NEW MEXICO DEPARTMENT OF TRANSPORTATION

PEDESTRIAN SAFETY PLAN

PED SAFETY ACTION PLAN
NMDOT

DRAFT

APRIL 2021

alta

Bohannan Huston

groundworkstudio

NMDOT

We Remember

Your memory inspires us to take serious action.

Traffic Crash Victims

This Action Plan is dedicated to the victims of traffic violence in New Mexico—the daughters, sons, mothers, fathers, wives, husbands, siblings, and friends that have been killed in traffic, and to all those whose lives have been forever changed after a crash.

Karen Trujillo, Ph.D.

New Mexico lost a widely admired and respected educator on February 25, 2021 when Dr. Karen Trujillo died after being hit by a car while walking her dogs in Las Cruces. She was a dedicated mentor to students and advocate for student safety.

Executive Summary

What is the Plan's Vision?

The Pedestrian Safety Action Plan provides a five-year framework of actions to reduce the number of pedestrian-involved injuries and fatalities in New Mexico.

The Current State of Pedestrian Safety in New Mexico

Since 2012, the National Highway Traffic Safety Administration (NHTSA) has ranked New Mexico in the top four states nationwide with the highest rates of pedestrian fatalities per 100,000 population.[1] For four years, New Mexico had the highest rates, including in 2018 with almost four pedestrian fatalities per 100,000 population.

Table 1. New Mexico's Ranking of State Pedestrian Fatality Rates

Year	Nationwide Ranking
2012	2nd – 2.92 pedestrian fatality rate per 100,000 population
2013	4th – 2.34 pedestrian fatality rate per 100,000 population
2014	1st – 3.59 pedestrian fatality rate per 100,000 population
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2018	1st – 3.96 pedestrian fatality rate per 100,000 population

Source: NHTSA. "2018 Ranking of State Pedestrian Fatality Rate"

As part of the NMDOT Pedestrian Safety Action Plan (PSAP), the crash data from all **3,903 pedestrian-involved crashes** between 2012-2018 were reviewed to understand where crashes happen in the state (Figure 1), and the circumstances of the crashes, as reported in law enforcement crash reports (Figure 2).

[1] NHTSA. "2018 Ranking of State Pedestrian Fatality Rate" https://www-fars.nhtsa.dot.gov/States/StatesPedestrians.aspx

Figure 1. Pedestrian-Involved Crash Cluster Analysis

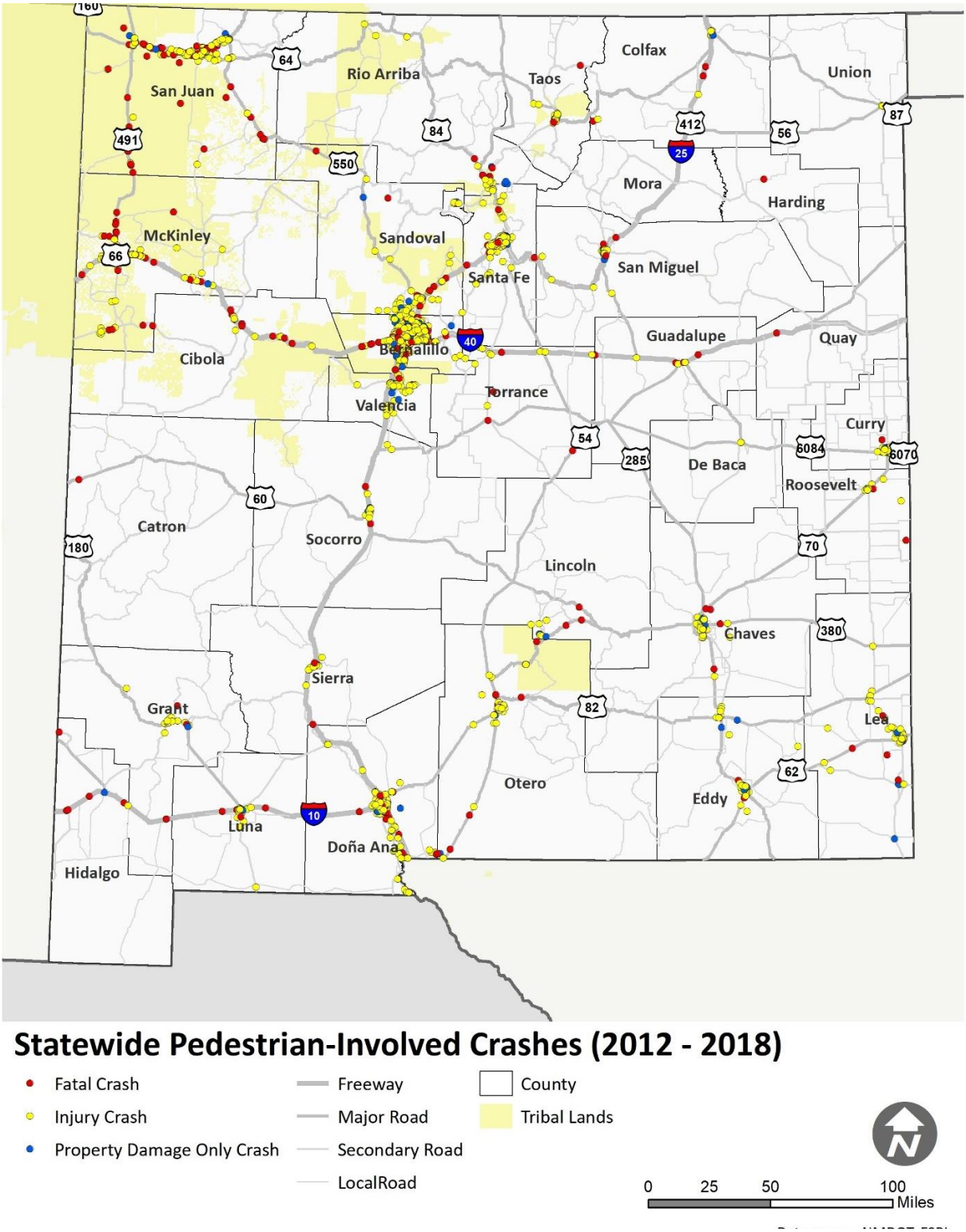
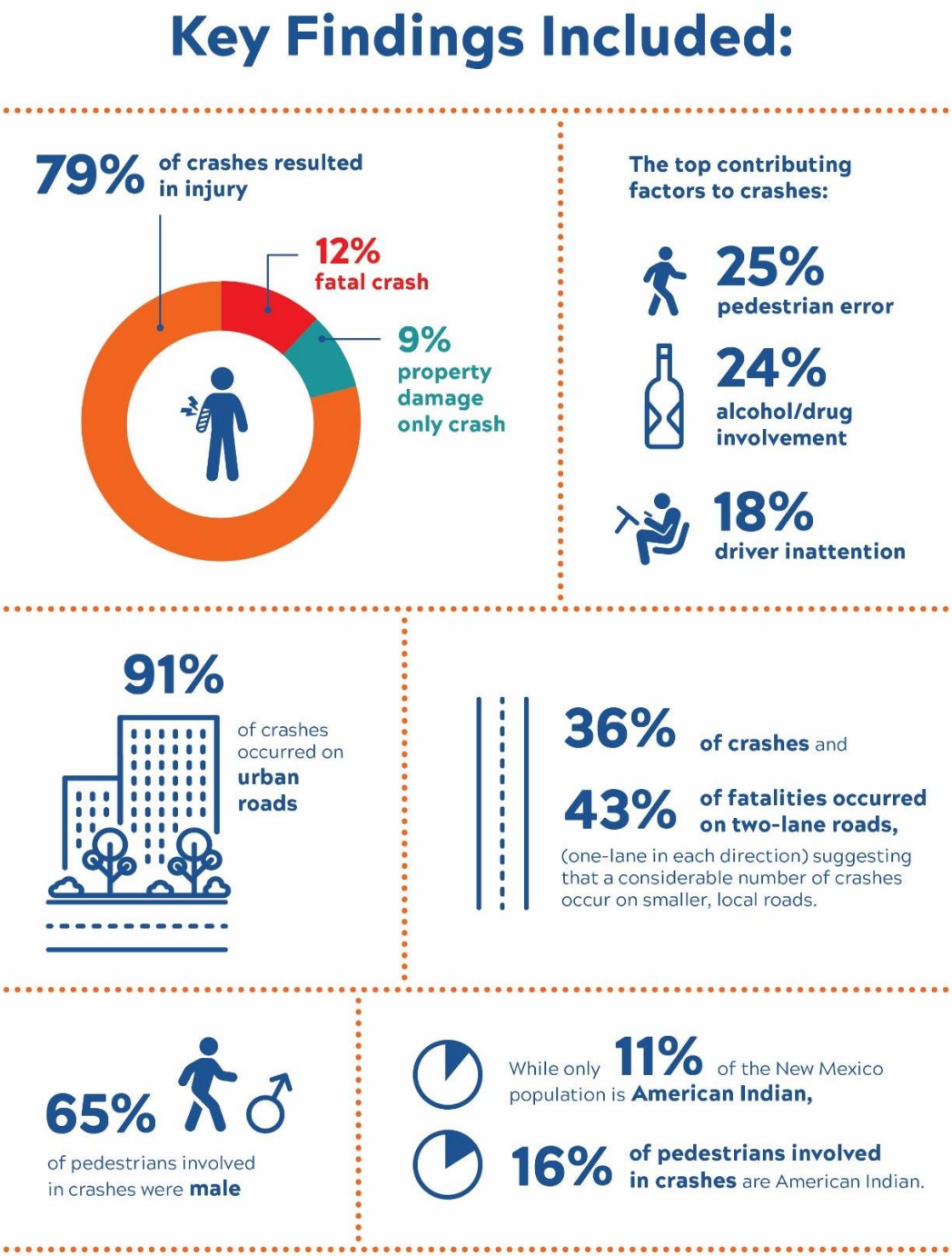


Figure 2. Pedestrian-Involved Crash Corridor and Cluster Infographic



Why This Plan?

