuals. A lot of times what we see in DUI is the first time a person is caught driving under the influence, it is not the first time. They have driven under the influence many times. Sometimes you see people with many DUIs. Clearly, we need a better system that identifies folks that need more interventions. That will provide better public safety for us and for them.

One of the things I was going to say we were able to do working with the Department of Motor Vehicles (DMV) and with a group of mental health professionals—the coalition came and talked to you folks—was change the standards around that course you are required to take. When you get DUI, you are required to take a driving course to get your license back. We were successful in changing those standards from any curriculum that anybody thinks is a good idea to behavioral-based intervention curriculum standards. If I get a DUI, and I am required to take that course to keep my license—we took it from 8 hours to 12 hours. You are now required to do an interactive course. It cannot just be online. It can be virtual, but it has to be interactive, and it has to include proven behavioral intervention substance use strategies. That was one thing we were recently able to do sans legislation through the regulation process.

Chair Doñate:

There was a highlight of screening and assessments. Are there opportunities we can start to look at? We have talked about, for example, fetal alcohol syndrome. We have talked about screenings in emergency rooms for various prescriptions and so forth. What opportunities do you think we can do to work with the health care sector to at least start to address these issues before it becomes a citation? Are there things we can do to improve screening and assessments to do more primary prevention?

Ms. Peek:

There are lots of opportunities to incorporate behavioral health and mental health service screenings into primary care or other settings. I can provide examples of what our team has been doing at the Bureau for outreach. We also have our community-based coalitions that are the boots on the ground for the community to do outreach and interventions. They work closely with our partners in Traffic Safety to figure out what interventions are there. I also think immediate referral for resources beyond the screening—it is great to screen an individual, but you need to be able to offer real-time resources for that individual to seek care for the services identified. That is a work in progress and has to do with access to those specialty services. The teams working on that can provide more information as you are interested.

Chair Doñate:

How much money do you need for a state toxicology lab?

Ms. Davey:

The National Highway Traffic Safety Administration paid for an assessment of Nevada's lack of a toxicology lab. This was about five years ago. I have a full assessment report including a budget I can forward to you.

Senator Nguyen:

You talked about how having signage and some of those things have been a big deterrent. Has there been any movement with your Agency to put up signs? I have recently done quite a bit of traveling throughout the State of Nevada. It seems like one of the biggest things to slow down speed is having those traffic devices that tell you how fast you are going and tell you to slow down. Have there been any movements? They are along our Nevada roadways, but have we looked into putting more of those up?

Ms. Davey:

I have a lot of great ideas—like you do—on that, but I am going to defer to NDOT.

Ms. Tisler:

A speed feedback sign, which you are referring to, is an FHWA-proven safety countermeasure. That is 1 of 21 recommendations we often look at when we are recommending interventions along the roadway from the infrastructure side. Yes, depending on the case, the environment, the ability for maintenance personnel, and the prioritization.

Ms. Peek:

If I could add a personal experience. We had the opportunity to go to a town hall in the community. She mentioned one of the main things they noted is please put signage up that says, "We live here, please slow down. Our kids cross the street." That, from our residents, is something that changes behavior in all of us. If you recognize something on the road that says, "Our kids are crossing the street" you slow down by default, it is a behavior change mechanism. We heard from the residents that is something they are interested in seeing.

Chair Harris:

You have quite a few recommendations that are on the back end. This is what happens after we catch you, like road safety cameras and higher fines. What are the suggestions you have for the front end? That is often the harder part. What suggestions do you have on how we stop people from engaging in risky driving? How do we stop people from running lights before we have to send them the automatic traffic ticket? Frankly, I do not want to do the back end if we are not also doing the front end. We are chasing losses if we continue to try and enforce our way out of it. What recommendations do you all have on the front end?

Ms. Davey:

I absolutely agree. Some of them may be easier to implement than others. One of the things we talk about now with the Safe System Approach is that humans make mistakes. The price of a mistake should not be death or serious injury. We need to build a system that accounts for human mistake. That includes changing our roadways. There is a lot you can do. You are going to hear from our partners about things they have done to change infrastructure. If you drove down Carson Street to get here, you cannot go fast because that whole street has been redesigned to make you slow down and to make it safer for all types of road users. Complete Streets Programs and those kinds of things that should be addressed through infrastructure will change human behavior. My Agency is always involved in education and outreach. I am not an expert in this; I will completely defer to public health and social health on this, but social norms and creating a different culture in Nevada about what is acceptable and what we all do in the public space together—roads are public spaces. I would not walk through a crowded community park swinging a baseball bat around my head and then say, "Oops. Did I hit you? Sorry, I was just exercising my arm." I cannot go out on the roadway and behave any way I want either. So, social norming, outreach, and education. I think we need to look at our driver's education system. I went to school here. You had some kind of driver's education (Ed) when you went to school. We do not have that anymore. We do not have a strong system of educating and providing good information to new drivers, people that move here from other states or different places that have different rules of the road, and training young people. On the front end, helping drivers learn how to drive, to me, there are huge gaps there. If you moved here from some other state, I hear it over and over again, "How does my child learn how to drive?" What if

you do not have a car in the family? How are you ever going to learn how to drive? The only person that is going to teach you in our system is your parent. What if you do not have the money to take the driver's training class at the community college, and it is no longer offered in school? How are you going to learn how to drive? Young people are waiting until they are 18 years old to get their driver's license because then you can go online and take your test. I think there is opportunity there to look at how we are preparing and training people to share our space on the road.

Chair Harris:

That is great. That is exactly what we need to hear. I would love to hear from DPBH and NDOT about your thoughts and especially what the Legislature might be able to do on the front end. I am looking at your list, and you have things that do not have asterisks. I think your imagination is being limited. We can legislate almost anything, as long as it is constitutional. I would love to hear what ideas you have that the Legislature might be able to enact to help with that front end.

Ms. Peek:

I agree entirely with social norming. That is the first thing I wrote down in the answers to the question. Speeding is a social norm that is comfortable for people. That may require policy change to ultimately change people's comfort level with that. I gave you the information on our middle schoolers—of which I have two—are more likely to get in the car with somebody driving under the influence of alcohol or marijuana. That is a social norm. If those are our future drivers, and they have a level of comfort with that, how do we intervene to tell them that is not something they need to be comfortable with? Some of it is education and outreach. Our list is policy based. It is not all we are doing. We are doing a lot related to education and outreach. I specifically want to thank my two colleagues joining me today. We are data rich in traffic safety. There are gaps, but there is a lot of data we can use.

On the front end, what are we doing? The things we are trying to do as this triad with many partners is look at the data and figure out what interventions we could implement through community-based partners. An example of the things we are looking at is a more solid partnership between NDOT, DPS, and our coalitions for minority health and equity. Our Minority Health and Equity Office has been engaged. They are going to serve with me on the Equity Working Group for NVACTS. That is going to be diving into the data much more closely. The second piece to legislation is the funding. Ms. Davey and her team are looking at how they can better fund our coalition and better fund our Office to focus on traffic safety and injury prevention in this area. Some of what we are talking about as part of that effort is walkability studies. That is on the preventative end. However, that is based on data. Accidents have occurred there. Unfortunately, we cannot prevent what has occurred, but we can look at those high-risk areas. What this team is looking at doing are walkability studies and focus groups with the folks that live in that community to offer solid suggestions of what they see and would like to change in the community. I have witnessed one town hall that was a quasi-focus group. What they saw as the issues were maybe different than what we saw as the issues. Hearing that was vastly important. That is prevention. That is understanding and talking to the community about what that looks like in those areas of high need.

The other thing, and I am being data rich, is some risk behaviors can be mitigated, like seatbelt use in certain communities or child safety seat use and their appropriate use, which is something we need to look at and does have demographic differences. We could say, why

does this community not use child safety seats? Do they not have the ability to purchase them? Are there too many people in the car so it cannot fit? There could be a number of things. Do they think they do not work? It is understanding from those communities, why are you not doing this thing that is preventative, and then offering an intervention. We have had ideas, but it is working with Nevada's Office of Minority Health (NOMHE) and our coalition to get in those groups and ask important questions, so we can offer some preventative suggestions.

Ms. Tisler:

You pointed out the two items on the list: appropriate speed limits for all users and Safe System intersections. Those are both based off crash data. Understanding our crash risk, based off the information we received in that data, we know higher speeds and higher speeds through neighborhoods result in more fatalities and serious injuries on our roadway system. Prioritizing those areas where we have those higher risks and building those systems in as road users is the heart of this recommendation, even though it is not for policy. Same thing with the Safe System intersections. Building intersections for each and every user, rather than prioritizing the motor vehicle, allows people to move safely. Intersections are our number-one contributing factor when we look at our crash data. We are a focus state by the FHWA because of our intersection crashes. Building those for our most vulnerable will allow us to prevent fatalities and serious injuries for all the users. One other thing to note that I did not get too deep on with the VRU safety assessment is we did understand a lot of our fatalities were clustered into certain zip codes and certain zip codes that had lower incomes. Working with our partners at the OTS, DPBH, and the partners at NOMHE, how do we understand how these people use the system and not just build a crosswalk, but understand our movement patterns to build a crosswalk and include the systems that work for them, so they can move and be part of society?

Chair Harris:

The Safe System intersections is a great example of what I was talking about. That is something we could legislate, and these types of things could be included every time a new intersection is developed. Of course, with the appropriate amount of local control. Some of these things we can start to nudge people towards doing at the State level. I personally want to make sure we are focused on the front end even though it is often the more difficult side to address because of all the different factors you all are mentioning. With that, I am going to let you all go. Thank you for being troopers and for the robust conversation. I feel seen indeed. We aim for that here in this Committee. We will close out this item.

AGENDA ITEM V—PRESENTATION ON NEVADA'S DEPARTMENT OF TRANSPORTATION COMPLETE STREETS POLICY

Chair Harris:

We will open a presentation on NDOT's Complete Streets Policy. We have representatives from NDOT with us today.

Rebecca Kapuler, Assistant Director, Planning, NDOT:

I have a few colleagues with me today I would like to introduce. Lacey Tisler, who was on the last presentation, Joe Harrington, the Director of Communications, and Kevin Barry, the Chief of Multimodal and Program Development. If there are any questions I cannot answer for you, if it is allowable, I may ask one of my colleagues to jump in. ([Agenda Item V](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative

Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact.>]

I am happy to share the Department's current practices and future goals with Complete Streets in this joint meeting, as we recognize the intersectionality of transportation and public health in a Safe Systems approach. This morning's two previous presenters have set the stage, so I am excited to continue.

Complete Streets are streets designed and operated to enable safe use and support mobility of all users. The FHWA definition of road users includes, "people of all ages and abilities, regardless of whether they are traveling as a driver, pedestrian, bicyclist, or public transportation rider." The Complete Streets approach is not just a project or a street; it is an approach to planning, designing, and building streets that enable safe, equitable access for all users. The Department, along with countless other road users and owners, are shifting to moving people using the Complete Streets approach. Historically, we were always moving cars. Now, we are trying to shift that mindset to moving people. This approach often leads to the creation of more livable, sustainable, and equitable communities through an accessible and safe street design.

One example of this is the Ely Complete Streets Project. You can see a small picture that shows a lot of different elements for whether you are driving, walking, or biking. Highway 50 serves as a main street through the community of Ely, which is home to almost 4,000 Nevadans and experiences a significant amount of tourist traffic. This Complete Streets project includes strategies and elements that allow accommodations for all road users. It uses design elements of self-enforcing roads, which often slows traffic. Years of study and data collection are coming together in an exciting project that will allow locals and visitors alike to move safely in and out of motor vehicles throughout the Ely community. The completed rebuild of the community comes with significant planning and expense, however. The Department sought discretionary federal funding, including a \$24 million Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant in addition to \$5 million in earmarks to support the \$45 million project to transform Ely's main street from a historic State highway to a Complete Streets project. U.S. Highway 50 has been designated as a U.S. bike route, and this project is expected to support both the economic vitality of Ely's downtown, along with safe and equitable movements of locals and tourists alike.

According to the National Complete Streets Coalition, in the last 20 years, hundreds of jurisdictions across the U.S. have adopted Complete Streets policies, directing their transportation agencies to routinely plan, design, build, and operate safe street networks for everyone. The FHWA states two-thirds of states and many jurisdictions have gone on to create Complete Streets design models, transforming their project development processes to prioritize safety for all. Historic practices have focused on the addition of Complete Streets elements to projects. The emerging practice at NDOT is to start with Complete Streets as the default approach, and only remove elements when they are unwarranted. I would like to talk about the steps the Department has taken to institutionalize Complete Streets as the default approach.

Nevada's Department of Transportation's traffic safety engineering team developed the Department's first Complete Streets policy in 2017, recognizing the impact Complete Streets had on the reduction of roadway-related fatalities and serious injuries. The policy acknowledges the need for a tailored solution that considers specific corridor and community characteristics, which are informed by factors such as land use, travel patterns, and impact from local stakeholders. It is important to note public participation with

stakeholders is imperative. What we do in rural Nevada often looks differently than what we do in urbanized areas, which is why it is important to seek input from all different stakeholders, whether they live in the community or they are traveling through. By prioritizing safety and accessibility while promoting sustainability and transportation choices, Nevada aims to create vibrant and inclusive communities where economic vitality and quality of life are enhanced through planning initiatives.

Promoting active transportation not only encourages physical activity, lowering obesity rates and improving overall health, but it also enhances safety by reducing traffic-related injuries and fatalities. I bring up the health components in relation to Complete Streets because I want to thank you for having this joint committee today and understanding the overlap. I often like to give the example when I work with Safe Routes to School programs that when students walk and bike to school, they arrive to school with their bodies being active and ready to learn. Additionally, it improves air quality by decreasing vehicle emissions, supports community access to essential services, and fosters social interaction through inclusive street designs that promote gatherings and outdoor activities, ultimately creating healthier, more connected communities.