The PSAP development process and the Plan itself serve many functions, including:

- Providing NMDOT, its partners, and key stakeholders with a more specific understanding of where pedestrian-involved crashes occur and why.
- Educating the general public throughout the state on the severity of New Mexico's pedestrian safety problem.
- Providing a concise framework of actions focused exclusively on pedestrian safety that NMDOT and partners can take to help reduce pedestrian injuries and fatalities.
- Providing a framework for tracking progress on actions, evaluating effectiveness, and reporting on plan implementation, as well as monitoring changes to the state's pedestrian injury and fatality rates.

A Complex Issue

Pedestrian safety is a multi-disciplinary issue, as there are a range of factors that contribute to the severity of pedestrian-involved crashes, including, but not limited to:

- Road design that does not consider or provide direct routes for pedestrians
- High vehicle operating speeds
- The visibility of pedestrians
- Driver and pedestrian awareness of traffic laws

The PSAP considers the role that New Mexico planners, engineers, educators, law enforcement officers, and law-makers all have in proactively improving pedestrian safety. Further, the PSAP brings together multiple viewpoints and roles in pedestrian safety to address these factors.

Through a comprehensive review of existing conditions and stakeholder engagement, the PSAP recommends actions that direct multiple disciplines to work together to improve pedestrian safety conditions in New Mexico.

Collaboration Will Be Key

The majority of actions in the PSAP are the responsibility of the NMDOT and impact roads owned and maintained by NMDOT. However, many pedestrian-involved injuries and fatalities occur on non-NMDOT roads. Thus, while the intent of the PSAP is to address and reverse the trends identified in Table 1, the issues and solutions go beyond NMDOT's control. Partnerships with and actions by regions, local communities, and agencies throughout the state are necessary in order to fully and successfully address the issues.

What's in the Plan?

Chapter 1 - What is the Need?

This chapter summarizes the state of pedestrian safety nationwide and in New Mexico, as well as the many benefits of walking. The chapter also highlights positive actions that peer DOTs around the US are taking to improve pedestrian safety and identifies the Plan's vision of reducing pedestrian fatalities.

Chapter 2 - A Framework for Action

A primary intent of this plan is to build from and advance NMDOT's existing guidance and procedures related to pedestrian safety, as well as adding more specificity and direction. The recommended actions in this chapter are organized by topic area. Each includes guidance on the responsible parties for implementation, supporting partners, and a timeline for implementation. The topic areas and actions that fall under them are listed below. Additional details for all actions are provided in Chapter 2.

Data, Analysis, and Evaluation

- Update the Uniform Crash Report form to ensure consistency with NHTSA guidance and usability for law enforcement officers to accurately capture information on pedestrian-involved crashes
- Research and purchase pedestrian count tools (short-term and permanent counters)
- Research and develop a methodology for determining current and future pedestrian volumes, as well as latent demand
- Consider pedestrian-involved crash data and equity in project prioritization
- Develop an annual report on the status of the Pedestrian Safety Action Plan
- Develop a survey to assess the state of pedestrian safety near the end of the five-year implementation period
- Collect pedestrian infrastructure data as part of the next Pavement Management Bureau data collection effort

Driver Education

- Continue to develop and lead statewide travel safety campaigns, and conduct periodic program evaluation to measure effectiveness
- Continue to support public information campaigns to reduce alcohol- and drug-impaired driving, and conduct periodic program evaluation to measure effectiveness
- Expand driver education curriculum with renewed focus on pedestrian vulnerability and safety; support the New Mexico Motor Vehicle Division (MVD) to integrate related questions onto the New Mexico written driver's test

Pedestrian Outreach Program

- Establish a program to continually gain feedback from all user groups on their experience with the transportation system, especially seeking input from disadvantaged or vulnerable communities
- Support potential Department of Health (DOH) statewide encouragement campaigns that promote walking for health and overall wellness

Highway and Traffic Engineering

- Improve project scoping, review, and approval to better account for pedestrian access and safety
- Ensure future updates to existing NMDOT manuals align with national best practices in planning and design, as captured in the 2020 *Design Manual*
- Develop and initiate an annual training program for NMDOT staff and key partners working on pedestrian safety
- Identify 10 locations for installation of Pedestrian Hybrid Beacon (PHB) signals on state roads; complete installation
- Install leading pedestrian intervals (LPIs) at 10 select intersections
- Use inventory of pedestrian infrastructure to identify locations for pedestrian safety countermeasure installations
- Develop a countermeasure quick-build guide

- Identify approaches and document methods for improving safety at various stages in roadway lifecycles and functions
- Review and use technology to increase pedestrian safety on the state-owned/maintained system (subject to NMDOT Secretary and Transportation Commission approval)

Law Enforcement and Emergency Services

- Annually distribute a survey seeking feedback on the Uniform Crash Report (UCR) form and integrate feedback into the next comprehensive UCR update
- Continue to conduct trainings on the UCR
- Targeted education or enforcement

Communication

- Develop a media toolkit for Public Information Officers (PIOs) and media outlets to use when describing crashes
- Make communications accessible to as many people as possible
- Continue NMDOT's commitment to being a steward of public safety through key planning documents

Planning and Legislation

- Adopt a statewide Toward Zero Deaths vision
- Integrate Traffic Safety Culture in Strategic Highway Safety Plan (SHSP) and Highway Safety Plan updates (process and plan)
- Integrate Complete Streets into NMDOT Practices, Policies, and Plans (SHSP, Long Range Statewide Transportation Plan)
- Create a Pedestrian Safety Task Force to lead implementation, tracking, reporting on progress of the PSAP
- Revisit speed limit setting policies and speed limit design tables
- Develop or support a Tribal/Local Public Agency (T/LPA) Pedestrian Safety Technical Assistance Program for tribal nations and local governmental agencies
- Explore the possibility of dedicated HSIP funding for pedestrian improvements
- Support New Mexico Legislative Actions that improve pedestrian safety
- Support federal regulatory actions that improve pedestrian safety
- Deploy an internal NMDOT survey about pedestrian safety practices and staff training needs every other year

Chapter 3 – Existing Conditions

This chapter summarizes the results of an existing conditions analysis, including a thorough review of all pedestrian-involved crashes in the state between 2012-2018, that was completed to support development of recommended actions. The purpose was to understand and document where pedestrian-involved crashes occur and what the most frequent causes are, according to the crash reports. The chapter also summarizes key provisions from relevant NMDOT planning documents (e.g., Strategic Highway Safety Plan) and highlights actions that some peer DOTs nationwide are taking to improve pedestrian safety both through PSAPs and other planning and procedural efforts.

Chapter 4 – Public Outreach

This chapter summarizes the results of the Public Outreach Plan that the project team implemented. The recommended actions in Chapter 2 are heavily based on the inputs received from a variety of audiences, including NMDOT staff, Tribal representatives, agency partners, transportation-sector stakeholders, members of the general

public, and others. The input received from these parties was critical in identifying key issues and constraints contributing to the pedestrian fatality trend and opportunities or methods for reversing the trend.

What Comes Next?

In early 2021, the Draft PSAP will be made available for a 45-day public review period. Following this, the project team will consider comments received and then produce a final version of the PSAP that will be presented to the NMDOT Secretary for consideration and adoption. The NMDOT Secretary and project managers may present the final PSAP to the State Transportation Commission for informational purposes.

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Chapter 1 – What is the Need? – DRAFT

Why Pedestrian Safety?

Walking is one of the most basic and accessible forms of mobility and transportation for everyday transport (this includes people using mobility assistance devices such as wheelchairs). Most people are pedestrians at some point in their day-to-day lives, whether they walk to school or work, walk a dog, or walk from a parking spot to their destination.