We have a typo on this slide. In parentheses, the "CDSA" should be "CSDA." Nevada's Department of Transportation formed the context-sensitive design approach (CSDA), known as the CSDA group, in response to the 2017 Complete Streets Policy and included direction from Senate Bill 285 and Senate Concurrent Resolution 5 from the 2021 Legislative Session. The CSDA group includes several disciplines and was comprised of planning, design, multimodal, and safety experts. The purpose is to conduct holistic assessments of roadway projects. The CSDA group was the Department's first step in moving to a people-centric focus. Initially a standalone, the CSDA group is now integral throughout the design process, ensuring projects align with comprehensive transportation standards. Current design practices start with a scoping process where the safety and multimodal experts provide needs and studies to support the incorporation of all modes. These experts are part of the project team as it progresses through the design, championing needs as early in the process as possible. We call upon these processes and provide solutions when the project manager identifies potential funding or construction costs and risks. This transition started in 2023, and NDOT is looking forward to building projects under this integrated design process.

We are aiming to update our Complete Streets Policy. The Policy will address Nevada's evolving roadway needs amidst ongoing growth and solidified practices developed from the CSDA. It will be based on national best standard practices, including the FHWA Complete Streets Policy but will be tailored to meet Nevada's unique transportation needs. The Policy will offer tailored options for Nevada's rural and urban areas, incorporating consistent transitions and the context-sensitive elements to enhance safety and usability. The Policy will be rigid enough that it ensures all users are considered but flexible enough to understand there are different needs throughout the State. Undeveloped areas are unlikely to have multimodal needs, but they may change. As development needs occur, the change, context, and user needs are what we need to reevaluate. While designed for NDOT, this Policy will be shared with local agencies to ensure projects are coordinated and meet road user expectations. The Department is currently pursuing the federal grant through the Active Transportation Infrastructure Investment Program to complete this work and will not only update the Complete Streets Policy but will also develop a statewide active transportation plan that will guide the inclusion of active transportation elements across Nevada's network. We are excited about this funding opportunity.

Nevada's Department of Transportation's leadership in the transportation policies are imperative, and NDOT understands it plays a central role in shaping local transportation

policies through collaborative partnerships with municipalities and stakeholders. The Department intersects both locally and figuratively with local agencies and tribal partners. Collaboration is key, as the traveling public expects and deserves a transportation system that is consistent and intuitive. Standards uphold uniformity and excellence across all transportation projects throughout the State. Resources assist local communities in surmounting financial obstacles to implement transportation enhancements. Through cohesive collaboration, we guarantee transportation initiatives align closely with community needs and priorities. By enhancing operational efficiencies, we optimize effectiveness and overall community and mobility accessibility.

This concludes my presentation. We are happy to answer any questions you may have.

Chair Harris:

Committee Members, do we have questions? Assemblywoman Brown-May.

Assemblywoman Brown-May:

There has been a little work done in the interim with regard to local community settings. You talked about a complete street. Complete Streets are different depending on who is in the conversation about what a complete street is. I am wondering if you could go back and walk us through that. In Las Vegas, we often have six lanes of traffic with a bus lane, a shared bike lane, and a median, which divides both sides, say east and westbound. That would be considered a complete street in that it has a sidewalk for pedestrian access, bus transit, bike accessibility, and it has a roadway design. What you showed us was in a small town with a complete street in a neighborhood. Are there specific elements to make a street complete, even if it is small? The recommendation comes from NDOT, so do we have authority outside of State routes for Complete Streets development? Is there any collaboration with local municipalities to work on streets that do not belong to NDOT?

Ms. Kapuler:

I am going to attempt to respond to you, and then I will hand it over to my colleague, Ms. Tisler. With Complete Streets, we are trying to make safe spaces for all road users. It could be different in every community. As the previous presentation talked about, the City of Las Vegas, for example, in Clark County, has a lot of streets that are wide and have higher speeds. They do not look like that photograph I showed you from Ely. That is good. The other part of it is when I mentioned that we have to have stakeholder involvement. We cannot just go in and change a community; we have to have ownership, we have to have people in support of it, whether it is from law enforcement, up to politicians, to the road users themselves. We have a lot of conversations, and we try not to come in and put things out there that people do not want or do not use. We have the Complete Streets policy to set that stage and help guide us. I believe as we evolve this policy and create our Active Transportation Plan, it is going to help us with creating a design element. For example, what does it look like on a 40-mile-per-hour road versus a 25-mile-per-hour road? We do not have that implemented right now in any type of policy. That is why we are excited about this opportunity to get started on our statewide Active Transportation Plan and update that Complete Streets Policy because it will give us more driving forces to help us to get there.

Ms. Tisler, Previously Identified:

Complete Streets are not a one-size-fits-all solution. Nevada is such a big and diverse State. We have our entertainment district in the middle of Las Vegas, and we are out here—I am in a rural town in Elko right now. We have main streets going through rural towns as well.

The Complete Street in a rural main street should not look like the Complete Street on the six-lane facility that Assemblywoman Brown-May was speaking about. This Complete Streets Policy is intended to build a kit of parts for the one that makes the right sense in the environment and allow an opportunity for the community to be seen and heard, because we need to understand the way the community moves to make sure we are recommending the right facility.

In addition, our metropolitan planning organizations (MPOs) and our local partners will be involved in this conversation because our roads intersect, literally and figuratively. Our users do not know the difference between whose road they are on. Being isolated in this conversation would not serve the people who use our roads.

Assemblywoman Brown-May:

I appreciate the clarification. I would look for your leadership with regard to engaging the local municipalities, so we have uniform expectations when we look at refurbishing existing development, so we can move toward that safer, walkable, bikeable, user-friendly community—so you are not isolated and only looking at State routes, but how are we building our communities to be safer for all of our users. To your point, people do not know when they are on a State route versus when they are on a local road; I think that has created some confusion in our local communities. Thanks for your efforts.

Vice Chair Watts:

I see in the slides with the elements of Complete Streets, it mentions street trees and green spaces; it also mentions street furniture and amenities. I see a lot of things that point towards these things, including the various health benefits. I think it is important, given the other topics we are going to hear about today, that we think specifically about extreme heat and how that impacts walkability and multimodal use, particularly in our urban areas. As you are looking at coming up with this updated outline, how do you think about the use of trees and shade structures, not only for the benefits they might provide at a bus stop or the creation of green space, but particularly in terms of reducing extreme heat, improving the usability of sidewalks, and other infrastructure along different streetscapes?

Ms. Kapuler:

You bring up valuable points we can definitely look at as we develop the next phase of our Complete Streets program and policy. Last year I was watching the news—and I live in the Reno/Sparks area—and to your point, I saw there was a gentleman who was waiting for a bus, and it was super hot in Las Vegas, and he sat down on the sidewalk—because there was no shelter or benches—and he ended up getting hospitalized with second degree burns on the backs of his legs. I like to believe I am a pedestrian and safety advocate and I walk the walk, if you will. Recently, my colleagues were going to Vegas, and they were like, “It is going to be so hot down there.” I said, “Remember that when you are driving, and you pass somebody who has no other means of transportation besides taking the bus or on foot or on bike.” I think these are all important elements, and we will definitely look at all these different aspects as we develop our plan and see how we can make that happen. Yesterday, I was talking to someone in Elko who is from the Las Vegas area, and they were saying it was 120 degrees. I do not know about you, but I do not like that kind of heat myself. We have climate change coming, and I believe it is human involved, and anything we can do to make things better for our road users, I think that would be something we can definitely look at.

Vice Chair Watts:

As somebody who grew up in Las Vegas and—especially in my youth—did some walking on 110 degree-plus days, it is not very fun—both for the people who do not have any other options, but also if we are trying to encourage different modes of transportation. We know summer is long and hot here, so it is important to take action to provide a more pleasant environment for folks to walk and bike. It is not just about having sidewalks and bike lanes, although those are important. It is also about facilitating that comfort through the creation of shade and extending the season and the conditions in which it is a bit more pleasant to take advantage of those. I appreciate your response and look forward to seeing what comes out of this process.

Ms. Kapuler:

One thing I want to add is the Regional Transportation Commission (RTC) of Southern Nevada has done a study on heat islands. They are looking at how to incorporate [that information] into transportation and planning. Our partners are looking at that. We work closely with our partners, so we will see what we can do to mitigate and work closely with them.

Ms. Tisler:

Assemblyman Watts, I want to emphasize what you and Ms. Kapuler were saying. It is important for us as a transportation agency and for everybody who uses and makes recommendations on the system to understand, feel, and experience what the users experience. Recently, on one of our recent trips to Las Vegas, we chose to take the public transportation system and experienced the heat and ended up missing a bus. We are incorporating that into our recommendations and decision-making.

Chair Harris:

What can we, as the State Legislature, do to support the work NDOT is doing with regards to the Complete Streets program?

Ms. Kapuler:

I am new in my role. I am just three months in, and what I am seeing through my fresh eyes is we hear different things from different communities. For example, we might hear residents saying that we need to slow speeds or we need some infrastructure, but then as we move forward, we are not getting support in some cases—not all the time—from the policymakers. Some people might not want to slow down, so anything you can do to help support the message of why we need to slow down speeds and have safer communities for all road users would be helpful. Education is part of it and outreach and talking about it. Personally, I know if we slow a roadway for two miles, from 55 [miles per hour] to 35 [miles per hour] because it is through a community, especially in those rural areas of our State, does that really slow us down that much? It does not. Having those conversations is helpful and helping us progress and supporting us to continue to move forward with our goal.

Chair Harris:

I do not think we have any more questions for you. Thank you for coming and presenting today.

AGENDA ITEM VI—PRESENTATIONS ON COMPLETE STREETS INITIATIVES AND WALKING AUDITS

Chair Harris:

We will open presentations on Complete Streets initiatives and walking audits. We will have representatives from the RTC of Washoe County and RTC of Southern Nevada. We are going to take one at a time, and we will start with Washoe County. Begin whenever you are ready.

Paul Nelson, Government Affairs Officer, RTC of Washoe County:

Good morning, Chair Harris, Chair Doñate, and Members of the Committee. Thank you for having us here today. We are going to discuss the things we are doing as part of our Complete Streets program and how we are using Complete Streets funding. ([Agenda Item VI A](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact>.]

As far as Complete Streets funding goes, RTC Washoe receives monthly payments from the DMV. Since January 1, 2019, so for about five-and-a-half years, we received more than \$367,000. We use that funding for things like bicycle lanes and routes, facilities, signs for construction, and maintenance of roads. Since 2021, when we started the Oddie/Wells project, that is where we have been using this funding.

As far as the RTC Complete Streets Program, when we go in and do any project, we look at the road in its entirety—not just looking at cars, but also looking at how we can improve it for all users of the road. We look at designing roads for users of all ages, modes, and mobilities and the potential to improve safety, economic development, and the quality of life for neighborhoods. It enables safe access for pedestrians, bicyclists, motorists, and transit riders.

The revenues we receive at RTC Washoe—you can see about half of our funding comes from local fuel taxes. That goes towards road construction. About 22 percent comes from sales tax, and that goes towards public transit. We also have federal funding, passenger fees, funding from the State, and then from other sources as well.

One of the things we do at RTC Washoe is we are the MPO (metropolitan planning organization). Right now, we are working on our Regional Transportation Plan. That is the long-range outlook, what we can do in the next 25-plus years, to improve our transportation network. We go out into the community and get their input. We find out their vision of what they want transportation to be like in the future. Then we look at how we can implement the different projects, programs, and services necessary to achieve that vision. We plan on having this completed in the spring. This could be implemented by the RTC, NDOT, and other member entities.

One of the things that is part of the RTC is our Active Transportation Plan—we call that “Walk and Roll Truckee Meadows.” This is what we are talking about with Complete Streets. It focuses on improving the walkability and bikeability throughout Reno and Sparks. It looks at a neighborhood level. We are looking at all kinds of different neighborhoods and seeing how we can improve the walkability and bikeability. It is for people of all ages. It looks at sidewalks, bicycle facilities, and existing data—things like transit, equity, safety, the bicycle level of stress, and the pedestrian experience index. How comfortable do people feel while they are riding their bike on our city streets?

Community investment—we do a lot of investment when it comes to planning, public transportation, and construction. Last year, that investment led directly to more than 2,600 jobs in our region.

Of the recently completed projects we have done where we have taken an overall look and used this Complete Streets program, one of them is the Sky Vista Widening Project. We finished this in December. We expanded what used to be a rural type of road—a two-lane road—and we expanded it to four lanes. We also made it safe for everyone else that uses the road too. It was a capacity project, but we also made it safer. One of the things we did was create a roundabout at the entrance of North Valley's Regional Park. One thing roundabouts will do is slow traffic down. There are fewer crashes at roundabouts. If there are crashes, they are generally a lot less severe because cars are going slower, and you do not have head-on collisions or T-bone collisions. As for the Complete Streets, we also put in street lighting, wider sidewalks, and bike lanes. One of the nice things about this project was not one cent of taxpayer funding went into it. It was paid for by Regional Road Impact Fees that developers pay.

Another roundabout we put in that makes a corridor much safer is the Fourth Street and Woodland Avenue roundabout. This was an area we saw a lot of speeding happening, and it made things difficult for bicyclists and pedestrians. It also made things difficult for people who were trying to enter onto Fourth Street from Woodland Avenue and from Mesa Park Road. We put in this roundabout and a retaining wall below Mesa Park Road on West Fourth Street. It not only made roadway improvements by putting in the roundabout, but it also improved safety for people riding their bikes. There is an eight-foot multi-use path. There are also bicycle facilities and crosswalks. One thing we did on Mesa Park Road was when people were turning left, they used to have to go through two lanes of traffic that were going at high speeds. That is only a right-hand turn now. They turn right, go around the roundabout, and they are back on their way. This was also paid for with Regional Road Impact Fees.

I mentioned the Oddie/Wells project earlier. This is where we have been using our Complete Streets funding. It is a 3.2-mile roadway that goes from Sparks to Reno—from Pyramid Highway to Interstate 80 (I-80). This is a project we are proud of. It is an underserved area that did not have any facilities for pedestrians and bicyclists. We have changed that. We put in six miles of raised cycle track—each side has a raised cycle track. We have 490 new trees, 433 new lights, privacy walls in select areas, and we have also put in sidewalks. For people who remember this area before this project, it was not unusual to see people walking through parking lots, on the side of the road, or in wheelchairs going through parking lots on the sides of the road. Now, they have facilities that make it a lot safer for everyone who uses that roadway. The good news is we are almost done with this project. We are weeks away from the completion, and we hope to have a ribbon cutting sometime this fall.

Another project we looked at was the Holcomb Avenue Rehabilitation Project. With rehabilitation projects, we fix and rehabilitate the pavement. When we looked at Holcomb Avenue, we thought, how can we make this better for everyone else? One of the first things we did was where Sinclair Avenue intersects Holcomb Avenue, that used to be a V-shaped intersection. It made it unsafe for drivers and pedestrians because you would have people entering onto Holcomb almost like an on-ramp on a freeway. They would be looking over their shoulder to see if there were cars coming, not looking in front of them to see if there was a pedestrian in front of them. We changed the configuration of that intersection. Instead of a V shape, now it comes into the street as a right angle and makes it a lot safer for drivers and pedestrians. We also took out the center turn lane, maintained

roadside parking, we have bike lanes, and we also added a buffer lane between cars and bikes. We also made some improvements for Americans with Disabilities Act (ADA) accessibility.

One of the projects happening this year is the South Virginia Street Interstate 580 (I-580) Exit 29 Project. That is happening right now. That top picture is the northbound off-ramp, which tends to get backed up quite a bit because traffic on Virginia Street is so busy. At that location, we are going to put in a traffic signal, add a second right-hand turn lane, and create pedestrian and bike facilities. We are going to add one more northbound lane on Virginia Street, but there are also no sidewalks on the east side of the street—on the right-hand side. We will be putting in a sidewalk and bike lanes on that side. It is going to improve this corridor for traffic flow and for people who need to walk or bike there. A few blocks away there are a lot of apartment complexes, so a lot of people walk and bike to the different stores and restaurants in this neighborhood. There will also be improvements to the intersections where South Virginia Street crosses Patriot Boulevard and Longley Lane.

One of the upcoming street and highway projects for next year is the Virginia Bus Rapid Transit (BRT) line. We will be making improvements on that. When we first built the BRT, these bus stops were built for the much larger buses we were using at the time. We realized those big articulating buses were a little too much for this route, so we came back down to the standard buses. The ramp that comes off the bus is not flush with the platform, so we will be reducing the height of that platform to make it a lot easier for people with disabilities to get onto the bus and also reduce any kind of tripping hazards for everyone else. The bottom picture is what we call a mini-BRT station. We are going to replace all of those with full-size BRT stations. We have a plan to put in bus-only lanes between Peckham Lane and Plumb Lane, which will improve the efficiency of the BRT system.

Another important upcoming street and highway project we have going on is the Downtown Reno Micromobility Project. We have identified four different routes where we are going to make a lot of improvements to the bike facilities. One of the main reasons for this is obviously safety. When you look at Vine Street, Virginia Street, and Lake Street, it connects Old Southwest and the Midtown district to the north side of I-80, especially by UNR. This is an important project, not only to get people out of their cars and onto their bikes, but also to offer a healthier option for people to get around town.

Another important project we have coming up is the Sun Valley Boulevard Project from Scottsdale Road to Seventh Avenue. This area is severely lacking bicycle and pedestrian facilities. There are no bike lanes, sidewalks, or drainage. You have a ditch there. You will see people walking on the sides of the roads. You will see people walking in the ditch sometimes. This project plans to fix all that. We want to improve the sidewalks and build sidewalks that will include curbs, gutters, and drainage. It will be a heavy lift, but we are going to be looking at some federal funding, possibly the RAISE Grant. We have other grant options we are looking at as well. This could also make improvements to the transit stops along this route. This is one of the busiest transit routes we have in the Reno-Sparks area.

In April 2023, NDOT conducted a road safety audit on South Virginia Street between Patriot Boulevard and Mount Rose Highway. It identified traffic safety issues along the corridor and suggested measures to improve traffic safety and reduce crashes. It focused on the FHWA Safe System Approach and was conducted as a safety management plan.

Finally, the walking audit conducted in August 2023 was led by Northern Nevada Public Health. It was focused in Sun Valley, particularly around Sun Valley Boulevard and Sun Valley Park. This is another underserved area where there are not a lot of options when it

comes to walking and biking. In that top picture you have a paved road and a little dirt path people walk on, and there is not a lot of space between that roadway and the ditch. That bottom path is on the east side—you have a wide gravel shoulder along that road, but it is subpar when it comes to pedestrian and bicycle traffic. This is an area of focus led by Northern Nevada Public Health; but they shared it with Vision Zero Truckee Meadows Task Force, which we are a part of. We will use that feedback as part of our active transportation plan we are working on right now.

That concludes my presentation. Thank you for listening. We will open up for questions.

Chair Harris:

I believe we also have the representative from the RTC of Southern Nevada online. I think the most effective way would be to have him do his presentation. Then I will allow the Committee to ask questions of all of you.

Andrew Kjellman, Senior Director, MPO, RTC of Southern Nevada:

Thank you for allowing us to present today and provide an update on walking audits and our Complete Streets projects. Before we begin, I want to briefly share who the RTC is and what we are responsible for. We provide public transportation, operate the bike share system in downtown Las Vegas, and are the federally designated MPO for Transportation Planning. We also administer local roadway funding on behalf of our member entities and are the region's traffic management agency. We are the transit agency, MPO, and traffic manager, all under one roof. ([Agenda Item VI B](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact/>.]

Let us look at how the RTC serves Southern Nevada. First, I will discuss the transportation impacts on health. The RTC recently completed a study to better understand the connection between transportation and health. Part of this study included the development of the Transportation Health Index, which is a tool to better integrate health into our decision-making process. This Index includes over 30 factors and scores each of those factors based on local conditions on the ground. The 30 factors can be roughly grouped into these three broad categories. The first is health vulnerability. This includes identifying areas in Southern Nevada with higher chronic health conditions like diabetes, heart disease, obesity, asthma, and it also includes social equity factors like race and income. The second category is access to transportation infrastructure. This includes things like: good, fast, frequent transit; sidewalks; and bike lanes. The final factor includes transportation-related health risk. This includes data on traffic safety and crashes, vehicle-related pollution, extreme heat, levels of green space and street trees, and higher levels of inactivity due to the built environment.

I want to briefly explain “the built environment.” This displays the common measures when describing the built environment. Large portions of Southern Nevada can be characterized by suburban development with lower residential densities. Land use diversity refers to separated land uses, meaning residential areas where people live are not always near commercial areas or job centers where they need to go. Finally, street network design refers to neighborhoods that have cul-de-sacs or any street network that induces longer trips, so they are not well served by walking or bicycling. When you combine these factors, they result in more driving and less daily physical activity, leading to negative health

outcomes. These built environment factors are included in our Health Index, and we map them for the entire region.

Here is the final health composite index map. Areas in red have greater health concerns and higher vulnerability based on socioeconomic factors. Areas in red also have lower transportation access and are overburdened by the impacts of the transportation system. From the map, you can see there are areas where more health-focused transportation investments can have a greater impact—like Complete Streets, more green space and street trees, improved traffic safety, and reduced pollution levels from transportation. The RTC references this map as we prioritize projects for funding, and our member agencies are using it as they seek federal discretionary grants.

Next, I am going to highlight a study that helped increase the awareness of extreme heat in our region and informed our actions that aim to address the urban heat island (UHI) effect and increase climate justice. In Vegas, not only is it hot, but it has gotten hotter over the past few decades at an alarming rate. According to studies, Southern Nevada is the second fastest warming metro in the United States, second only to Washoe County, since 1970. Studies predict it will continue to get hotter in the coming decades.

One campaign the RTC recently completed was through a grant received by the National Oceanic and Atmospheric Administration (NOAA). The grant was used to organize volunteers who drove around Southern Nevada with temperature and humidity sensors on their cars to capture real-world temperature data. Before this effort, the RTC utilized temperature data from satellites, and it was not neighborhood or roadway specific. Through this campaign, we captured about 140,000 temperature measurements spread throughout the Valley on the same day.

The final map shows the distribution of heat across our region. We have this map available on our website at rtcsonv.com/heatmap. The map is fully interactive and can zoom to the neighborhood and street level. Similar to the previous map, heat is not evenly distributed across our region. Areas on the east side have higher temperatures due to lower elevations, less green space and street trees, and lots of roads and buildings that soak up heat throughout the day.

One area where the RTC has taken a proactive approach to turn this research into action is through the placement of new transit stops. Of the RTC's 3,695 bus stops, 1,658 of them have a shelter, which means there is shade at that bus stop, so almost half of our stops include shade. We know transit riders are more exposed to extreme heat and are less able to adapt to it as they wait for our buses or walk to and from our bus stops. Providing shade can have a big impact. It is up to 20 degrees cooler in our transit shelters as opposed to not having a shelter. As the RTC rolls out new shelters, we are prioritizing their placement in those areas that have been identified as the hottest in the region through our volunteer mapping campaign.

I would like to talk about the RTC of Southern Nevada's efforts on walking audits. Nevada Assembly Bill 343 from the 2021 Legislative Session required the RTC to develop a Walking Audits Plan that emphasizes the importance of pedestrian infrastructure. The intent was to ensure there is a systematic approach to evaluating and improving roads for people walking and rolling by increasing safety and accessibility and ultimately developing healthier communities. This bill required the RTC to conduct one audit per year with a requirement to post it online. The good news is the RTC of Southern Nevada is doing a lot more than one walk audit per year.

In partnership with the Southern Nevada Health District, we created a website where we explain what a walk audit is, posted our plan for conducting audits, identified the locations where walk audits have already occurred, and next steps for conducting future audits. There is also an opportunity for the public to suggest potential walk audit locations for the future.

A brief primer on what a walk audit is and how we implement them in Southern Nevada—it is an organized visit to a street to assess how supportive it is to walking or rolling. Walk audits are best conducted by a diverse group of people to ensure all perspectives and the different ways people move about our community are captured in the audit. The goal is to document if the street is safe and comfortable to walk, and if it is not, identify the needed improvements and projects for future implementation.

Previously, the RTC partnered with Clark County School District (CCSD) to conduct 65 audits around elementary, middle, and high schools. Last year, the RTC completed audits around Nevada State University and three additional audit locations throughout the region. The project website developed in partnership with the Health District displays where the most recent walk audits have occurred and where they are planned next. Currently, we have 20 walk audits planned to be performed in the next year. Finally, the findings of walk audits make their way into recommendations to implement Complete Streets. Complete Streets programs are being implemented under NRS 403.575, which ensures roadway projects consider all users, ages, and abilities of the transportation system. Complete Streets projects improve public health through increased safety and by encouraging greater physical activity.

To briefly highlight one of the RTC's roles in implementing Complete Streets, the RTC is responsible for the day-to-day administration of funds collected locally through the motor vehicle fuel tax and sales tax, and this includes fuel revenue indexing. We work with our member agencies to administer local funds for the design, construction, and maintenance of the transportation system, which includes constructing new complete streets. Through this process, this graphic displays the total number of projects the RTC has been able to start in partnership with local jurisdictions and industry. We have been able to start 666 projects since fuel revenue indexing was initiated in 2014; of which, 436 of these projects have been completed, 119 are currently in construction, and 111 are in design. Each of these projects includes different elements of Complete Streets as an overall goal of the project.

I want to highlight Complete Streets projects that are being implemented by each of our member entities. The first one is from Clark County on Ann Road in the Northwest Valley. This project included new sidewalks, buffered bike lanes, street lighting, and a center median island to slow vehicle speeds and control left turning access. The next Complete Streets project is in the city of Las Vegas on Main Street, which introduced a one-way couplet system, wider sidewalks, buffered bike lanes, lighting, and new streetlights. The next example is a North Las Vegas project on Camino Al Norte that repaved the roadway and created new buffered bike lanes. Another upcoming Complete Streets project is the City of Henderson will construct the reimagined Boulder Highway Project. This project will add much more lighting to the corridor, include wider sidewalks, protected bike lanes, additional street crossing locations, and dedicated transit lanes for RTC buses in the center of the road, along with newer and much larger transit stations with increased shade. This project is both federally and locally funded with RTC funds. Another RTC-funded Complete Streets project is in Boulder City on Veterans Memorial Drive where a repaving project removed a traffic lane in each direction to slow vehicle speeds and create more space, so a buffered bike lane in each direction could be added. Finally, in Mesquite, a new roadway was constructed on Oasis Boulevard that—in addition to making it a Complete Street—

constructed a roundabout, which have been proven nationwide to increase safety by reducing vehicle speeds and associated serious injuries and fatalities.

That concludes my presentation. I am happy to answer any questions you may have along with RTC Washoe.

Senator Hansen:

First of all, Reno RTC, you do a great job. I have been driving on the roadways with a license since October 1976. The road network in the Reno-Sparks area is great. On the fuel indexing—50 percent of your budget is from fuel taxes. I noticed when I come into Carson City, gas is probably 25 to 40 cents cheaper. What is the actual RTC tax that people pay in the Reno-Sparks area per gallon?

Dale Keller, Deputy Executive Director, RTC of Washoe County:

I do not have the exact number for you, but Washoe County and Clark County have the indexing of fuel, and that is why you see that differential between the dollars per gallon between here and—

Senator Hansen:

Honestly, it is a good program. The dollars are being well spent. Since it is a user fee, people do not have to pay the tax who do not use the road network, basically. That has been good. I am curious about the amount—because I have noticed a lot of the employees who work down here that live in the Reno area seem to fill up here more than up there—I cannot blame them for that. I have a question about Pyramid Way. You have a project going on there that got a bunch of complaints because the murals that are set up to block the neighborhoods have a fish design. Apparently, they got it all messed up. I got a bunch of complaints because it is not a continuous looking thing. Are you aware of that? What is the status of repairing that? It is a project that is ongoing. I did not think you mentioned it, but I have received a lot of complaints. That sounds silly, and honestly, it does make it look a little incompetent when the mural does not look—you have to see it to know what I am talking about, but it looks funny.