Yet, throughout the US, conditions for pedestrians are becoming more dangerous–not safer and more accessible. Notably, based on preliminary data, the Governors Highway Safety Association anticipated that 2019 had the highest number of pedestrian fatalities in more than 30 years with **6,590 pedestrian fatalities**.[2] Between 2009-2018, pedestrian fatalities increased by 53% nationwide, while all other traffic deaths only increased by 2%. In terms of pedestrian injuries, 2.7 million people were injured in 2018.[3]

New Mexico is experiencing comparable trends. In the past decade, New Mexico had one of the highest rates of pedestrian deaths per resident population in the US, with almost four pedestrian fatalities per 100,000 population in 2018.[4] In fact, as shown in Table 1, between 2012-2018, New Mexico was in the top four states in terms of pedestrian fatality rate per 100,000 population.[5]

[2] Governors Highway Safety Association. "Pedestrian Traffic Fatalities by State, 2019 Preliminary Data." 2020. https://www.ghsa.org/sites/default/files/2020-02/GHSA-Pedestrian-Spotlight-FINAL-rev2.pdf
[3] NHTSA. "Traffic Safety Facts: 2018 Data" March 2020. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812850
[4] Ibid.
[5] NHTSA. "2018 Ranking of State Pedestrian Fatality Rate" https://www-fars.nhtsa.dot.gov/States/StatesPedestrians.aspx

Table 2. New Mexico's Ranking of State Pedestrian Fatality Rates

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Source: NHTSA. "2018 Ranking of State Pedestrian Fatality Rate"

Demographic data for New Mexico underscores the significance of this trend and the need to address it. Children (under age 18) and seniors (over age 65) make up 23% and 18% of New Mexico's population respectively[6] and, combined make up over 40% of the state's population, which is above average among US states. People in these age cohorts are often more reliant on walking as they cannot drive because of age or may have a disability that prohibits them from driving. Furthermore, with one of the highest rates of disadvantaged populace in the US, 18% of New Mexico residents are considered to be in poverty[7], may not be able to financially afford owning a private motor vehicle[8], and may rely upon other forms of mobility, such as walking, bicycling, or transit. Additionally, some residents choose to live without or with limited car use and prefer active or non-motorized modes for most of their trips.

Committed to the provision of a safe, multimodal transportation system, NMDOT developed several guidelines and policies over the past 10 years to help address the issues of pedestrian access and safety. These are further described in **Chapter 2**. However, to date, NMDOT has not developed an action plan to specifically and exclusively address pedestrian safety on the NMDOT roadway network with the sole intent of reversing the recent injury and fatality trends. The intent of this Pedestrian Safety Action Plan (PSAP) is to more fully understand what's causing the trends and set forth a framework of achievable actions to reverse them in the years ahead.

[6] United States Census Bureau. "New Mexico Quick Facts." 2019. www.census.gov/quickfacts/NM
[7] United States Census Bureau. "New Mexico Quick Facts." 2019. www.census.gov/quickfacts/NM
[8] AAA estimates that owning and operating an average sedan costs $8,558 per year which is 18% of the median household income in New Mexico.

What Are the Benefits of Walking?

Compared to motorized travel, walking is a healthy, non-polluting, low-cost, and quiet form of transportation that is an ideal option for many trips. As summarized below, many studies and data show cross-sector benefits associated with walking and built environments that are pedestrian-friendly. While the studies are not specific to New Mexico or its state roads, the outcomes are still relevant and underscore that transportation systems that are more accessible and safer for pedestrians serve to benefit New Mexico and its communities in a variety of ways.

Health and Safety Benefits

- **Walking is a primary way for adults and children to meet physical activity recommendations** and plays an important role in improving health-related quality of life and reducing health care costs.[9]
- **More walking and less driving leads to healthier people.** Replacing sedentary time spent sitting in a car with walking leads to health benefits. More time spent in a motor vehicle is associated with increased weight and chronic diseases related to obesity, like cardiovascular disease, hypertension, and type 2 diabetes.[10] as well as increased stress.[11] According to the Centers for Disease Control and Prevention (CDC), physical activity could prevent 1 in 10 premature deaths, 1 in 12 cases of diabetes and 1 in 15 cases of heart disease. Further, $117 billion in annual health care costs (nationally) are linked with inadequate physical activity.[12]
- **Less driving means fewer injuries.** A 30% reduction in traffic volumes reduces the total number of injured pedestrians by 35% and the average risk of pedestrian collision by 50%.[13]
- **Walking instead of driving improves air quality.** Fossil fuel-powered cars emit carbon dioxide, nitrous oxide, sulfur oxide, and other gases associated with asthma attacks and cardiovascular disease. Fetuses, newborns, children, and people with chronic illnesses are especially vulnerable to air pollution.[14]
- **Designing transportation networks to promote walking results in community-wide health gains.** Communities that are designed to promote walking, bicycling, and transit see greater health gains than those that are dependent on cars.[15] Pedestrian facilities connect people to schools, jobs, recreation, goods, and services.[16] People who live in walkable neighborhoods tend to be familiar with their surroundings, engaged in their community, and walk more for day-to-day activities such as trips to the local store or errands.[17]

[9] Centers for Disease Control and Prevention. "More people walk to better health. Vital Signs." August 2012. http://www.cdc.gov/vitalsigns/walking/

[10] McCormack GR, Virk JS. "Driving towards obesity: A systematized literature review on the association between motor vehicle travel time and distance and weight status in adults." Prev Med, 66 49-55. 2014.

[11] Martin A, Goryakin Y, Suhrcke M. "Does active commuting improve psychological wellbeing? Longitudinal evidence from eighteen waves of the British Household Panel Survey." Prev Med, 69 296-303. 2014.

[12] Centers for Disease Control and Prevention. "Physical activity builds a health and strong America." 2019. https://www.cdc.gov/physicalactivity/about-physical-activity/pdfs/healthy-strong-america-201902_508.pdf

[13] Miranda-Moreno LF, Morency P, El-Geneidy AM. "The link between built environment, pedestrian activity and pedestrian-vehicle collision occurrence at signalized intersections." Accid Anal Prev, 43 (5)1624-34. 2011.

[14] US Department of Health and Human Services. "Physical Activity Guidelines for Americans, 2nd ed." 2018.
World Health Organization. "How air pollution is destroying our health." N.d.

[15] Stevenson M, Thomson J, Herick de Sa T, Ewing R, Mohan D, McClure R, et al. "Land-use, transport and population health: Estimating the health benefits of compact cities." Lancet, 388 (10062)2925-35. 2016.

[16] Ross CE, Mirowsky J. "Neighborhood socioeconomic status and health: Context or composition?" City and Community. 7: 163-179. 2008.

[17] Minnesota Department of Transportation. Minnesota Walks. December 2016. http://www.dot.state.mn.us/peds/documents/planning-research/minnesota-walks-2017-final.pdf

Economic Benefits

- **Reducing motor vehicle dependency benefits family budgets**. Living in a walkable community can allow families to live with limited motor vehicle use. The average cost to own and operate one motor vehicle is $8,500 per year, which is a significant percentage of income for many New Mexico households.[18] Rural households are especially cost-burdened: they earn less than urban families, but own more motor vehicles, and spend 19% more on gasoline and motor vehicle upkeep.[19]
- **Reducing motor vehicle dependency benefits community bottom lines.** Walkable communities developed according to smart growth principles are more efficient and cheaper to administer.[20] Walkable neighborhoods generate far greater tax revenue per square foot than all other types of development.[21]
- **Walking is essential for accessing employment.** In New Mexico, 2% of commuters--about 18,000 people--reported walking to work as their primary mode of transportation.[22] An additional 1.2% of commuters (about 10,000 people) reported taking transit to work as their primary mode of transportation.[23] People who use transit typically walk at some point on their journey.[24] Considering both commuters who primarily walk and commuters who take transit, about 28,000 New Mexicans rely on walking to get to work. Furthermore, almost 6% of households do not own a motor vehicle.[25] Presumably, some or all members of these households rely on walking as their primary means of transportation, whether it be for trips to work or other purposes.

Community and Environmental Benefits

- **Walkable communities are more equitable.** Many New Mexicans rely on walking and cannot drive due to age, disability, immigration status, poverty, and other factors. Enhancing safety for people walking helps create more equitable communities by making walking a safe and viable transportation option.
- **Accessible facilities improve mobility for all**. Accommodating people with disabilities, per the Americans with Disabilities Act (ADA) regulations, improves access and supports mobility for people with disabilities and people who use mobility devices.
- **Walking is key to securing a lower-carbon future.** Transportation is the second biggest source of greenhouse gas emissions in New Mexico.[26] States and local governments can encourage walking as an alternative to using vehicles that contribute to those emissions by building sidewalks, improving crossings, lowering speed limits, expanding transit service, and creating incentives for active modes.[27]
- **Less driving and slower speeds mean less noise.** High-volume roadways generate high levels of noise, negatively impacting psychological well-being and physical health by increasing blood pressure.[28]

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[18] AAA. "Your driving costs." 2017. https://www.aaa.com/autorepair/articles/what-does-it-cost-to-own-and-operate-a-car

[19] Bureau of Labor Statistics. "Expenditures of urban and rural households in 2011." Beyond the Numbers, 2(5). February 2013. https://www.bls.gov/opub/btn/volume-2/expenditures-of-urban-and-rural-households-in-2011.htm

[20] National Association of Realtors. "Smart Growth Program. Smart Growth in the 21st Century Class." N.d. https://www.nar.realtor/smart-growth/smart-growth-program/smart-growth-in-the-21st-century-class

[21] Smart Growth America. "Building Better Budgets." https://smartgrowthamerica.org/resources/building-better-budgets-a-national-examination-of-the-fiscal-benefits-of-smart-growth-development/

[22] US Census Bureau. "2013-2017 American Community Survey 5-Year Estimates."

[23] US Census Bureau. "2013-2017 American Community Survey 5-Year Estimates."