Mr. Keller:

That is an NDOT project, and we are working with them. My understanding is they came up with a solution that would meet the community's expectations.

Senator Hansen:

I saw NDOT was on it, but I also saw RTC—so you guys are doing something in conjunction. Other than that, I want you to know I think the fuel tax thing—I realize typically people like me are not big on taxes, but the monies being raised are being well spent. Road networks are in great condition in our area. I salute you for that, and I think it is a good use of our tax dollars. The NDOT folks are the ones I should have talked to, my apologies.

Vice Chair Watts:

It is great to hear my colleague's enthusiastic support for fuel revenue indexing. I agree, it is a great program. I have one question specific to RTC of Southern Nevada. The RTC of Washoe County provided the amount they get from the DMV, from the optional \$2. I was wondering if RTC of Southern Nevada could provide the amount you receive from that,

either on an annual or total basis. Do either of you happen to know what portion of folks that do their registrations opt in to provide that \$2?

Mr. Kjellman:

I do not have those numbers in front of me, but we have them, and we can provide them quickly.

Vice Chair Watts:

Great. Does anyone happen to know how many registrants provide the \$2? If not, I will follow up with the DMV.

Mr. Keller:

No sir, we do not.

Assemblyman Nguyen:

My question is also for the Southern Nevada folks. When you went over the walk audit log, I noticed on the map that southwest of the Valley was not included, and even a certain part of the east as well. Were there any thoughts behind why that complete area was not part of the audit?

Mr. Kjellman:

I think if we were to go back and holistically look at the audits we have done before AB 343 was implemented, we would have areas in the southwest we could add to that map. What that map is showing is since that bill passed—what we have done since then. One of the tactics we try to do is tag team a walk audit when we already have a transportation planning study going on in that area. Some of those dots you see on that map is where we already had an existing study identified. The comment is well noted; we do want to spread this out throughout the Valley and get feedback from the community about where they would like audits to occur in the future.

Assemblyman Nguyen:

In terms of the community, are there external community members involved with that audit, or is this done purely internally, by RTC staff only?

Mr. Kjellman:

We want community participation. We view them as two things when we do a walk audit. Part of it is community engagement, engaging the public about what they want to see in their roadway system and making them aware of the challenges of the transportation system. We want diverse participation—moms, kids, people walking and rolling, with mobility impairment. We want a diverse group who goes out and conducts those audits. We will solicit community participation before we go out and do an audit. We also pair that with traffic engineers and transportation planners as well.

Assemblyman Nguyen:

I would love to learn when those opportunities are available. If you could get that to us, that would be great. My last question would be reflecting on what Vice Chair Watts said

earlier about our heat rising. We have a lot of heat issues. Shelters are only at half of the bus stops. Are there plans to make those shelters at almost all the stops we have?

Mr. Kjellman:

Yes, we try to get as much resources as possible to deploy more shelters. We have three different shelter programs going on right now. We have our general market shelter which you probably see on the street right now. We have redesigned its roof to increase shade. We have also started deploying our slimline shelters that we can get in places where normally we would have to get an easement from the private property owner. We can now fit the slimline shelters on a regular sidewalk and still maintain our ADA clearance. We also won a grant from the Federal Transit Administration to design a new shelter. We are calling these our climate adaptive shelters. Once those are designed, we plan to roll them out as well. We implement shelters as much as we can, as resources are available. We are focused on deploying them in those extreme heat areas because that is where they can have the biggest benefit, and that is where we see a lot of our transit ridership as well.

Chair Doñate:

This question is directed to RTC Southern Nevada. Referencing the health composite index, can you break this down more in simple terms of what we are looking at? I am assuming the shades of blue are probably the newer parts of town, so they have better infrastructure versus more of the infill parts of the city. Is that correct? If you can break down the map, that would be helpful.

Mr. Kjellman:

The map is all 30 factors combined. It is difficult to pick one out and say that is what is having the impact in that area. I think what is helpful is to look at the report, which I can provide. It breaks down each of the three different overall groupings into a single map. You can see where underlying health conditions are having the biggest impact. Then you can see where the transportation supply is having the biggest impact—meaning maybe a lack of transit, sidewalks, or bike lanes. The final one would be those factors of the built environment I was talking about—like your land use, density, street network design, and if your zoning has mixed uses or not. If you look at those three broader categories, that could help break down the map a little bit.

Chair Doñate:

If you could send that report, that would be great. Another follow-up specifically to you, earlier we talked about reducing fatalities throughout the State. Part of the strategy we have seen in other states is incorporating mass transit. Obviously, when we talk about mass transit infrastructure, the biggest question is how to pay for it. What are the strategies we are looking at, specifically in Southern Nevada, to improve mass transit? What do you think is necessary in order for us to reach the demand that we need to evolve, if the city continues to grow and if our State continues to demand it?

Mr. Kjellman:

I think transit is a very safe mode. Data shows traveling inside a transit vehicle is much safer than driving, walking, or biking. Transit in general, as a mode, is very safe. As we have the resources available to us to increase transit service and get more ridership, that will make our transportation system overall safer. In terms of looking at different roadway designs and options for upgrading our transit service to bus rapid transit or even light rail,

one of the benefits of those projects is at the same time you can redesign the street for wider sidewalks and better bike facilities to help slow vehicle speeds and increase the safety of all roadway users.

Chair Doñate:

I appreciate that response. Assemblyman Watts and I both have a district that, with the Maryland Parkway initiatives, we always get a lot of recommendations to improve mass transit. We are interested in the improvements that are happening. I hope we can continue to have this conversation, especially as our city continues to grow. This is a question for all of you. We have talked about the fuel tax; my colleague mentioned it earlier. Have you had any discussions or any thoughts about—there is obviously the concern as we have more electric vehicles (EVs) that they are not paying into the funding revenue structures we have. Do you feel the Legislature has arrived at that point where we have to have this discussion? Have you done analysis of the potential funds we are not capturing yet that could be reverted back to improving our infrastructure? I am assuming you have had this conversation, so I would appreciate your feedback.

Mr. Keller:

It is a concern and a challenge as we look toward the future of transportation funding. We continue to work with our colleagues at the State—with NDOT, the DMV, Southern Nevada, industry partners, as well as the State Legislature—about understanding what the challenges are that we see as a transportation agency and understanding what the conversion to EVs means for transportation funding as a whole. Senator Hansen made a good point about fuel indexing. What has been met for Washoe County has been a tremendous success and has allowed us to keep our good roads good. It allows us to have funding to provide those capacity needs for our region and also take a look at our Complete Streets Program. Without the indexing we have in Washoe County, we would be way behind on what our needs are and satisfying those needs. As we continue to look at that, what we are seeing is people are still driving more. The vehicle miles traveled continue to increase, but the revenues we are collecting at the pump are roughly flat or plateauing. As you look into it as the future of transportation, I think that is a great challenge we need to look into, regionally and statewide.

Senator Titus:

Senator Doñate, that was exactly where I was going to go with my question. The fuel tax indexing is critical to being able to pay for your Complete Streets programs and streets in general. On a statewide basis, we use fuel taxes to pave our streets. You already answered part of my question by saying it looks like the fuel tax is flat in Washoe County. What are we going to do in the future? You also answered that: we do not know for sure. We are looking at options. Do you have figures on what it costs to put in bike lanes? What the additional cost has been? We know there is no capture of income from bicycling per se—and do not get me wrong—I am not against bicyclers. I have been you could say crazy enough or brave enough that I have been part of the One Awesome Tour Bike Ride Across Nevada (OATBRAN) ride, where I literally rode my bicycle from South Lake Tahoe down Highway 50 all the way to the Utah border. It was quite the experience. There are no bike lanes for the majority of that. If you want an adventure on the road in Nevada, ride that OATBRAN bicycle ride and know how wonderful it is to have a bike lane when a hay truck tries to run you off the road. Having said that, a bicycle did not pay for any of those roads, although it also did not wear out the road like trucks do and the heavy weight on that road. Can you

give me a thought on what the cost is for those extra bike lanes? Do you have any idea what that is?

Mr. Keller:

Initially, for bike lanes, what we have been doing is striping a bike lane on what used to be the shoulders. As we look into keeping our good roads good in what we call our Pavement Preservation Program, we have been converting a shoulder and striping a bike lane. As we look into capacity needs, we are looking into a mode shift we can look for to preserve the capacity in our roadways. When we look at our core of downtown Reno or downtown Sparks, we have limited capacity to widen roadways or do that. If there is a way to take trips off the roads—and overall, as a transportation agency, we are looking into movement of people and goods. As we look at the broader picture, yes, the fuel tax has been the main source of that revenue. Now, we look into funding these Complete Streets programs or active transportation programs from a regional and local level, regarding where that funding source needs to be coming from. How do we satisfy the needs from the vehicles? How do we satisfy the needs from the VRUs, from bikes and pedestrians. That is a thing we continue to have challenges with. Luckily, on a federal level with the Bipartisan Infrastructure Law, that provides opportunities for direct funding for those types of investments for Complete Streets. The revenues we received from the State level for that Complete Streets program is relatively low. We are supplementing that. To directly answer your question, we do not have a direct cost on what it would take for a bike lane because there are so many different ways to calculate the cost.

Senator Titus:

I appreciate that. Are there other sources of funding, which you could address perhaps from a federal level? That is something this Body is going to have to pay attention to in the future, and I am sure all communities will.

Senator Daly:

I hope we can count on my colleague from Senate District 14 when we try to do the gas tax index statewide and also try to capture the vehicle miles traveled for people who are not buying gas. I am more familiar with the projects in Northern Nevada, but this is for Southern Nevada RTC as well. A lot of the projects you listed are retrofit projects. You mentioned Sun Valley Boulevard and all the infrastructure issues—you have to bring that one up. I think you are doing Lemmon Drive and Oddie Boulevard right now. They are all areas where luckily, there was room. I think someone mentioned you do not always have that space. You also mentioned developer impacts. How much interaction do you have? Do they have to consult with RTC or NDOT when they are doing the land use planning at the county or city level? When the developer is going to go in and say, "You cannot mandate him to put this stuff in, he only has to mitigate his impacts." You get into the whole legal thing of you are doing a "taking." Can you make them? Do they consult you and say, "Leave us enough room so when we do have the resources, we can put this in." When you did Sky Vista, I think in Stead, luckily you had room there to put in four lanes. That is not the case everywhere, unless that developer leaves space for future planning. Is that coordination going on? Southern Nevada, same thing as well. If you are putting in the development, and you do not leave room for the future impacts and upgrades for capacity, but if you are going to put in the Complete Streets and you create a problem by eliminating capacity, it is a catch-22 sometimes. How much coordination is there with the local governments and the developers?

Graham Dollarhide, Planning Manager, RTC of Washoe County:

There is coordination going on both at the policy or program level and at the individual project level. The RTC does work with the local jurisdictions—City of Reno, City of Sparks, Washoe County—when the master plans are developed or zoning code changes or updates are made. We have an opportunity to provide input at that point. Most of our jurisdictions have policies already built in to address that issue of providing adequate space for various road users. At the project level, we also have an opportunity to comment during the development review process. No, we cannot dictate anything or demand anything, but we have that coordination happening on an ongoing basis throughout the process. A lot of times, the needs we have are both coordinated, but also many times, they come through in the end result and give us that opportunity to massage the roadway as it grows, as the population grows, as the area is built up.

Senator Daly:

I am assuming it is a similar answer from RTC of Southern Nevada.

Mr. Kjellman:

We try to integrate land use and transportation planning from the very beginning. Similar to RTC Washoe, we develop a long-range regional transportation plan where we forecast future growth in terms of jobs and people living here all the way out to the year 2050. We try to help match up future land use with our transportation investments over the next 20-plus years. Then each of the local agencies maintains and adopts what is called their master plan of streets and highways, and that also builds off what their land use and building plans are for the future. At the project entitlement permit level, there is a lot of coordination going on between the permittee and the local land use authority—the RTC is involved in that as well. Through our regional project coordination Seeing Orange map, we even include private developments on that because they have roadway impacts as they are on construction. We are also coordinating in terms of transit amenities and citing new bus stops.

Senator Daly:

I am trying to make sure we are doing what we can. What have you seen from the development side? For instance, you are going to put in a big box store, and they do their traffic study, and they say, "We are going to have 2,000 average daily trips." You cannot tell them, "You have to finance the road for 10,000 daily trips." You cannot do that to them, even though everybody can see with that development and the next one, and the ones after that, those are going to be higher. It may be some time before that next development or subdivision goes in. I think it is mainly leaving enough room for that to happen in concurrence with the development as it goes because then the next 4,000 trips have to be mitigated by the next development down the road. If there is no space—I know they see that with sewer line development—they upgrade and increase that line based on future development. Are you seeing some cooperations with the developers, north and south?

Mr. Keller:

Yes, we are fortunate in Washoe County. We have this Regional Road Impact Fee, as Mr. Nelson mentioned. We have this ten-year capital improvement plan that shows the need based off the Truckee Meadows Regional Planning Agency and land use that has been used for consensus forecasts. We can predict what the traffic needs are. That mechanism has allowed us to set aside that right of way and "taking" per se and allow us to have the

opportunity to widen the roads, but also provide those other amenities as the locals wish to provide.

Chair Harris:

I believe those are all the questions Committee Members had for you. We thank both RTCs for being here today. We truly appreciate your presentation, and the Committee is open to further suggestions. As I have tried to emphasize today, we want to know how we can be helpful in supporting the work each of you are doing, so please let us know if anything arises.

AGENDA ITEM VII—PRESENTATION ON CARSON CITY COMPLETE STREETS POLICY

Chair Harris:

We have a presentation on Carson City's Complete Streets policy. We have representatives from Carson City Public Works here today. Begin when you are ready.