[24] US Department of Transportation. "Active Transportation." N.d. https://www.transportation.gov/mission/health/active-transportation

[25] US Census Bureau. "2013-2017 American Community Survey 5-Year Estimates."

[26] New Mexico Environment Department. "Inventory of New Mexico Greenhous Gas Emissions: 2000-2013." December 2016. https://www.env.nm.gov/wp-content/uploads/sites/2/2017/01/NM_GHGInventory_2013_Update.pdf

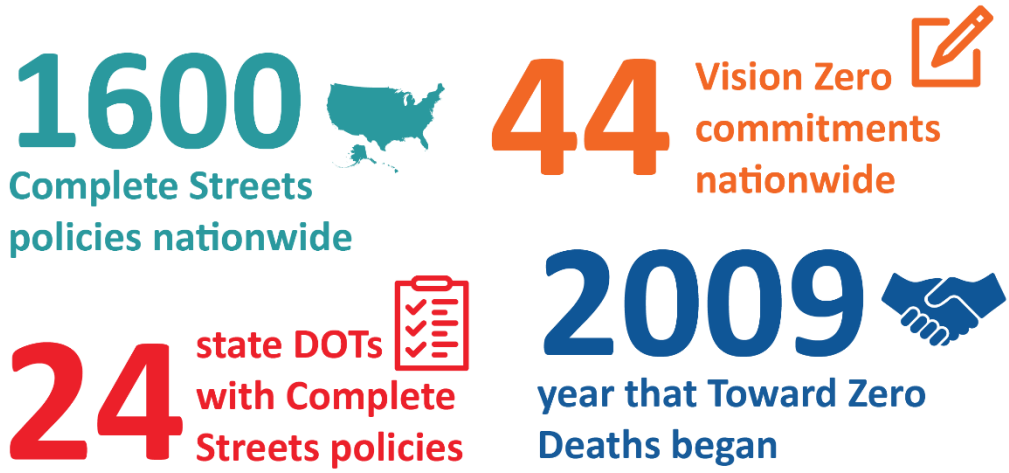
[27] Intergovernmental Panel on Climate Change. "Special Report on Global Warming 1.5°C." 2018.
Active Living Research. Moving Toward Active Transportation: How Policies Can Encourage Walking and Bicycling. January 2016. https://activelivingresearch.org/sites/default/files/ALR_Review_ActiveTransport_January2016.pdf

[28] Basner M, Babisch W, Davis A, Brink M, Clark C, Janssen S, et al. "Auditory and non-auditory effects of noise on health." Lancet, 383 (9925)1325-32. 2014.

What is Changing?

Throughout the US, actions being taken by city and county agencies as well as state DOTs show that they are increasingly aware that safe access for all users is critical to a successful multimodal transportation system. Agencies are adopting and implementing policies and programs, as well as building projects, to facilitate a safer experience for all modes, not just motorists.

Around the country, state DOTs are taking action to address pedestrian safety through PSAPs, Complete Streets policies, and Vision Zero or Toward Zero Deaths campaigns, in addition to transportation safety plans and other plans. These initiatives all work together to identify deficiencies and improve the safety of our transportation systems. According to Smart Growth America, 24 state DOTs (including Washington, D.C.) have a Complete Streets policy.[29] In this region, these include Colorado, Utah, Texas, Nevada, and California.



Vision Zero: a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.[30]

Toward Zero Deaths: a national strategy on highway safety to advocate for eliminating serious injuries and deaths on our nation's roadways.[31]

Complete Streets: streets designed and operated to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are traveling as drivers, pedestrians, bicyclists, or public transportation riders.[32]

Despite the trends previously discussed, New Mexico is making meaningful strides toward increasing pedestrian safety. In 2017, the New Mexico Senate and House passed memorials to support Complete Streets efforts. Senate Memorial 35 and House Memorial 26 contain identical language outlining the multiple cross-benefits of Complete Streets and increasing awareness among state officials on the benefits of those policies. In addition to state efforts, four Metropolitan Planning Organizations (MPOs) (Farmington MPO, Mid-Region MPO, Santa Fe MPO, and Mesilla

[29] Smart Growth America. "State-Level Complete Streets Policies." https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/policy-development/policy-atlas/

[30] Vision Zero Network. "What is Vision Zero?" https://visionzeronetwork.org/about/what-is-vision-zero/

[31] Toward Zero Deaths. "TZD National Strategy." https://www.towardzerodeaths.org/tzd-national-strategy/

[32] U.S. Department of Transportation. "Complete Streets." https://www.transportation.gov/mission/health/complete-streets

Valley MPO), two counties (Bernalillo and Doña Ana), and three cities (Albuquerque, Las Cruces, and Mesilla) in New Mexico have plans, guidelines, or resolutions to address the need for Complete Streets. In 2019, Albuquerque made a commitment, via Executive Order, toward Vision Zero, the first city to do so in the state.

What Will This Plan Accomplish?

NMDOT's investment in this PSAP builds on the positive momentum nationally and throughout the state. The purpose of the Plan is to establish a guiding, actionable framework to reduce the rate of pedestrian-related injuries and deaths on NMDOT roads. The Plan also sets forth a framework for tracking and reporting to help NMDOT assess whether it is on track or adjustments are needed to achieve the goals. While the recommended actions are primarily focused on roads that NMDOT owns and maintains, several actions potentially benefit regional, local, and tribal transportation planning entities with their efforts to improve pedestrian access and safety.

The actions in this plan aim to reduce pedestrian fatalities and serious injuries, and as a result will improve transportation options for New Mexico's residents and visitors. Implementing the recommended actions may encourage new walking trips, thus reducing greenhouse gas emissions and vehicle miles traveled, and improve health outcomes.

What is the End Goal?

The ultimate goal for the PSAP is that pedestrian-involved injuries and fatalities occurring on roads owned and maintained by the NMDOT will decrease through NMDOT's implementation and tracking of the PSAP's recommended actions in the years to come.

However, increasing pedestrian safety on **all roads** in New Mexico is a shared goal for the entire state, and as NMDOT roads are only part of the state's overall transportation system, achieving a reduction in pedestrian injuries and fatalities statewide will necessitate efforts by tribal and local communities, as well as other government agencies, in addition to NMDOT's actions.

In setting this goal and evaluating the pedestrian-involved crash data trends in the years to come, NMDOT will be able to determine if implementation of the PSAP is truly affecting a positive shift and a reversal of the trends on its roadways in comparison to those documented during the 2012-2018 reporting period (the reporting period).

Chapter 2 – A Framework for Action – DRAFT

This chapter identifies recommended actions for NMDOT and its partners to undertake over a five-year period to improve pedestrian safety throughout New Mexico. Taken together, the actions are intended to reduce the frequency and severity of crashes involving pedestrians. These actions were specifically developed in response to the findings of the Existing Conditions analysis (see **Chapter 3**), as well as extensive input received from stakeholders including NMDOT staff, key informants from relevant agencies, advocacy organizations, and members of the general public. The recommendations also consider best practices related to pedestrian safety used by local communities in New Mexico and peer DOTs throughout the country.

The recommended actions are grouped under seven focus areas including:

- Data, Analysis, and Evaluation
- Driver Education
- Pedestrian Outreach Program
- Highway and Traffic Engineering
- Law Enforcement and Emergency Services
- Communication
- Planning and Legislation

The recommendations include a combination of newly proposed actions, as well as the continuation of some programs that NMDOT is already leading or supporting. Several of the actions focus on specific areas identified as the highest crash locations (see **Chapter 3**), with the intent of achieving the most significant and immediate reduction in incidents. While several of these locations are corridors and intersections in more urbanized communities, pedestrian access and safety are equally important in every New Mexico community, so the majority of the actions are intended for statewide reach and benefit.

For each of the actions, the primary Responsible Party (RP) and Partner (P) roles are identified, suggesting who will lead and who will support the action, respectively. There is a proposed timeframe for implementation of each action, including Immediate (within one year) Near-Term (within two years), Intermediate (within four years), and Long-Term (four years or more). In addition, there are certain actions that NMDOT can conduct on an annual basis, or a regular interval, throughout the five-year implementation period, identified accordingly. Regardless of timeframe, the underlying intent of this framework is that NMDOT will complete or make significant progress towards the implementation of these actions within the five-year time frame. Significant progress is defined as

progress towards the action that is reasonably advanced and there is a clear plan to complete the action. Actions will be considered complete when no further work is required on the action.

Data, Analysis, and Evaluation

The actions in this category aim to improve the quality of pedestrian-related data that NMDOT currently collects and has access to for planning and project design purposes. Taken collectively, these actions are intended to improve NMDOT's ongoing capacity to make data-informed decisions, such as where investments in pedestrian infrastructure are likely to yield the greatest reduction in pedestrian-involved crashes.

Table 3. Data, Analysis, and Evaluation Actions

ACTION	RESPONSIBLE PARTIES	TIMELINE
Update the Uniform Crash Report form to ensure consistency with NHTSA guidance and usability for law enforcement officers to accurately capture information on pedestrian-involved crashes	NMDOT Traffic Safety Division (RP), NHTSA (P), Law Enforcement (P), Sheriffs' departments (P), State Police (P), Traffic data contractors (P)	Near-Term
Research and purchase pedestrian count tools (short-term and permanent counters)	NMDOT Planning Division (RP)	Near-Term
Research and develop a methodology for determining current and future pedestrian volumes, as well as latent demand	NMDOT (RP), MPOs and RTPOs (P)	Throughout five-year planning period
Consider pedestrian-involved crash data and equity in project prioritization	NMDOT (RP)	Immediate
Develop an annual report on the status of the Pedestrian Safety Action Plan	NMDOT Multimodal Planning and Programs Bureau (MPPB) (RP), MPO and RTPO planning staff (P), Transportation Planning staff from local governments (P)	Throughout five-year planning period
Develop a survey to assess the state of pedestrian safety near the end of the five-year implementation period.	NMDOT Planning Division (RP)	Intermediate
Collect pedestrian infrastructure data as part of next Pavement Management Bureau data collection effort	NMDOT Planning Division (RP) and Pavement Management Bureau (P)	Intermediate

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Update the Uniform Crash Report form to ensure consistency with NHTSA guidance and usability for law enforcement officers to accurately capture information on pedestrian-involved crashes

Several stakeholders engaged through the PSAP process identified the Uniform Crash Report (UCR) as an important data collection tool that could be improved to help NMDOT and partners better understand trends and assign appropriate pedestrian safety countermeasures. The National Highway Traffic Safety Administration (NHTSA) released the Model Minimum Uniform Crash Criteria (MMUCC) – 5th Edition in 2017[33], which provides guidance on crash data collection and seeks to standardize the data collected across state DOTs. The UCR is completed by state and local law enforcement officers, with a majority using the state Traffic and Criminal Software (TraCS). Feedback from stakeholders indicated challenges with the TraCS system as well as the UCR.

The MMUCC also includes minimum report sections for different crash types, including a specific section for crashes involving non-motorized road users that would, if used in New Mexico, collect more detailed information relating to a non-motorized users' action. This would address the feedback received from stakeholders that "pedestrian error" is currently over-represented in the crash data because of subjective interpretations of error, while also being imprecise and often used as a catch-all category. An example is a pedestrian wearing dark clothing at night; this may be considered an error of judgement by an officer, but is not unlawful or an error with how the pedestrian was using the roadway system. The MMUCC also includes dynamic data elements to capture data for rapidly changing topics such as reporting on whether vehicle automation was an element of the crash.

In 2020, the NMDOT Traffic Records Bureau began rollout of a modified UCR to improve usability, layout, and identification of crash locations. The continued rollout and implementation of this updated form and future updates and electronic submission of data will improve data quality and reduce processing time.

Action: Regularly review and update the state's UCR form to include any NHTSA updates to national guidance.[34] An example of a recent MMUCC improvement is digitally linking location data with the crash report to automatically fill elements of the report based on discrete information about the location and roadway characteristics. This would make the process for completing the UCR more user-friendly and standardize certain responses; for example, roadway information would be automatically applied to the report. Several of the form's questions and responses need revisions to clarify factors such as whether a crash occurred on an NMDOT facility or not, if the crash occurred in a work (construction) zone, and if a crash involved pedestrians or bicyclists (pedal cyclists). The complete MMUCC form and recommended revisions to the UCR are embedded within the MMUCC form in Appendix 1.

Research and purchase pedestrian count tools (short-term and permanent counters)

Being better equipped to quantify existing pedestrian volumes will help NMDOT understand, at the macro-level, where the greatest levels of demand currently exist within its network. This information could serve as a helpful data point, for example in project prioritization, assigning a level of risk based on level of exposure for walking at a given intersection or within a specific corridor, or in project evaluation. NMDOT having the ability to quantify volumes would also be useful for project evaluation to see if projects increase the number of pedestrians using a facility. Pedestrian count tools and methods continue to be refined, from hardwired infrastructure that count at specific locations, to tools that passively use signals from people's phones to assess the number of pedestrians.

Action: Continue to conduct research into best practices on pedestrian count tools and pilot specific equipment currently used by NMDOT MPPB staff. Develop and present recommendations for investment in new equipment that can be used by other NMDOT staff or local partners (e.g., city staff) to estimate pedestrian volumes at a given intersection or along a portion of a given corridor, for example. Using this research, NMDOT can create and distribute a toolkit to key NMDOT staff in the different planning regions and to local agencies. The toolkit would

[33] NHTSA. "MMUCC." https://www.nhtsa.gov/mmucc-1#mmucc-data-collectors

[34] The next iteration of the MMUCC manual is expected to be released by NHSTA in 2023/2024.

provide strategies for collecting counts and guidance on how to apply the strategies in different contexts (e.g., rural, suburban, or urban) or project types.

Research and develop a methodology for determining current and future pedestrian volumes, as well as latent demand

To focus the implementation of countermeasures and pedestrian infrastructure where they will have the greatest impact, NMDOT can research and develop a methodology to determine existing and latent pedestrian demand. The approach may include strategies to assess current use, latent use, considerations for current and future land use, and roadway features that deter use (e.g., high speeds, low crossing frequency). There are some useful tools and methods that NMDOT could reference for direct use or to tailor its own method in estimating demand. Examples include factor methods, aggregate demand models, and spatial tools.[35]

Action: Using cited examples as reference points, research and develop a methodology for determining current and future pedestrian volumes.

Consider equity and pedestrian-involved crash data in project identification and prioritization

Equity analysis is a tool used in project prioritization processes throughout the US. An equity analysis often looks at demographic data to identify areas with high populations of historically disadvantaged people. These communities—which may experience poor financial, health, and housing circumstances and/or physical or communication limitations —are prevented or significantly limited from fulfilling basic needs due to the lack of safe, convenient transportation options. Prioritizing countermeasures in areas with high equity needs may have a more equitable beneficial impact because they address the mobility needs of people who have to walk or bike for everyday transportation.

The 2018 Prioritized Statewide Bicycle Network Plan contains the results of an equity analysis. Figure 18 of the Bicycle Network Plan (Composite Equity Map) shows the Census block groups where high concentrations of vulnerable (disadvantaged) populations reside. The indicators used in the analysis include age, race, income, educational attainment, limited English proficiency, and access to a vehicle.

Action: Using Figure 18 of the Bicycle Network Plan as a base map, develop a new pedestrian-equity map that overlays statewide pedestrian-involved crash data with the composite equity map. This new map can show where pedestrian-involved crashes, namely crash clusters identified in Chapter 3, overlap with disadvantaged communities. This map can be uploaded to the NMDOT EGIS system (and other relevant databases) and NMDOT staff can use it to prioritize pedestrian safety projects in planning and programming decisions.

For example, the NMDOT Planning Division could pursue targeted assessments of sidewalk availability and condition in areas where overlap occurs. Also, equity could be integrated as a key criterion in project selection processes related to the distribution of state and federal funds.

Develop an annual report on implementation of the Pedestrian Safety Action Plan

Ongoing monitoring and evaluation of this action plan will be essential to its success and reduction of pedestrian injuries and fatalities. This report will cross-reference reporting that NMDOT already completes on pedestrian-involved crash statistics, such as future iterations of *New Mexico Pedestrian Crash Statistics, 2014 – 2018.* The intended audience of the report includes NMDOT staff, other transportation stakeholders, and interested members of the public.

Action: Develop and post on NMDOT website a brief annual report summarizing progress made on actions recommended in the PSAP, highlighting actions completed during the preceding year. The report can also

[35] Pedestrian and Bicycle Information Center. "Bicycle and Pedestrian Forecasting Tools: State of the Practice." https://www.pedbikeinfo.org/cms/downloads/PBIC_WhitePaper_Forecasting.pdf

document actions started but not yet completed, as well as those that have not yet been started. To the extent possible, the report should present quantitative results to support meaningful year-over-year evaluation. At the end of the Plan's five-year implementation phase, NMDOT will include the results of the questionnaire described below with the final report.

Develop a survey to assess the state of pedestrian safety near the end of the five-year implementation period.

NMDOT can circulate a brief questionnaire to MPOs, RTPOs, and local governing bodies regarding any steps, measures, investments, or studies undertaken by those entities during the preceding four years. The questionnaire could also ask about resources needed to improve pedestrian safety in their communities. This feedback could provide a more comprehensive statewide picture on the state of pedestrian safety and potentially encourage these entities to do more in the realm of safety projects and programs. This questionnaire would be circulated and reported upon near the end of the five-year implementation phase of this plan, and ideally would track regional and local-level progress on increasing pedestrian safety within the same timeframe.

Action: The Planning Division may develop and disseminate a survey in 2025 to MPOs, RTPOs, and local governing bodies statewide to assess the state of pedestrian safety near the end of the Plan's five-year implementation period.

Collect and organize pedestrian infrastructure spatial data as part of the next Pavement Management Bureau data collection effort

Pedestrian infrastructure spatial data can be used to evaluate existing conditions in specific locations. This data tracks the different types and locations of pedestrian infrastructure and is available in GIS-compatible formats. The data can be used, for example, to identify the location of key missing links in pedestrian infrastructure in relation to high-crash locations. This effort supports the action in the Highway and Traffic Engineering section to determine locations for pedestrian safety countermeasures.

Action: The Planning Division may coordinate with Pavement Management Bureau to include collection of pedestrian infrastructure data in the next data collection effort (approximately 2022). This will result in pedestrian infrastructure spatial data.