Chris Martinovich, Transportation Manager, Carson City Public Works; Manager, Carson Area MPO:

I appreciate the opportunity to speak. I am with Darren Anderson, Senior Project Manager for Carson City Public Works. We are going to take you through a short summary of Carson City's Complete Streets Policy and a few of our Complete Streets projects. ([Agenda Item VII](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact>.]

Carson City's Complete Streets policy began in 2006, with the adoption of Carson City's Master Plan. It was made possible primarily as a result of the completion of the I-580 freeway—the Carson Freeway bypass that went from north Carson down to the intersection with U.S. 395 and U.S. 50 at the southern end of Carson City. It allowed us to open our other major corridors that were State highways at the time to other opportunities for Complete Streets enhancements. Carson City's Board of Supervisors is the body that set the vision for how we are going to transform Carson City and focusing on those major corridors, particularly of Carson Street, as well as William Street that leads out to Lyon County to the east. More formally, the Carson City Complete Streets Policy was adopted by the Carson City RTC in 2014, with an update more recently in 2022 upon the passage of the previously mentioned SB 285 from the 2021 Legislative Session.

The vision for Carson City's Complete Streets Policy is to provide a connected city. As we have heard from a number of presenters prior to this, we are looking for an integrated transportation network that is safe and efficient, where all users can feel comfortable to travel with the mode of their choice to the destination of their choice. We are looking to provide an inclusion of that multimodal Complete Streets concept and design elements for all roads for all those different users, implementing that comprehensive program. [We are] identifying the practicality of treatment types and applying Complete Streets elements for Carson City based on the available funding, what type of project we are doing, and prioritization of different corridors. This applies not only to City-led projects, but it also applies to developer projects, where they are coming in and building new streets or they are enhancing streets in an existing area of town. We look for Complete Streets elements on all our projects, with the ultimate vision to focus on transportation safety for VRUs and

complementing other initiatives that are important to Carson City and its master plans, such as coordinating for a healthy lifestyle, recreational opportunities, and sustainable and resilient infrastructure. Complete Streets pairs well with Carson City's master plan and vision going forward.

To support Carson City's Complete Streets vision, we have a number of funding sources. Our primary funding source for this and our major corridors is our infrastructure sales tax. It is a one-eighth of 1 cent sales tax in Carson City. Funding developed through that sales tax is applied to our major corridor projects. Funding has been applied to Carson Street projects as well as William Street projects, and we look to continue that funding in the future. We are also supported by our local fuel taxes. In Carson City, our fuel tax is 15.35 cents per gallon and 5 cents for diesel. I believe in Washoe County it is over 50 cents per gallon—I do not know the specific number, but I believe it is over 50 cents per gallon of gasoline. This comparison could be why the price is different.

We also receive Complete Streets voluntary contributions. We receive around \$10,000 to \$12,000 per year through that \$2 voluntary donation. That is around 15 percent of the vehicle fleet in Carson City based on 55,000 registered vehicles or so. About 15 percent of the registered vehicles are donating the \$2 for around \$10,000 to \$12,000 per year. We use that to leverage federal grants under the infrastructure law where we have limited local matching dollars. Any funding source we can use to match larger discretionary or apportioned grants to Carson City is incredibly valuable to delivering any project, whether it is Complete Streets or a standard roadway reconstruction maintenance project. It is critically important to our planning side, project prioritization side, and our design side. We have been fortunate in Carson City to receive a number of large discretionary grants from the Transportation Investment Generating Economic Recovery (TIGER) Program, currently called the RAISE Program. We received \$7.3 million through the TIGER program to reconstruct South Carson Street. More recently, we received \$9.3 million for the reconstruction of William Street, which Mr. Anderson will talk about in a moment.

We monitor our Complete Streets activities, primarily pedestrian and bicycle monitoring, through two mechanisms. One is on our major corridors, but more broadly, we monitor and report our data through our annual network monitoring report. The MPO, Carson Area MPO (CAMPO) in this case, provides and produces an annual report where we document and provide data on all sorts of different types of transportation metrics, such as vehicle miles traveled, transit statistics, as well as bicycle and pedestrian statistics on our Complete Streets corridors. This is a snapshot of our data collection efforts over the last five years for these major corridors. Downtown was a Complete Streets corridor completed in 2016. North Carson is a corridor yet to be completed, but we are still monitoring and collecting data. South Carson construction was completed in 2021, and we are collecting data on that. William Street is pending construction in the next several months; we have been collecting data on that. Our data analysis and methodology of collection is maturing over time. We have recently installed permanent counters that are going to provide us better data more accurately. We have heard a lot of discussion about data from OTS. When it comes to collecting data in Carson City, we have some catching up to do. We are working on ways to advance that and get more information out so we can continue to justify why these types of projects and safety improvements are important to our area. I am going to turn it over to Mr. Anderson. He is going to take us through a couple of projects and a little history of some of Carson City's projects.

Darren Anderson, Senior Project Manager, Carson City Public Works:

We have a handful of corridor projects that came about through the relinquishment of these corridors from NDOT as they constructed around Carson City. The first one was downtown Carson Street. Looking back through old photos I was digging up to see the condition of the road and the size of it—the first one on the left is from 1940. I was surprised to see the amount of pavement and vehicles even at that time. Fast forward to 2015—obviously, the time of day is a big factor here—but we saw a significant decrease in vehicle traffic and vehicle counts from that point after the freeway had been routed around the city.

The goal from the Board and the public was to make downtown Carson more of a central gathering place, a place the community could come and have events. The concept was based around making it more accessible and more inviting for all users, including pedestrians, bicycles, and vehicles—those that use transit. The picture on the left shows the concept for the downtown Carson area. That is indicating the two lanes both ways were reduced to one lane in each direction, the addition of bike lanes going both directions, and significantly wider sidewalks. Prior to the project, sidewalks were generally 6 feet wide. They increased from 12 feet up to 20 feet wide in some sections. The picture on the right was after completion showing that in the end, there were wider sidewalks, vehicles were still able to travel, but many other accommodations were made.

The next project came in 2018. This was on Curry Street, a block west of Carson Street and the connecting cross streets between the two. Curry Street was a smaller four-block project that cost around \$4 million. Curry Street is a tight corridor, but the same general theme and concepts were constructed for Curry Street as far as wider sidewalks, pedestrian improvements, improvements to the ramps, and reconstruction of the road. In Curry Street's situation, the speed of vehicles is low, so the need to add bike lanes was not necessary in this case. From my own experience, bicycles often travel through there faster than vehicles at this point, so it does seem to work.

The next project was South Carson Street. As the freeway was constructed in phases around town, South Carson was the next corridor the vehicle traffic impact was alleviated from. Prior to our project, South Carson Street was mostly a three-lane road in both directions, and then two lanes [in both directions] on the north end of South Carson Street. The project reduced the corridor down to two lanes [in each direction] due to the significant decrease in traffic volume through there. In this case, the corridor was wide. Rather than the challenge of trying to fit everything within the width of the right-of-way, we had to determine how to use this right-of-way most efficiently and also minimize the wide-open feel of the road. To do that, bike lanes were added as well as the construction of a multi-use path and pedestrian improvements like sidewalks.

The next project coming up is the William Street connection coming from the east end of town down to Carson Street. William Street is interesting because it has a mix of both the wide right-of-way limits as well as a tight, constrained feeling. On the west side, the right-of-way is tight. There is not a lot of room to fit in other improvements. We spent a lot of time looking at how to reduce the lane width for vehicles and squeeze in sidewalks and bike lanes to make this all fit within the space we have. Whereas further east, there are wide lanes, wide shoulders, and a lot of space to accommodate other uses. In the end, there is an infill of missing sidewalks, extension of multi-use paths, and minimizing of lane widths to come together, and also the construction of transit stops to accommodate the Complete Streets goals.

A few other projects that are coming—North Carson Street is the last of the main corridors that are part of the downtown corridor. That is planned to kick off in 2026. There is another project on Curry Street south of the Downtown Curry Project. Right now, it is a vehicle traveled way; there are no accommodations for pedestrians or bicycles, so that will be added. U.S. Highway 50 East is east of William Street. We are partnering with NDOT to see what can be done for that section of the corridor. We always have other projects in the Carson City area. We implement these practices whenever we can. That does it for our presentation. We are happy to answer any questions.

Chair Harris:

Committee Members? We have a question from Senator Titus.

Senator Titus:

I appreciate—in all the many years I have been coming to Carson City and my grandparents have been coming to Carson City, et cetera—the changes that have been made downtown. It is quite lovely, even though initially, it was painful. You made a comment early on in the presentation that because Carson Street is 395, it is a State highway. It is an interstate highway, frankly. Now, with the bypass, is Carson Street still considered a State highway, or somehow the State does not have that anymore? How did that process of ownership or responsibility change?

Mr. Martinovich:

Carson Street, as well as other streets like a portion of East William Street by Mills Park, have been relinquished to Carson City by NDOT, so they are no longer State highways. Carson City has full ownership of those. Oftentimes, NDOT would support a local agency by doing a slurry seal or repaving prior to turning that over, so the burden of the maintenance is less for those local agencies. Those are fully in Carson City's ownership and are no longer part of the National Highway or State Highway systems.

Senator Titus:

It was under the purview of NDOT to relinquish that ownership? They did not own them to begin with, so I am wondering what that process was and where it is. Maybe our attorneys could help us. I was curious, is it under NDOT's power to give up a State road or State property?

Mr. Martinovich:

I cannot specifically speak to the authority NDOT has on that. I know through the various agreements Carson City and NDOT executed over the years through the Freeway Construction Project and the completion of that, the relinquishments were part of all those agreements in that process.

Senator Titus:

At this point, you are responsible for maintaining the roads now on Carson Street. You said NDOT will do a slurry sometimes, but otherwise is it Carson that is responsible for maintaining the road?

Mr. Martinovich:

Yes, that is correct. Carson City is responsible.

Senator Titus:

Maybe Legal can follow up. It does not have to be now, obviously, but I would be curious to know what the process is when NDOT relinquishes ownership of a State highway.

Chair Harris:

Yes, absolutely. If I recall correctly, there are at least two items that Legal might want to follow up on for us. The first being the question Senator Nguyen had about ATE, the existing cameras, and why legislation might be needed. If we could also ask Legal to do research on the process to turn over a State highway to a locality. Are there any other questions? [There were no further questions.] Thank you both for being here. It looks like you all are doing quite a bit of work and are on the back end of some of those big projects, congratulations.

AGENDA ITEM VIII—PRESENTATION ON EXTREME HEAT IMPACTS AND URBAN HEAT MITIGATION IN NEVADA

Chair Harris:

We have representatives from the Desert Research Institute (DRI) as well as from the Southern Nevada Heat Resilience Lab (SNHRL). Please start your presentation when you are ready.

Tamara Wall, Ph.D., Research Professor, DRI; Deputy Director, Western Regional Climate Center:

I am joined by my colleagues, Ariel Choinard and Dr. John Mejia. Collectively, we have been working diligently the last few years to expand our research portfolio around extreme heat, wildfire smoke, and the compound impacts of extreme heat and wildfire smoke, particularly in Northern Nevada. ([Agenda Item VIII](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact>.]

We have a few basic statistics on extreme heat in Nevada. The trend lines for extreme heat and mean average temperatures at Harry Reid International Airport are continuing to trend upwards, as noted by the recent extreme heat events in Southern Nevada. It looks like there will be another one coming up soon.

In Northern Nevada, you can see the same trend lines. As earlier presenters noted, Reno and [Las Vegas], Nevada are the fastest heating cities in the nation. It presents unique challenges for everybody as we start to move forward into a hotter and hotter climate.

I am going to present briefly on a nascent project we started working on, and then I will turn it over for more in-depth presentations from Ms. Choinard and Dr. Mejia, as they are working on projects that are considerably farther along. Extreme heat and wildfire smoke in Nevada is a project. One of the challenges we have in Northern Nevada is we often have the confluence of significant air quality degradation from wildfire smoke in combination with warm temperatures, often into triple digits. Not as warm as Southern Nevada, but it is still a

challenging period of time, particularly for residents that do not use heating, ventilation, and air conditioning (HVAC) systems. In Northern Nevada, we are about to increase the number of heat wave days per year from 15 in 2000 to a projected 50 by 2050. That is a big jump.

The real problem in Northern Nevada is many people still do not have HVAC systems or air conditioning systems, or if they do have those systems, they are often reluctant to run them based on costs. What happens at that point, is these households have to make trade-offs between, do I keep my indoor environment at a comfortable temperature, or do I open it up at night, often when wildfire smoke sinks lower into valleys and we get particularly damaging health impacts, to cool my house off? It is a trade-off between indoor air quality and extreme heat. It is not uncommon. The highest I have ever seen in Northern Nevada was of a 2.25 particulate count that was 728 parts per million, which is extraordinarily high. That is damaging for anybody to breathe in, let alone pediatric populations, children, vulnerable populations, people with respiratory diseases, and asthma.

We do not understand hardly anything about how people make choices in this situation. What are the trade-offs they are making? What is more important to them? Is it being able to sleep in a cooler temperature? Is it long-term pulmonary health, or concerns with air quality? We just do not understand what is most important to them. The current project, like the SNHRL, is funded through the California Nevada Adaptation Program (CNAP), which is funded by NOAA through the Climate Program Office and the Climate Adaptation Partnerships (CAP) Program Network. We are going to try and understand—with a small selection of households in Washoe County that do not have HVAC systems—how they make these trade-offs. It is a combined physical and social science project. We will be doing two measurements, air quality measurements and temperature measurements, in people's houses, both inside and out. We will also be taking biophysical measurements of people's respiratory rates, blood pressure, and basic measurements. We will also be administering surveys to try to understand the mental health impacts of making these trade-offs and also the stress and the drain of functioning in an environment that is not only hot, but is also difficult to breathe and has its own set of health impacts. Our main partner in this is Northern Nevada Public Health, which we are excited about. This is just a beginning project. We are recruiting households right now. We hope to begin gathering data this summer. With that, I will turn it over to my colleague, Ariel Choinard, who is the lead for the SNHRL.

Ariel Choinard, Staff Research Scientist, SNHRL, DRI:

I would like to tell you a bit about what the SNHRL is and what our work entails. The Heat Lab is part of CNAP, which is funded through NOAA in that CAP Regional Integrated Sciences and Assessments (RISA) Program. We are housed in the climate change group at DRI. I am on the Las Vegas campus. We have a great team of folks and just hired a postdoc, Dr. David Almanza, to help support our work. Our work centers on the coproduction of heat adaptation and resilience strategies with the people and communities that are most impacted by heat. By centering those frontline communities, we can better leverage local knowledge to develop and promote equitable and implementable heat adaptation approaches. We are filling in a large existing gap in Southern Nevada. This project grew out of the fact that although there are many different types of practitioners, people, organizations, and local governments that work on heat, nobody really owned heat. We provide that coordinating and collaborating space for all the different people who are involved in heat adaptation, mitigation, response, and all sorts of things. We also help to elevate the voices of those who are most impacted.

Why heat resilience? Heat is the deadliest natural hazard in Southern Nevada, in the whole of the State, across the entire nation, and the globe. The CDC reported approximately 2,300 heat-related deaths in 2023. In Clark County, the Health District reported 307 deaths. Some of the measures around heat morbidity and mortality are what we call "lagging indicators," which means they take time to correlate and record. It depends on how heat illnesses and heat-related deaths are coded, either in a health care environment or by the coroner's office. This is not necessarily data we can get a real-time look at the impacts of the heat wave. Our climate projections show that currently, we expect 18 to 20 days above 105 degrees. Although, 2023 had 25 days above 105 degrees. By 2055, we are going to be looking at 32 to 46 days over 105 degrees. I want to point out the trend grows warmer, of course, but outlier events are still possible in any particular year. That is illustrated well by the fact that we broke a record for our highest temperature, which was 120 degrees.

Everyone here in Southern Nevada is exposed to extreme heat, but the experience of extreme heat is not equal. It depends on who you are, where you live, and what your circumstances are. Extreme heat can act as a chronic stressor for our communities. It can also act as an acute shock depending on how long or how severe a heat event is. We often talk about "heat and." Dr. Wall was talking about heat and wildfire smoke. We can talk about heat and drought or heat and the Coronavirus Disease of 2019 (COVID-19). Heat is a systemic issue in Southern Nevada. It can function to compound existing crises. We also want to talk about how folks are heat vulnerable and heat burdened. Heat vulnerable folks may have health conditions that impact how much heat can affect their physical health. There are heat burdened folks who may be in our UHI neighborhoods who have challenges around paying to keep their home cool enough during the summer. I briefly want to make sure we all know what the UHI is. The UHI is a product of our built environment. In the areas where we have a lot of impermeable surfaces, like pavement, those impermeable surfaces absorb heat during the day and radiate them out at night. Overall, those spaces are hotter because of that built environment.

A few summers ago, in 2022, the RTC worked with CAPA Strategies to do a UHI effect mapping campaign. We learned our hottest neighborhoods are 11 degrees warmer than our coolest neighborhoods. Although this mapping campaign took place on the third coldest August day ever recorded for Southern Nevada, that information about the difference in temperature between our warmest and our coolest neighborhoods is revealing. I would like everybody to think about what that might mean on a day when it is 120 degrees.

We also work a lot around community building. Last fall, we held community listening sessions. There were two sessions. The first one we held with community-based organizational leadership to hear about how the folks they serve are impacted by heat and what their observations were. That helped us scope a second community listening event with community members from our UHI neighborhoods. This allowed meaningful engagement with our heat burdened communities. In a lot of ways, these communities were not necessarily previously a meaningful part of heat planning or heat response. It established a space for these communities and residents to articulate what they identify as their needs and their priorities for heat response, adaptation, and mitigation. There is excellent momentum for more community listening sessions even outside the heat season. I usually like to talk to people about heat when it is actually hot out, but heat has such a huge impact on people's day-to-day lives, they are quite willing to talk about it even when it is cool out. The feedback and the priorities identified by the community helps the heat lab cocreate and prioritize our heat-related actions.

This is our project's second summer. Last summer, I put together a heat working group for all those different types of practitioners who work around heat. It started with

eight members. At my most recent convening, we had about 75 members in that group. That illustrates the need for that collaborating and convening space. We hold calls during and after heat events to talk through response to identify where we can share resources or information and help build a more robust response to heat here. It also helps to prioritize actions.

One of the most interesting things we heard from our community listening sessions is that although this project grew out of a need to provide that collaborating and convening space because nobody owned heat in any official capacity, what we hear from community is that we all own heat. That was surprising to us. We also heard that folks face bleak trade-offs when it gets really hot. We know people choose between putting food on the table or keeping their homes at a safe and livable temperature. We also heard that unhoused folks are the most likely to seek resources, like a cooling center, whereas housed people do not. I think that is because in our UHI neighborhoods and the areas in town where the heat is most intense, we also have other types of inequalities at work too. That could be income inequalities or health inequalities. Even if a home is not a safe and livable temperature, to get to a cooling center, we are asking people to expose themselves to more extreme heat to get to the place where they might be able to cool down. We have heard a need for hands-on help in neighborhoods and that we need to develop multilingual, culturally-relevant heat health messaging. We have heard it would be useful to have a task force to make recommendations and encourage change around heat response and adaptation. We have also heard a lot about shade equity. Some of our UHI neighborhoods are also neighborhoods that do not have a lot of shade, which makes sense when you think about that built environment and how UHIs function. Shade is needed, and not just tree canopy, but even built shade structures, particularly at bus stops would be a wonderful intervention that community would like to see.

Our next step is gathering clear pictures of heat health impacts. Although we think about heat as something that can make people sick or even kill them, there are other impacts as well. There are impacts to people's mental health because this is something that is chronically stressful to go through every single day. There are impacts on domestic violence rates and maternal and fetal health. There is such a huge picture of how heat functions in our communities that we need to better understand. Dr. David Almanza, our new postdoc, is designing a cooling center usage pilot study for this summer. Cooling centers are activated when the National Weather Service issues an excessive heat warning. They are our only response to an excessive heat warning. We do not know how well this resource functions in our communities, who it is functioning for, when, and why. We are going to work to get a better idea of how that resource functions during times of extreme heat. We also need to get a better understanding of heat health impacts and heat impacts in our tribal and rural communities. Currently, we do not know anything about that.

We also want to get a better grasp on how hot our UHI neighborhoods are today and what that might look like in the future. I mentioned that because we had a day that was 120 degrees, which seems to be a psychological barrier for a lot of folks. When they see that number, it has a little shock value. It makes people stop and think. What does that mean on 123-degree days—although some neighborhoods might not get that hot, they might only get up to 117 or 118 degrees—and we have neighborhoods that are 11 degrees hotter than that? That is significant. By better understanding that, we can better communicate heat health impacts for those areas. We can even work with the National Weather Service on changing thresholds for heat watches and heat warnings. We need to get a better understanding of heat and air quality impacts in Southern Nevada. I do not know that we deal with quite as much wildfire smoke as they do in Reno, but we have issues around ozone and other types of particulate matter. We need to know how that

impacts people during extreme heat events. We also need to do better with heat health communication. There are two images that are representative of the types of images one might see in local and national stories around heatwaves and extreme heat events. I cannot tell you how many times it is people playing in fountains, which is fine, but that does not capture how hugely folks are impacted by extreme heat events. We need to do a better job with that.

I will be handing it over to Dr. John Mejia. He is working on one of our major questions: what can tree canopy do? He is working on modeling different types of heat mitigation strategies so we can better understand how and where to deploy increased urban tree canopy to benefit folks the most.

John Mejia, Ph.D., Associate Research Professor, Division of Atmospheric Sciences, DRI:

Good afternoon, Chair Harris, Chair Doñate, and Committee Members. I am representing my research group in atmospheric modeling. We use similar models to predict the weather. We can also use them to estimate the impacts of climate adaptation plans. All cities around the U.S. are developing these climate adaptation plans. We want to have metrics or tools that help us assess a priority. What could be those impacts, for example, to make cities more resilient to extreme heat?

At DRI, we are operating several of these models. We are currently funded by NOAA through different federal appropriation funding task assignments and competitive grants to develop assessments and tools that will help us assess the impact of heat adaptation and mitigation strategies.

This is a time slice. [A short animation of Las Vegas's growth from 1972 to 2023 was played.] Cities are growing. One of the most extreme cases is that of Las Vegas, which did not exist at the beginning of the 20th century and now is a huge metropolitan area with a lot of heat issues. Time-lapse shows the built footprint. The red shows the vegetative footprint of golf courses, grasses, and parks. In these cities, and generally urban areas in the arid and semi-arid climates of the Southwest, we face not only urban heat issues, but also water sustainability problems. That is severe as well.

Around the world, the urban infrastructure is adapting to the warmer environments, the UHI we have heard throughout the day. Cities are using cooling strategies, some of which can be nonnatural strategies, such as setting up rooftop photovoltaic panels, [otherwise known as] solar panels. These panels create an insulation layer that helps. The sun reaches the immediate roof, and the panels help cool the inner rooms, and also why not alleviate a bit of the electricity bill? Another strategy you may have seen with a lot of big buildings around Las Vegas, which is not exclusive to Las Vegas—for many other cities around the world, big surfaces, like warehouses, are painted with white coating on the rooftops and walls. It means these surfaces reflect solar radiation and limit the heating throughout the day. They do not get as warm as otherwise would be with darker surfaces. You will see a lot of cities and infrastructure getting whiter because this. That is one option we have to cool down cities.

There are other more natural options. These pictures are around my neighborhood where you can plant trees to create shade. Underneath the canopy, the comfort is much better, and they also create evapotranspiration. Evapotranspiration helps cool down the environment to some extent. Cities around the world are thinking about building an urban forestry because it helps create more shade. Some of the presenters earlier had trees

emphasized in some of their projects. Outdoor water irrigation and water ponds also help keep the city relatively cooler. Green roofs are also quite typical in Europe. When planting on rooftops, some of them require irrigation as well, but some of them are natural. All these strategies help cool the city.

We are scientists using models and supercomputers. We use them, in this case, to develop urban canopy models to assess the impact of climate adaptation plans. Many of these plans are projecting a growing city. We are also projecting that we need to mitigate the heating associated with that. Much of the rhetoric around those urban climate adaptation plans use the term heat and cooling strategies like urban forestry and similar. We, as scientists, can contribute to understand and simulate the impact of cool roofs and outdoor irrigation scenarios. For example, what are the trade-offs of enhanced water usage outdoors versus the white roofing? [We can] assess the capacity to include the impact of urban trees, and how do these cooling approaches respond during realistic heat waves? It turns out, the models understand or simulate the mechanics of—for example, when there is a heat wave, we tend to crank up the air conditioning. When you cool down your indoor, the exhaust of those air conditioners, heat up the outdoors, making the heat wave more complicated and the impact even worse. Everybody does that. During heat waves, our cooling needs also exacerbate the heating outside the city in the outdoors and exacerbates the impact of heat waves. We try to incorporate the feedback mechanisms within our models. They are mechanistic, and we use them to simulate not only the impact of the built environment, but also the impact of our behavior around excessive heat.

These are two cool—pun intended—examples. On the left-hand side, the impact of exaggerating the outdoor irrigation in Nevada compared to not irrigating Las Vegas shows significant cooling. Those cooler colors are showing, in the order of half a degree Celsius, you can cool down by enhancing the irrigation in the outdoors of Las Vegas. On the right-hand side, you see the impact of painting with white coating on all rooftops and roads in Las Vegas. You can get a similar cooling by adopting this strategy. These are extreme scenarios of how much potential cooling you can get out of these alternatives. They are similar in effect, so maybe a combination of both could be the answer, if practical.

This is another example using the City of Las Vegas. The blue blob is the cooling we can get after planting around and between buildings. We call that the right-of-way along the streets, with at least 50 percent of that area covered with trees. It is an extreme scenario highlighting the model predicts a cooler city. We are still assessing the extent we can mitigate the UHI effect and how that behaves during heat waves. The problem is that these scenarios are mainly unrealistic for a city like Las Vegas. We are in an arid semi-arid geography with a lot of issues in urban water sustainability.

For that reason, we are creating more realistic scenarios. In this case, we are collaborating with Southern Nevada Water Authority. They are providing us with beautiful data sets about the tree inventories for the City of Las Vegas in the metropolitan area. We are assimilating that data into our model to make it more realistic. The little green colors on the left-hand side highlight the tree coverage showing that at most, we have places with a 0.3, or 30 percent, of coverage along the streets. That is low compared to the scenario we were putting on before. Now, we know where the trees are planted in reality. The right-hand side shows a map several of our presenters have shown today. This is the extreme heat vulnerability map for the City of Las Vegas provided by the RTC of Southern Nevada. Some of the ideas are where to plant trees. Practitioners care about whether or not we want to impact the more vulnerable communities or whether or not we want to impact the hotspots in terms of a UHI. This debate about where to plant the trees with the limited resources available becomes too problematic, but the model can help us inform and provide

information to practitioners. One option is to target tree planting projects over extreme heat vulnerability areas.

This is an overview of the capacities and the infrastructure capacity we have to ask these questions. Urban modeling can support urban planning and decision-makers for our specific geography and even urban fabric. Many cooling adaptation studies are available, but what is best for our geography? What is best for our cities? What is best for the resources that are available? Assessing the best option for this climate is a challenging problem. It is our research problem. We are collaborating with practitioners because we want to develop the science. We also want to make that information usable for them to become more efficient at the time of implementing these cooling mitigation strategies. We can assess the potential of those projects and events on policies.

We have research needs; we are not finished yet. We are still a long way to understanding. For example, we need to improve the models by adding better information to our urban models. The City of Las Vegas is a city that has all these problems and is becoming more like a test bed for us in developing the designs around it. We are going to include Reno, Sparks, and the unincorporated areas to perform similar modeling work, especially now that the NOAA heat map campaign will take place next week on Saturday, July 27. We are thinking along these excessive heat problems. Through the federal resources, we are even enhancing the observations often necessary to engage in the discussion. Understanding why Reno is one of the fastest warming cities in the U.S. is an important question and a scientifically relevant, challenging problem. The problem associated with heat is that it is also related to how we grow the city and the materials we use. It impacts air pollution, energy transition components, and human comfort. We are here to help in understanding what the nexus are, even including the urban ecology and fauna.