Driver Education

The actions in the Driver Education category focus on the continuation of existing public education campaigns and the expansion of new driver education.

Table 4. Driver Education Actions

ACTION	RESPONSIBLE PARTIES	TIMELINE
Continue to develop and lead statewide distracted-driver education campaigns, and conduct periodic program evaluation to measure effectiveness	NMDOT Traffic Safety Division (RP) and Law Enforcement Agencies (P)	Throughout five-year planning period
Continue to support public information campaigns to reduce alcohol- and drug-impaired driving, and conduct periodic program evaluation to measure effectiveness of NMDOT initiatives	NMDOT Traffic Safety Division (RP) and Law Enforcement Agencies (P)	Throughout five-year planning period
Expand driver education curriculum with renewed focus on pedestrian vulnerability and safety; support the New Mexico Motor Vehicle Division (MVD) in integrating related questions into the New Mexico drivers' test	NMDOT Planning Division and Traffic Safety Division (RP) and MVD (P)	Intermediate

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Continue to develop and lead statewide distracted-driver education campaigns, and conduct periodic program evaluation to measure effectiveness

Driver inattention was the highest contributing factor for 18% of pedestrian-involved crashes in the state between 2012-2018. Further, the 2016 Strategic Highway Safety Plan (SHSP) identified distracted driving as one of the state's High-Priority Emphasis Areas. To address this, the SHSP recommended actions to pursue enforcement on distracted driving, as well as to provide increased education and outreach on the subject.

Action: Continue NMDOT public education programs that are specifically focused on distracted driving, including but not limited to the "DNTXT" and "Look for Me" campaigns. To evaluate the effectiveness of messaging and reach, NMDOT could periodically evaluate its educational programs, potentially including the distribution of a brief survey to the email listserv developed through the PSAP process and through its social media accounts or other evaluation techniques. In addition, NMDOT may focus, but not exclusively limit, its placement of billboards and other materials to the 20 crash clusters identified in Chapter 3 and prioritize the corridors where the greatest number of crashes occurred during the reporting period.

Continue to support public information campaigns to reduce alcohol- and drug-impaired driving, and conduct periodic program evaluation to measure effectiveness of NMDOT initiatives

Alcohol and drug impairment were the highest contributing factors for 24% of pedestrian-involved crashes in the state between 2012-2018. The SHSP also identified impaired driving as another one of the state's High-Priority Emphasis Areas. The Highway Safety Plan (HSP) includes an Impaired Driving Program Plan that encompasses enforcement and training, communications, and prevention education.

Action: Continue the Traffic Safety Division "ENDWI" education and encouragement campaigns. NMDOT may focus the placement of billboards or other public-facing materials within the 20 crash clusters and specifically on the highest crash corridors within those clusters. The Traffic Safety Division should also include the "ENDWI" campaign in the periodic program evaluation for effectiveness, as mentioned in the prior action.

Expand the driver education curriculum with renewed focus on pedestrian vulnerability and safety; support the New Mexico Motor Vehicle Division (MVD) to integrate related questions onto the New Mexico drivers' test

There are always opportunities to improve how we educate the next generation of drivers and expand their understanding of the importance of pedestrian safety. The New Mexico Driver's Education Curriculum has not been updated since 2014. This curriculum is often used in conjunction with other approved curricula across the state. The New Mexico driver's test has not been updated since before 2017. National best practices and New Mexico statutes can guide future updates of the curriculum and driver's test.

Action: Update the driver education curriculum with focused content directed around pedestrian safety and vulnerability, and the role drivers have in pedestrian safety. At a minimum, required new driver trainings and educational materials issued for new driver tests should include summarized information on the current state (ranking) of pedestrian safety in New Mexico, the most common causes of crashes involving pedestrians, and avoidance behaviors for motorists (e.g., obeying speed limits, yielding at crosswalks, complying with 'no right on red' restrictions). The MVD can include this content as part of the driving skills test and written test to reinforce the importance of pedestrian safety for drivers.

Pedestrian Outreach Program

This recommended program is intended to help NMDOT better understand the unique needs and concerns of pedestrians in communities that are disproportionately affected by pedestrian-involved crashes.

Table 5. Pedestrian Outreach Program Actions

ACTION	RESPONSIBLE PARTIES	TIMELINE
Establish a program to continually gain feedback from all user groups on their experience with the transportation system, especially seeking input from disadvantaged or vulnerable communities	NMDOT (RP), MPOs and RTPOs (P), university students (P), city / county staff (P), local community organizations (P)	Outreach development (Near-Term) Outreach distribution (throughout five-year planning period).
Support potential Department of Health (DOH) encouragement campaigns that promote walking for health and overall wellness	NM Department of Health (RP), NMDOT (P), advocacy groups (e.g., American Association of Retired Persons, American Heart Association)	TBD (coordinated outside of NMDOT)

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Establish a program to continually gain feedback from all user groups on their experience with the transportation system, especially seeking input from disadvantaged or vulnerable communities

Through the Data, Analysis, and Evaluation actions, NMDOT intends to create a pedestrian equity map identifying communities where overlap occurs between crash clusters and communities with a disproportionate number of residents who are historically disadvantaged and/or vulnerable. The result of this outreach will enable NMDOT and local partners to 'look beyond the data' and better understand what residents in these communities feel are the most likely factors that cause pedestrian-involved crashes and near misses, better understand how residents interact with the roadway and pedestrian facilities, and what type of facilities would decrease their level of stress.

The Pedestrian Safety Task Force, recommended as an Action under Planning and Legislation, can examine what strategies would be most effective and make recommendations to the NMDOT Planning Division for discussion and coordination with the MPOs and RTPOs.

Action: Partner with MPOs and RTPOs to develop and deploy targeted outreach strategies in these specific communities. The regional entities may, in turn, partner with local governments and community-based organizations that serve underserved/vulnerable populations to conduct outreach. Strategies may include but would not be limited to focus groups or targeted surveys.

Support potential Department of Health (DOH) statewide encouragement campaigns that promote walking for health and overall wellness

Recognizing that walking can have important benefits for personal and societal wellness, health, and everyday transportation access, NMDOT can be an important partner to the State Department of Health (NMDOH) in the development and dissemination of public messaging that encourages more New Mexicans to walk. For example,

through its own public information and encouragement campaigns, NMDOT can reinforce the benefits of walking for wellness and everyday mobility needs.

Action: Coordinate with the NMDOH to support future DOH programming and communications that encourage and promote walking throughout the state.

Highway and Traffic Engineering

The Highway and Traffic Engineering actions focus on NMDOT's engineering and design processes, which have a significant bearing on how effectively projects account for pedestrian access and safety. The recommendations include improving staff access to trainings and guidance to facilitate better planning and design for pedestrian safety on state roads throughout a roadway's lifecycle.

Table 6. Highway and Traffic Engineering Actions

ACTION	RESPONSIBLE PARTIES	TIMELINE
Improve project scoping, review, and approval to better account for pedestrian access and safety	NMDOT Districts and Design Centers (RP)	Update documents (Near-Term) Evaluation (Intermediate)
Ensure future updates to existing NMDOT manuals align with national best practices in planning and design, as captured in the 2020 *Design Manual*	NMDOT Planning Division, NMDOT Office of Infrastructure Divisions, and (RP)	Throughout five-year planning period.
Develop and initiate annual training program for NMDOT staff and key partners working on pedestrian safety	NMDOT Office of Infrastructure Divisions and Planning Division (RP), MPOs, RTPOs (P)	Near-Term
Identify 10 locations for installation of Pedestrian Hybrid Beacon (PHB) signals on state roads; complete installation	NMDOT Planning Division (RP), NMDOT District and Design Centers (P)	Identify Locations (Near-Term) Complete Installation (Long-Term)
Install leading pedestrian intervals at 10 select intersections	NMDOT Planning Division (RP), NMDOT District and Design Centers (P)	Identify intersections (Near-Term) Installation (Intermediate) Evaluation (Long-Term)
Use inventory of pedestrian infrastructure to identify locations for pedestrian safety countermeasure installations	NMDOT Planning Division and Pavement Management Bureau (RP)	Intermediate
Develop a countermeasure quick-build guide	NMDOT Planning Division and Office of Infrastructure Divisions, Traffic Technical Support Bureau, Program Management Division (RP)	Immediate

Identify approaches and document methods improving safety at various stages in roadway lifecycles and functions	Office of Infrastructure Divisions (RP)	Near-Term
Review and use technology to increase pedestrian safety on the state owned/maintained system (subject to NMDOT Secretary and Transportation Commission approval)	Law Enforcement Agencies (RP), NMDOT (P), Local Communities (P)	Review and identify technology tools that could benefit pedestrian safety (Immediate) Propose tools to Secretary and Transportation Commission and install approved equipment (Near-Term) Evaluate effectiveness of technology tools used (throughout five-year planning period)

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Improve project scoping, review, and approval to better account for pedestrian access and safety

New Mexico state statute 67-3-62 requires that new state highway construction or substantial widenings, design, and construction must make provision for pedestrian, bicycle, and equestrian traffic along and across such highways. Yet, the results of the internal staff survey conducted early in this planning process suggest that many staff responsible for project design are not aware of this requirement.

Action: Revise NMDOT project scoping documents and pre-construction checklist to clearly reference state statute 67-3-62 and, where appropriate, require a statement of compliance with the statute or reasons for a claimed exemption. In year four of this plan, NMDOT can assess how many exemptions were claimed and the reasons for the exemptions.

Ensure future updates to existing NMDOT manuals align with national best practices in planning and design, as captured in the 2020 Design Manual

Adopted design guidance used by NMDOT planners and engineers is the cornerstone for how NMDOT designs projects and to what extent pedestrian safety and countermeasures are ultimately integrated into projects. Current guidance is captured in the 2020 *New Mexico Department of Transportation Design Manual.*

Action: Update the NMDOT *State Access Management Manual (2001)* and the NMDOT *Signing and Striping Manual (2008)* to incorporate or reference best practices for pedestrian access and safety, as found in the NMDOT *Design Manual* (2020). Consider revisions including, but not limited to, the following:

- Section 66-7-335 of the *Signing and Striping Manual* specifies, 'Between adjacent intersections at which traffic-control signals are in operation pedestrians shall not cross at any place except in a marked crosswalk.' On NMDOT and non-NMDOT facilities throughout New Mexico, there are often considerable distances (e.g., a half-mile or greater) between marked crosswalks and the most direct path of pedestrian travel to a destination is at a 'mid-block' location between signals or crosswalks. In revising Section 66-7-335, the working group may consider integration of guidance in Section 910.5.3.8 (Crosswalk Markings) of the 2020 Manual.
- Section 3.2.7, Crosswalk Markings [3B.17], of the Signing and Striping Manual makes a general reference to 'some type of traffic calming device.' This definition may be expanded to specifically include Rectangular Rapid Flashing Beacons (RRFBs), Pedestrian Hybrid Beacons (also known as HAWKs), pedestrian refuge islands, and other safety improvements in referring to calming devices.
- Exhibit 3.2-F of the Signing and Striping Manual illustrates the three types of crosswalk pavement markings contained in NMDOT Standard Drawing 704-03-1/2. The exhibit and associated text in the table can be updated to be fully consistent with Exhibit 910-11 Crosswalk Design Elements, and associated text in the 2020 Design Manual.
- Page 98 of the *State Access Management Manual* discusses sidewalk widths. As many existing sidewalk widths do not meet current minimum requirements, revise the text as follows (bold for emphasis): 'Sidewalks should be constructed along urban arterial and collector state highways. Sidewalks are required where they exist on adjacent properties to maintain consistency along the highway facility. **Sidewalk widths should match existing adjacent sidewalk widths unless current widths do not meet current minimum width requirements. In such instances, new sidewalk widths shall conform with all federal, state, and local regulations and ordinances.'**

Develop and initiate annual training program for NMDOT staff and key partners working on pedestrian safety

By participating in regular trainings on best practices, staff at NMDOT and local agencies will be better equipped to identify and implement appropriate countermeasures. While mainly intended for NMDOT staff and New Mexico-based transportation consultants, the training could also be available to Tribal and Local Public Agencies (T/LPAs) and engineering staff as well as engineering students at post-secondary institutions such as the University of New Mexico (UNM) and New Mexico State University (NMSU). Allowing engineering students to access the training will provide them with more insight into pedestrian safety issues. Providing this level of insight will in turn promote more in-depth research on pedestrian safety at post-secondary institutions that can be shared with NMDOT.

Action: Contract with an outside firm or agency to design and lead an annual training on planning and designing for pedestrian safety in roadway projects. Require all NMDOT engineers responsible for project scoping and design to take the training at least once within a three-year period.

Identify 10 locations for installation of Pedestrian Hybrid Beacon (PHB) signals on state roads; complete installation

The FHWA identified Pedestrian Hybrid Beacons (PHB), also known as High Intensity Activated Cross Walks (HAWK), as an effective pedestrian safety countermeasure for pedestrians to cross high-volume or high-speed roadways at mid-block crossings and uncontrolled intersections. Where PHBs are installed, the FHWA reports a 55% reduction in pedestrian-involved crashes and 15% reduction in crashes resulting in serious injury and fatal crashes.[36] Guidance on where and how to implement PHBs are included in chapter 4F of the *Manual on Uniform Traffic Control Devices* (MUTCD).[37]

Action: To support the strategic implementation of new PHB signals, inventory and map the locations of existing PHBs on state roads. Then develop a list of the 10 unsignalized intersections or mid-block crossings on state roads

[36] FHWA. "Pedestrian Hybrid Beacons." https://safety.fhwa.dot.gov/provencountermeasures/ped_hybrid_beacon/
[37] FHWA. "Manual on Uniform Traffic Control Devices." https://mutcd.fhwa.dot.gov/htm/2009/part4/part4f.htm

where PHBs do not currently exist but where existing conditions meet signal installation criteria[38] based on the NMDOT *Design Manual*.[39] In addition, consider equity, demand, and crash location factors called out in prior actions and make high-, medium-, low-impact (benefit) determinations. Install PHBs at the 10 locations addressing the greatest number of factors over this plan's five-year planning period.

Install Leading Pedestrian Intervals (LPIs) at 10 select intersections

Leading Pedestrian Intervals (LPIs) are one countermeasure that can be quickly implemented reduce pedestrian-involved crashes at intersections by 13%.[40] LPIs give pedestrians a signal to cross three to seven seconds before motor vehicles are given a green indication. This allows pedestrians to establish themselves in the crossing, reducing the potential for pedestrian-vehicle conflicts. The NMDOT *Design Manual* recognizes the potential benefits of LPIs and that they are effective at intersections with a history of turning conflicts. The FHWA *Handbook for Designing Roadways for the Aging Population* recommends LPIs at intersections with high vehicle turning volumes.[41] Often, LPIs are coupled with right turn on red restrictions to increase the effectiveness of LPIs. NMDOT recognizes that a range of factors typically cause conflicts at higher crash locations and additional safety improvements may be warranted at a specific location. However, the intent of a focused (limited number) application of LPIs is to help NMDOT determine how effective they are in reducing pedestrian-involved crashes at known 'hot spots'.

Action: Using the data compiled for the crash cluster analysis, identify 10 intersections on state roads with the highest crash rates and (and comparatively high turning volumes) to install LPIs. Before and after installation, track crash rates and severity at those locations to determine if there is a reduction, no change, or an increase.

Use inventory of pedestrian infrastructure to identify locations for pedestrian safety countermeasure installations

Coordinate with the Pavement Management Bureau to include collection of pedestrian infrastructure data in next data collection effort (approx. 2022), as previously described in the Data, Analysis, and Evaluation section of the chapter. This data, in addition to existing roadway inventory data, will result in pedestrian infrastructure spatial data, which, once collected and integrated into NMDOT's data system, can be included in analyses, project identification, and evaluation.

Action: Compare the pedestrian infrastructure spatial data to pedestrian-involved crash locations, in order to identify locations where NMDOT could install enhanced pedestrian crossings or other countermeasures to improve pedestrian safety and reduce crashes.

Develop a countermeasure quick-build guide

Quick-build projects are, in general, improvements that can be implemented in a comparatively short(er) period of time at lower costs than traditional road rehabilitation or construction projects. In the interest of addressing known safety hot spots as quickly as possible, NMDOT can develop a list of NMDOT-approved quick-build countermeasures for addressing various conflicts or to achieve specific roadway goals. T/LPAs could use the guide to identify NMDOT-supported solutions to address safety issues in their jurisdictions. The quick-build projects may either be interim, pilot measures to test the effectiveness of a treatment, or more permanent in nature. Although

[38] PHBs are most suitable for crossing multi-lane roads include 6+ lane undivided highways. They should be used based on the need to provide a safe crossing, instead of only considering pedestrian volumes. PHBs should be located outside the functional area of a signalized intersection and outside any turn or acceleration lanes.
[39] NMDOT. "Design Manual." 2020.
[40] FHWA. "Leading Pedestrian Intervals." March 2020.
https://safety.fhwa.dot.gov/provencountermeasures/pdfs/fhwasa17063v2.pdf
[41] FHWA. "Handbook for Designing Roadways for the Aging Population. June 2014.
https://safety.fhwa.dot.gov/older_users/handbook/aging_driver_handbook_2014_final%20.pdf

focused mainly on quick-build approaches to bicycle facilities, an example of a 2020 quick build-guide can be found at: https://altago.com/wp-content/uploads/Quick-Build-Guide-White-Paper-2020-1.pdf

State DOTs and local jurisdictions are developing guides for completing quick-build projects, as well as demonstration and tactical urbanism projects which are often more temporary than interim quick-build approaches. Examples of guides include:

- City of Atlanta Tactical Urbanism Guide
- CalTrans Local Roadway Safety Guide
- Minnesota DOT Demonstration Project Guide
- Burlington, VT Public Works Quick Build Design and Material Standards

Action: Develop a quick-build guide for use by engineering staff. The guide should identify the process for determining whether a quick-build solution is appropriate, as well as required level of effort for environmental analysis. The guide should present a menu of potential countermeasures that meet all relevant (and accepted) design standards and generally take under 12 months to design and implement. NMDOT can share the guide with MPOs and RTPOs for distribution to T/LPAs, along with a clear summary of what the NMDOT allows on its roadways for demonstration or temporary pilot projects.