With this, we have finished our presentation. Thank you for your attention and having us here today.

Chair Harris:

We have a question from Senator Titus.

Senator Titus:

Thank you for the presentation, the comparison, and the research you are doing. I have questions specifically about the comments regarding the rooftops. You mentioned using white on the rooftops. That has been a commonsense thing to do for a long time, making big buildings in hot areas white for reflection, and white cars do not heat up like black cars. Some of that is common sense. What I have been concerned about though, is we have brought the solar industry into this, and now we are putting these solar panels on top of these roofs. We truly are making—in my mind—things hotter by putting these black panels on all these roofs and not having that white reflection. Do you have any data on the amount of square footage that we now have black objects that are sucking in solar rays but at the same time heat versus what a white roof would do?

Dr. Mejia:

This is an important question. However, I do not have in my mind or in my records the amount of photovoltaic panels and the area they are covering at the moment. It is known that they produce a net cooling effect regardless of the reflectivity of the surfaces by isolating the house underneath, so it is easier to cool down the house inside, you produce

less air conditioning exhaust, with the benefit of having the extra electricity from solar power. The net effect is of cooling despite the color of the surface. Some of the solar radiation does not transform to heat, but electricity. That is one of the ideas; the black surface is not necessarily converting all of it to heat. I do not have at the top of my mind information about the aerial coverage currently out there.

Senator Titus:

One of my theories about the increasing heat in places like Reno, which used to be the Truckee Meadows, and there was water and creeks and lots of meadows in Washoe Valley. As urban expansion has happened and we now have more rooftops, especially more black rooftops, I am wondering if there is any data on the increase of the temperature of an urban area based on how large it has grown. In other words, have you extrapolated we grew this much, and there are more black rooftops versus when it was pastureland, and if that is playing to the actual increase in Washoe County, and even Las Vegas for that matter?

Ms. Choinard:

There is a difference between our built environment and what you might call the natural environment. Even in Las Vegas, the city is hotter than the surrounding desert because of our impermeable surfaces and that UHI effect. Yes, as cities expand or grow into new areas, it can raise the temperature of that area depending on how that development takes place.

Senator Titus:

Along the same note, I did not hear in the presentations resolutions and solutions for this. In previous meetings I have been in, one of the solutions is a special chemical treatment you can do to blacktop surfaces. They are using it in areas in Arizona. It is white, it is lighter, and that is proven to reduce the heat there. Has that been in any of your data or research for Nevada?

Ms. Choinard:

There has been further research done on those cool pavements in use in Arizona, particularly in Phoenix. What they are finding is that cool pavement is not a great fit for areas that have a lot of pedestrian traffic. What happens during the days you have hot temperatures and a lot of sunlight coming down, if you are at the pedestrian level, that sunlight is getting reflected back onto you, so it actually increases people's discomfort. With that in mind, cool pavements are not a mitigation or an implementation that is going to be appropriate for every spot or for every UHI neighborhood. Where it could be implemented—I know RTC has looked into that. I think Dr. Mejia's study might take into account cool pavements as well, but that is my understanding and where it stands with cool pavements.

Senator Titus:

Years ago, part of this Body passed a bill that mandated in Southern Nevada that no one would plant grass, and if people do not use the grass, and it was just mowed, that grass had to be removed. Now, we are hearing temperatures are increasing, and we need to plant trees. Artificial turf may not be safe depending on what it is made from, et cetera. Has any of this data—you talk about trees, but [what are the] thoughts on replacing or rethinking that mandate to remove grass?

Ms. Choinard:

The removal of nonfunctional turf, and that definition is the only person who walks on that grass is the person who mows it, is necessary because grass use is an incredible amount of water in Southern Nevada. Obviously, it is not a native plant. By removing that, we hope to save that water and replace it with trees. If we are replacing that nonfunctional turf with native and adaptive species of plants, we can keep that cooling benefit the grass provided through evapotranspiration, but through shade. It uses far less water, and it can be beautifully done and benefits communities in other ways as well. We recognize it is going to take water to grow trees, maintain trees, and grow them to a size at which they provide the shade benefit we are looking for. However, that amount of water is far less than it is with grass.

Senator Titus:

Thank you for the responses to those questions. I always worry that we, as humans, try to manipulate things we should not be doing, and then we are making it worse trying to make it better. Thank you for bringing research to the problem.

Dr. Wall:

To Senator Titus's point, the concept we are trying to work on here is shade equity and what that looks like. It can be a combination of both a natural environment and the built environment. Happily, we receive funding from the United States Department of Agriculture (USDA) Southwest Climate Hub to hire a position to look at that and work with our UHI neighborhoods on what shade equity looks like to them through both planting trees and other forms of the built environment.

Vice chair Orentlicher:

It is nice to know you are identifying ways to reduce the urban heat decks with cool pavements and cool roofs. I am wondering what that means for us coming back in the Legislature. The people who are doing the cool roofs, are they doing it because they are developers or building owners who are trying to reduce the air conditioning bills, and they are doing it in their own self-interest, or are there federal incentives? That leads me to wonder whether we should be thinking about mandates at the Legislature saying, "Here are the kinds of things you can do for your roof to cool, and here are the roofing materials you should not be using, and we will not let you use." Is that something we should be doing in terms of what we make of this knowledge for our work?

Dr. Mejia:

White roofs are one of the solutions. There are trade-offs with regard to comfort and some of them regarding air quality. My understanding is that some cities are passing legislation to the building code asking for at least certain reflectivity from those rooftops. Even though our role is just to assess the impact of those rules, we are always digging to see what are the requirements and scenarios we need to perform and simulate? By digging through that, we have seen several cities, one of which is Houston, Texas, changing the building code, asking new communities to deal with high reflectivity surfaces.

Chair Harris:

With that, we will close out this item.

AGENDA ITEM IX—PRESENTATION ON THE HEALTHY HOMES PROGRAM

Chair Harris:

We will move on to a presentation on the Healthy Homes Program. We have representatives from the University of Nevada, Las Vegas (UNLV) School of Public Health.

Shawn Gerstenberger, Ph.D., Dean, Director, School of Public Health, UNLV:

What I would like to do today, is give you a brief, high-level presentation about the home as a critical determinant of health, specifically as it relates to a Healthy Homes Initiative. ([Agenda Item IX](#)) [Due to copyright issues, the presentation is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or <https://www.leg.state.nv.us/Division/Research/About/Contact>.]

When we talk about a healthy home, what does that mean? Specifically, that means your home is designed, constructed, maintained, and rehabilitated in a way that is conducive to good health of the occupant. It is a perfect segue from our last discussion about the home and how the home impacts the environment. It also impacts your health. This is not anything new. Almost 18 years ago or so, three major federal agencies got together and created this Healthy Homes Initiative. That was the CDC, which looks at health and health outcomes, the Environmental Protection Agency (EPA), of course, who looks at the environment, and the Department of Housing and Urban Development (HUD). They realized these three things interact. It is that first law of ecology: you can never only do one thing. How do we design, construct, maintain, and rehab homes in a way that is conducive to health? What are the health problems related to poor quality or poorly maintained or constructed housing?

We know housing impacts our health in many ways. It can be a physical impact. You heard about heat and heat impacts. There can be chemical impacts from things that are brought into the home unintentionally, like asbestos and lead. It could be things you spray in the home like pesticides or other biological exposures and things like mold. We know the house, heat, overcrowding, and conditions in the home can all have psychological effects on those families and have mental health issues as well. If you think about your home, it is designed to be an anti-environment chamber. If it is hot outside, you want it cool. If it is raining, you want it dry. If the humidity is high, you want the humidity to be low. Your house is designed to put you in that little perfect zone of 70-some degrees, low relative humidity, with appropriate airflow where we are all happy and safe. When that house is not functioning properly, those things can go wrong. Why do we care about the home environment and how it impacts health? Young children spend a lot of time in the home or in an indoor environment. It could be at school, in their home, or in other places up to 70 percent of their time. That is going to impact their health.

This is nothing new. An old quote from Florence Nightingale highlighted that we know there is a critical connection between the health of the humans and the health of the dwelling. For those of you who are history buffs and want to know, she was born in 1820 and died in 1910 at the age of 90. She was already talking about healthy homes, just in a little bit of a different capacity.

We have several vulnerable populations to adverse effects in the home. We have talked about children. They spend a lot of their time indoors. They eat and drink more than adults, proportionately. If I drink a six-ounce glass of water and a child does, that is not an equal

dose. When we say they drink more, it is not necessarily by volume, it is proportionately. We often tend to think about children as little, tiny adults. That is not the case. They behave very differently. They are still growing. They have rapidly dividing cells. They are susceptible to the impacts of things from the environment like chemicals. As one example, think about your breathing zone. When you are standing up or sitting in your chair, the air you are breathing is up here, but a small child that is one year old is going to be down on the floor. Their breathing zone is where the dust, dirt, contaminants, pesticides, and other things are. They are going to have a different route of exposure even though they may be in that same environment. We also know seniors are highly susceptible. They also spend quite a bit of time indoors. Seniors have a lot of issues related to breathing problems and chronic obstructive pulmonary disease (COPD), and falls are much more common. In the State of Nevada, we average almost 270 deaths per year from falls in the home for people over the age of 65, which is, for the most part, preventable if we do home interventions. We are also worried about overheating, especially in these very warm environments and climates. In the last presentation, you heard when an air conditioner is not functioning, you can have issues.

One of the things we do, as part of this National Healthy Homes Training Center we are a part of at UNLV, is try to get people to think about their house as a system. It is a system that interacts with these critical components in our environment. If you think of the house as a living system, it has a day it is born. That is its birthday. It is reported, and we have a day it is torn down, and it dies. We have air that comes in and air that goes out. It breathes. Equal amounts of air go in and out of the home. If you bring in clean air, that is a good thing. If you bring in bad air that contains radon or other contaminants or smoke or dust, like you talked about in the last presentation, that can impact health. Water coming in the home, we have lots of issues related to things like mold, asthma triggers, water leaks, and water coming in from floods or other natural events. How it interacts with the soil can be dust that is blown in, or this can be the soil the foundation is built on. It could be how the septic system operates. Last but not least, is fire. Thinking about how we heat and cool or cook in that home. If things burn and have a flame, they usually produce gasses, carbon monoxide and carbon dioxide, that need to be vented outside. When you start thinking about this house as a system that not only creates a healthy and happy environment for you, then we start to impact health in meaningful ways.

There are seven main principles. This is about a four-day course that we go through. I have about five minutes, so I am not going to run through all these and all the principles for each one. There are seven things we teach people to do in their homes. We implement these through all different agencies with all different partners through all different research projects. The seven things are to keep your house dry, free from leaks, free from water damage, free from foundation cracks and things like that because if water gets in the home, it will tend to deteriorate your paint, it will create avenues where pests can come in, and it leads to other problems. I joke, as a general rule, I have never seen a water leak get better. They always go from bad to worse, unless they are addressed. Keep your house clean, free of pests, free of dust, and free of other things. Keep the house pest free and keep appropriate airflow and ventilation that can move bad air, contaminated air, or air with combustive gasses out, and bring in fresh air to those residents. We know the impact of air in a home. If you are sitting there, and it is still, and you turn on your fans and you get air movement, the environment seems healthier and safer because it is. Keeping things safe from trips and falls is securing different things in the home that create trip and fall hazards which can be grab bars in bathrooms. Not spraying pesticides and maintain things when needed. These are the seven principles. We have entire lectures on that. We have trained people throughout the State of Nevada on these seven principles. I want to highlight a few of these and how they impact Nevada. At the end, I will talk about some of the ongoing projects we have that continue to address these.

You may not always think about hazards in the home that are related to asthma or asthma triggers, but there are house dust mites. If you have dust, you probably have house dust mites. There is also dander from cats, dogs, cockroaches, mice, tobacco smoke, and mold. All that can trigger asthma in children. There are many children that end up in emergency rooms (ERs) for asthma attacks. These result in days of missed work for their family—they have to stay home—and that can result in resource allocation issues. If they continue to hit the ER over and over, the hospitals do not get reimbursed because they come back for the same problem the ER was supposed to address. We have started innovative programs working with ERs identifying children that have multiple asthma triggers over the course of a year and doing a home investigation and then giving them an intervention to reduce the asthma triggers at the source of the problem. It could be something to clean your house. It could be a kennel for your dog to sleep in at night, so it does not create an asthma trigger. There are creative ways to increase the health of the occupants.

If we have moisture in our indoor environment, that is associated with nose and throat irritation, coughing, wheezing, asthma, pneumonia, COPD, and other preventable diseases if that house was kept dry and maintained. There is an overwhelming amount of literature that demonstrates damp environments in the home are not conducive to good health.

Some of the big ones we have spent a lot of time on over the last few years have been lead and lead-based paint. Homes built prior to 1978, which is roughly 25 percent of the housing stock in Nevada, may contain lead-based paint. We have low testing rates for lead-based paint, and we have low testing rates in children to evaluate their elevated blood lead levels, which is part of required screening for Medicare and Medicaid. Lead can cause permanent reductions to intelligence quotient (IQ) scores that are nonreversible if not caught and removed from that source early. Radon is a naturally occurring gas. We have about nine counties in Nevada that exceed a lot of the EPA's standards for radon. Quite a few of those are in the north. How can we mitigate radon gasses from the home? If left untreated, those can accumulate in the home and are related to lung cancer or outcomes related to health.

It is hot, and we are not thinking about heat today, other than how hot it is outside, but it does get cold, especially in the north. Folks tend to heat their houses in unique ways, especially when their air conditioner/heater is not working properly. They may heat with furnaces. They may heat with candles. They may open their ovens or stoves to get heat in the house, which can produce carbon monoxide or carbon dioxide. We see 10 to 15 deaths every year in the State of Nevada for carbon monoxide poisoning from people trying to heat their homes in alternative ways.

One of the last ones I want to talk about are the preventable hazards in the home like falls, poisoning, fires, and burns. We work closely with our nonprofits like Rebuilding Together Southern Nevada. We have initiatives where we go into the home and do renovation and remodeling for critical repairs. We can do health assessments. We can do comfort height toilets and grab bars in hallways. We can remove unsecured or unstable flooring to prevent falls from happening. Falls are expensive. About 80 percent of people that fall in the home over the age of 65 will fall again within a year. They go to the hospital, they go to rehab, they go home into the exact same environment where they fell, and they fall again. We are trying to get in that loop to stop that recurring fall in the exact same environment because we just did not fix it.

It is a tricky situation to go in and talk to people about things in their home that are not conducive to health. If it is dirty, if it is cluttered, if they are a hoarder, if there are water

leaks, or sewage problems, we have to get creative with the way we communicate through all the different agencies and partners to improve the quality of life within these homes.

At the end of this, we want to know who can help, and what do we do? We are a National Healthy Homes Training Center. We have taught thousands of people across the State of Nevada these seven "keep it" principles, everything from health care, code enforcement, nonprofits, and hospitals have taken these courses. They can do this work in the community as part of one of our many efforts. How many of you have had a water leak, someone trip and fall, a broken heater, air conditioner, you have sprayed pesticides, or had a bug in your house in the last year? If the answer to any of those is yes, there is one of those seven "keep its" that could be applied to that situation to improve it. We have ongoing projects. We do programs like safe sleep programs in the hospitals. Do not put things in cribs and remove strangulation hazards. We do that with Sunrise [Hospital and Medical Center] and University Medical Center (UMC). We run a landlord tenant hotline, so tenants can call in and try to address health issues when the landlord is not addressing things in the home. It could be bedbugs, cockroaches, or other things, and we try to get them through legal counsel or the health district to improve that. Similarly, we can have landlords help kick people out who are causing those problems. It works both ways. We have run the Childhood Lead Poisoning Prevention Program for the last 15 or so years in collaboration with the health district and a wonderful partnership with the Nevada State Health Division. Our screening rates remain low. We are not testing houses; we are testing kids. That is completely backwards. We should not be using kids as bio indicators to find the lead-based paint in the home. We need to be testing the homes and reducing the amount that is in the kids. We have had funding for years on that. We have several asthma projects, which I discussed, and the trip and fall projects. We are also an EPA training center. We train all the lead risk assessors that go into homes when children have elevated blood lead levels, about 3.5 micrograms per deciliter (mcg/dL) or higher.

What can you do to help as Legislators? The recurring problem we have is funding. We have to write grants. They run on three-year cycles. We have a great start, and then we run out of money at the end of it. I would love to see if there are creative ways, like other states have done, to institute a way to collect fees. California, for example, has a fee they do for any pre-1978 home that is renovated or remodeled. That goes back to support healthy homes and lead programs, so they have a sustainable source of money for the state. It is a relatively small fee, but it generates quite a bit of money because there are a lot of homes. I think that would be a unique thing to do. We could get creative with things like Medicare and Medicaid reimbursement. There are states that will reimburse people to replace windows in their homes, remove lead-based paint, or remove asthma triggers that are part of their permanent structures. It can be reimbursable on Medicare and Medicaid to get upstream and prevent these people from using the same health resources over and over. Last but not least, we have tried in the past to talk about a grading system for rental properties, much like we do when you go into a restaurant, and they have an A, B, C, or D grade. We would have them evaluate those homes on the Healthy Homes principles. Are they doing all the "keep its"? They would get an A, B, C, or D rating, and they could use that as a revenue stream to make sure the housing is safe. The landlords are responsible, and when they advertise, they could advertise that this is a healthy home. Those are creative solutions perhaps you, as Legislators, could entertain. That is the end of my presentation. I am happy to take any questions.

Chair Doñate:

Thank you. Chair Harris had to catch a flight, so I am going to chair the rest of this meeting. Committee Members, do we have any questions? I have a few, so I will start. You

mentioned the programs you have through the Healthy Homes Program and initiative in the School of Public Health. It is my understanding a lot of it is based on federal grants. How much do you receive in federal grants for this program? I assume they receive zero funds from State dollars, correct?

Dr. Gerstenberger:

There are three or four pots of money the CDC has. They do the Childhood Lead Poisoning Prevention Program. We receive those funds. I think that is about a million dollars for a three- or four-year grant. We have several technical studies grants that are wrapping up from HUD. Those were around \$700,000. We have had two projects, one in the City of Henderson and another one we launched with the City of Las Vegas to remove lead-based paint and do Healthy Homes. Those were around a million dollars apiece. We have other smaller asthma projects for around \$50,000. We have a few funds right now through American Rescue Plan Act (ARPA) dollars to expand testing for kids throughout the State. There is a portable device called the LeadCare II. You do a little finger prick, so you can do a blood test. We have trained people at Central Nevada Health District, Northern Nevada Health District, and across the State. We got them those devices, so we can test more children for lead across the State. I could go on, but I will stop there. That is probably more than you wanted.

Chair Doñate:

In terms of the City of Las Vegas program, you were going into homes to help renovate them if they had lead-based paint. Was it specifically for lead? For instance, it was not asbestos or any other product in the home?

Dr. Gerstenberger:

Since it is under HUD, it was a lead-based paint program. In Henderson, we did complete the project. We had 100 homes with lead-based paint, but then we did all those other things I mentioned when we were in there: trip and fall hazards; electrical hazards; fixed roofs; sealed for pests; and we did complete that. That started with the City of Las Vegas during COVID-19. It had a few bumps in the road and some false starts, but that program is still ongoing at the City of Las Vegas.

Chair Doñate:

Do you expect that funding to run out at some point? Is it grant based, or was the program renewed?

Dr. Gerstenberger:

Those are all grant based. Those are usually three-year grants. Within a year or two, most of our funding is running out on those within the next year or less. The lead one we got renewed, so we have several years on that. The health districts have been great partners, but I think without a revenue stream to have people that work in lead and Healthy Homes and create an office for that, it is hard for them to justify those positions. We do not test a lot of kids, so we do not have a lot of lead poisoning cases, so it is a strange cycle.

Chair Doñate:

In terms of Medicaid reimbursement, have you seen states introduce a state plan-based amendment, or is it already reimbursable through Centers for Medicare and Medicaid Services (CMS)? How do we tie that?

Dr. Gerstenberger:

The only thing through CMS through the early prevention, screening, and diagnostic testing is the test for lead in children under the age of six. That is already reimbursable. You would have to do a state-based amendment to do things like go into a home and replace the window or remove lead-based paint or address an asthma trigger. New Hampshire and a couple other states have done that through state-based initiatives. They are unique, and they are innovative, but I think those are creative ways to look at solving the health problems.

Chair Doñate:

If you could send us the language on that, that would be something we would definitely entertain. Senator Titus.

Senator Titus:

You mentioned things happening in Clark County and things happening in Washoe County. I did not hear you say anything you have offered, if anything, in the rural counties or maybe our tribal partners. Is there anything there?

Dr. Gerstenberger:

We certainly have worked with the rural counties as well. A lot of those, as you know, go through one of the health districts. Back when the program started, those other health districts did not exist. Some of those are still new, so there was the north and the south. Now, we have Central and the other health districts on board. We have trained personnel through our EPA training programs to be lead risk assessors. They can go in and address elevated blood lead levels in the home and do what we call an environmental investigation where we find the source of the lead in the home and remove it. We have about nine folks trained across the State to address those rural areas. We have offered those trainings. I have done trainings in Ely and Reno. We have done them down here, and we have done a few online trainings as well to try and address those rural areas. We have done a little bit with the tribal communities, but there are a few different rules and regulations there that complicate that sometimes.

Senator Titus:

I live in a home that was built in 1912, and I trap mice and squirrels daily. It is not something we are going to eliminate in my rural community. To be clear, as a physician and for people to know, lead does not jump off and get into your system. You have to ingest it or somehow eat the lead paint. I do not want anybody out there in my rural communities that live in homes that were built a long time ago to think it is an issue. We certainly do not want lead paint, but at the same time, it also has to have an access to you.

Dr. Gerstenberger:

We have tried to be preventative with that. We completed a project a few years ago where we addressed every licensed daycare facility in Clark County. We did a full lead inspection, we tested water, and we made sure there was no lead in those facilities or in that drinking water. This was long before Flint, Michigan happened. We were doing all of this from a preventative strategy. Those older homes, especially when they deteriorate and get wet, is when we see the paint deteriorate, and we get a lot of exposures from flood-based paint in older homes.

Senator Titus:

Thank you for that clarification.

Chair Doñate:

Are there any other questions? Dean Gerstenberger, I wanted to thank you for the State proposals you mentioned. I had the chance to review it before this meeting. There is quite a wide range of policy initiatives. Some states do tax abatements for seniors and low-income households that might not be able to afford the conversions of their homes or to at least renovate them with the substances you mentioned as part of your presentation. There are certain cities that do low-cost loan programs/grant programs to help renovate homes. These are the conversations we need to have ahead of next session. I will take you up on the Medicaid portion of it. Anything we can do to maximize Medicaid, I am always fully supportive.

Vice Chair Orentlicher:

I also appreciate you bringing up the creative policies in other jurisdictions and your offer to share examples of the states that are doing Medicaid reimbursement. When you share that, if you could share examples of the other policies you mentioned that other jurisdictions are doing, so we have some templates to work from, that would be great.

Dr. Gerstenberger:

Absolutely. I am glad you had a chance to look at that, and there is interest there. It can impact a lot of folks for sure.

Chair Doñate:

I do not think we have any other questions. Thank you, and we welcome your faculty recommendations on how to improve the built environment, which was the theme of today's meeting. We will now close this item.

AGENDA ITEM X—PUBLIC COMMENT

Chair Doñate:

We will move on to public comment. Public comment will be limited to two minutes. We will begin in Carson City for anyone interested. I am seeing none. Broadcast and Production Services, is there anyone virtually looking to provide public comment at this time?

Kendra Edwards, Government Relations Director, American Heart Association (AHA):

Hello, everyone. I just wanted to let you know the AHA has been a really strong supporter of the Complete Streets Policy, advocating for creation of livable communities that provide equity, safety, and public health while reducing transportation costs and traffic congestion. This is a priority for the AHA to assist each city in adopting a comprehensive complete policy. That was all I wanted to add. Thank you.

BPS:

Chair, you have no more callers wishing to participate at this time.

Chair Doñate:

We will close public comment. I want to thank our Committee Members for attending today and of course, Chair Harris for agreeing to do this joint Committee meeting. Our following meetings for both Committees will be work sessions. We encourage folks to reach out to us as we work diligently through this process.

AGENDA ITEM XI—ADJOURNMENT

There being no further business to come before the Committees, the meeting was adjourned at 2:09 p.m.

Respectfully submitted,

Julianne King
Assistant Manager of Research Policy
Assistants

Kristin Rossiter
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Principal Policy Analyst

APPROVED BY:

Senator Dallas Harris, Chair
Joint Interim Standing Committee on Growth and Infrastructure

APPROVED BY:

Senator Fabian Doñate, Chair
Joint Interim Standing Committee on Health and Human Services

Date: _____

MEETING MATERIALS

AGENDA ITEM	PRESENTER/ENTITY	DESCRIPTION
Agenda Item II	Leann McAllister, Executive Director, Nevada Chapter of the American Academy of Pediatrics	Written Public Comment
Agenda Item III	Allison Beas, Regional Program Manager, National Highway Traffic Safety Administration, United States Department of Transportation	PowerPoint Presentation Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us
Agenda Item IV	Amy Davey, Administrator, Office of Traffic Safety, Department of Public Safety (DPS) Lacey Tisler, Chief Traffic Safety Engineer, Nevada's Department of Transportation (NDOT) Julia Peek, Deputy Administrator, Nevada Division of Public and Behavioral Health, Department of Health and Human Services	PowerPoint Presentation Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us
Agenda Item V	Rebecca Kapuler, Assistant Director, Planning, NDOT Lacey Tisler, Chief Traffic Safety Engineer, NDOT	PowerPoint Presentation Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us

AGENDA ITEM	PRESENTER/ENTITY	DESCRIPTION
<u>Agenda Item VI A</u>	<p>Paul Nelson, Government Affairs Officer, Regional Transportation Commission (RTC) of Washoe County</p> <p>Dale Keller, Deputy Executive Director, RTC of Washoe County</p>	<p>PowerPoint Presentation</p> <p>Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us</p>
<u>Agenda Item VI B</u>	<p>Andrew Kjellman, Senior Director, Metropolitan Planning Organization, RTC of Southern Nevada</p>	<p>PowerPoint Presentation</p> <p>Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us</p>
<u>Agenda Item VII</u>	<p>Chris Martinovich, Transportation Manager, Carson City Public Works; Manager, Carson Area Metropolitan Planning Organization</p> <p>Darren Anderson, Senior Project Manager, Carson City Public Works</p>	<p>PowerPoint Presentation</p> <p>Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us</p>
<u>Agenda Item VIII</u>	<p>Tamara Wall, Ph.D., Research Professor and Deputy, Desert Research Institute (DRI); Deputy Director, Western Regional Climate Center</p> <p>Ariel Choinard, Staff Research Scientist, Southern Nevada Heat Resilience Lab, DRI</p> <p>John Mejia, Ph.D., Associate Research Professor, Division of Atmospheric Sciences, DRI</p>	<p>PowerPoint Presentation</p> <p>Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us</p>

AGENDA ITEM	PRESENTER/ENTITY	DESCRIPTION
Agenda Item IX	Shawn Gerstenberger, Ph.D., Dean, Director, School of Public Health, University of Nevada, Las Vegas	PowerPoint Presentation Due to copyright issues, the handout is on file in the Research Library of the Legislative Counsel Bureau, Carson City, Nevada. For copies, contact the Library at (775) 684-6827 or email to: Library@lcb.state.nv.us

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