Identify approaches and document methods improving safety at various stages in roadway lifecycles and functions

Pedestrian safety must be considered at all stages of a roadway's lifecycle.

For example, during design, NMDOT can consider pedestrian-involved crash data as a design factor for a project study area, including number, severity, and cause of crashes, and latent demand. This information may be taken into consideration during the design phase because the types and placement of pedestrian infrastructure, such as crosswalks, significantly affect pedestrian safety. The appropriate placement and spacing of a crosswalk or sidewalk encourage pedestrian movement in locations where motorists are more likely to anticipate it (e.g., at a four-way signalized intersection). This can reduce the potential for motorist-pedestrian conflicts.

During construction, a key consideration is allowing for the safe passage of pedestrians through a temporary work zone. Effective traffic control procedures have a significant bearing on the safety of pedestrians and must consider factors such as the visibility and placement of detour route identifiers and access for those with physical disabilities (per ADA requirements).

Ongoing maintenance of a roadway presents an important opportunity to evaluate and possibly improve upon a roadway's safety for pedestrians. For example, lane widths could be reduced during pavement resurfacing and restriping operations to reduce vehicle speeds. Pavement repair may also provide lower-cost opportunities for the widening of shoulders or the implementation of rumble strips on an edge line, reducing the potential for vehicle departures from the roadway.

With regard to roadway operations, minor alterations and countermeasures can be made while the roadway is operational or open for use. Examples include the installation of Leading Pedestrian Intervals (LPIs) and flashing yellow arrows into signal phasing; prohibiting right turn on red movements at select, higher crash locations; and the installation of push buttons at crosswalks to initiate a pedestrian phase.

Action: Develop guidance and best practices for considering and improving pedestrian safety throughout a roadway's lifecycle and within different aspects of the roadway functions. This guidance may consist of key considerations and optimal treatments for the different construction phases, lifecycle stages, and functions including design, construction, ongoing maintenance, operations, and reconstruction, as well as retrofits, where feasible.

Review and use technology to increase pedestrian safety on the state owned/maintained system (subject to NMDOT Secretary and Transportation Commission approval)

Technology offers many possible solutions to creating a safer environment for pedestrians. NMDOT will monitor and review existing, new, and emerging technology to determine which options may assist NMDOT in creating a safer roadside environment for pedestrians. One example of new technology includes pedestrian-detecting / auto braking equipment in new vehicles which could, in theory, be installed in newly purchased NMDOT fleet vehicles. Another example is in-road warning light systems that can be installed at crosswalks and activated by crossing pedestrians.

Action: Review available technology tools that could aid in pedestrian safety and identify which tools may benefit pedestrians in New Mexico. Propose use of the selected tools to the NMDOT Secretary and Transportation Commission for approval and proceed with installation on NMDOT roadways. Establish criteria for deployment to eliminate or minimize potential racial and socioeconomic biases. Create an evaluation framework for each technology deployed and assess it to determine whether the technology was effective in reducing pedestrian injuries and fatalities at that location.

Law Enforcement and Emergency Services

Law enforcement officers and emergency service providers play an important role in responding to and reporting on crashes involving pedestrian,s as well as enforcing rules of the road, both on NMDOT and non-NMDOT facilities. The actions in this category focus on deepening existing partnerships between NMDOT and law enforcement to more systematically and effectively reduce the annual rates of crashes involving pedestrians.

Table 7. Law Enforcement and Emergency Services Actions

ACTION	RESPONSIBLE PARTIES	TIMELINE
Annually distribute survey seeking feedback on Uniform Crash Report (UCR) form and integrate feedback into next comprehensive UCR update	NMDOT Traffic Safety Division (RP), Law Enforcement Agencies (P), Emergency Responders (P)	Annually throughout five-year planning period (starting in 2021).
Continue to conduct trainings on the UCR	NMDOT Traffic Records Bureau (RP), Law Enforcement Agencies (P), NM Department of Public Safety (P)	On-going
Targeted education or enforcement	NMDOT (RP), Law Enforcement Agencies (P)	Throughout five-year planning period.

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Annually distribute survey seeking feedback on the Uniform Crash Report (UCR) form and integrate feedback into the next comprehensive UCR update

During stakeholder engagement, the consultant team received considerable feedback about the UCR. The development and issuance of a regular, ongoing survey could be an opportunity to collect similar feedback in the future. Collecting feedback from form users will help to improve its usability and effectiveness.

Action: Conduct an annual survey of prospective or registered attendees of existing NMDOT UCR trainings to request input on parts of the form (reporting requirements) that are unclear and contribute to incomplete or

inconsistent incident reporting. NMDOT can use this input when making the next set of comprehensive updates to the form, which is expected to be in 2023 – 2024.

Continue to conduct trainings on the UCR

NMDOT Traffic Records Bureau conducts trainings on the Uniform Crash Report (UCR) for law enforcement officers with training academies around the state, and in partnership with the New Mexico Department of Public Safety (DPS). The Traffic Records Bureau provides funding to training academies to develop and implement training curriculum statewide to increase the completeness and accuracy of UCR documentation from the field.

Action: In partnership with law enforcement training academies and DPS, NMDOT can continue to conduct trainings on current and future updates to the UCR and include information on the value of pedestrian-involved crash data efforts. NMDOT can also continue conduct evaluations of the trainings to improve course content and delivery.

Targeted education or enforcement

Using crash data, NMDOT can identify key locations for targeted education and enforcement operations. Locations where speeding, for example, is a major contributor to pedestrian-involved crashes would be good candidates for this effort, as the motorist action is easily enforceable. Enforcement and education campaigns can be coordinated with the communities to define the role of enforcement in pedestrian safety and be sensitive to the needs of different neighborhoods, and age, ethnic, and racial groups. Education and community engagement activities could include training crossing guards to act as role models for safe behavior and modeling behaviors for new infrastructure, or partnering with community groups to advocate for infrastructure improvements. Other methods communities can consider are explained in 'The Role of Law Enforcement in Supporting Pedestrian and Bicyclist Safety: An Idea Book'.[42]

Action: Identify key locations and partner with local police and sheriffs' departments to supply them with crash data and assistance in interpreting it to support in-person (non-automated) education and limited enforcement at targeted locations.

Education may include stopping motorists or pedestrians for an infraction and issuing an "edu-ticket" (warning) explaining what behavior was non-compliant. Enforcement could include issuance of traditional citations, and may be used on a limited basis when education is not more appropriate.

[42] US Department of Transportation, National Transportation Library, Repository and Open Science Access Portal, Resource available at: https://rosap.ntl.bts.gov/view/dot/49827

Communication

Communication-based actions are intended to help NMDOT and its partners around the state advance the shared level of understanding of, and the dialogue around, pedestrian safety in New Mexico, as well as relay the importance of slowing and reversing the injury and fatality trends of the last eight years.

Table 8. Communication Actions

ACTION	Responsible Parties	TIMELINE
Develop a media toolkit for Public Information Officers (PIOs) and media outlets to use when describing crashes	NMDOT Communications and Planning Division (RP), MPOs, RTPOs (P), law enforcement (P), television news (P) and major newspapers (P)	Near-Term
Make communications accessible to as many people as possible	NMDOT Communications (RP), MPOs, RTPOs (P), television news (P) and major newspapers (P)	Throughout five-year planning period
Continue NMDOT's commitment to being a steward of public safety through key planning documents	NMDOT Planning Division (RP)	Intermediate

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Develop a media toolkit for Public Information Officers (PIOs) and media outlets to use when describing crashes

Media toolkits contain resources that can help streamline media campaigns, and provide guidance on appropriate language and how to accurately frame specific issues. The toolkit should reinforce the messaging that the majority of crashes are not accidents[43], and provide tips to avoid language that applies blame towards the crash victim and reduces the personhood of the pedestrian or the person driving a motor vehicle.[44] The toolkit should also present language for use that underscores stewardship; e.g., *we are all users of the transportation system and pedestrians at some point in our trips so we need to look out for each other*.

Action: Lead the development of a media toolkit on the framing (description) of crashes for PIOs and media outlets throughout the state.

Make communications accessible to as many people as possible

NMDOT recognizes that while the majority of New Mexico residents have some level of access to the internet, some residents either have limited or no access and primarily receive information through more traditional channels, including print media (e.g., newspapers, community bulletins), radio, or network television news. NMDOT can explore opportunities to partner and coordinate with community and advocacy partners operating in a project's geography or serving the same residents. Furthermore, as a result of COVID-19, NMDOT

[43] Michigan DOT. "Crash, Not Accident." 2019. www.youtube.com/watch?v=B_dqA9kl6JA
[44] Columbia Journalism Review. "When Covering Car Crashes, Be Careful Not to Blame the Victim." April 4, 2018. www.cjr.org/analysis/when-covering-car-crashes-be-careful-not-to-blame-the-victim.php

communications need to account for ongoing constraints around in-person gatherings and the need for continued virtual and digital distribution of information for the foreseeable future.

Action: NMDOT PIOs and relevant staff can use a variety of media sources and communication networks, including local agency partners throughout the state, to broadly disseminate information on pedestrian safety in English, as well as Spanish and Diné when appropriate.

Continue NMDOT's commitment to being a steward of public safety through key planning documents

NMDOT previously adopted several plans and guidelines that identify pedestrians as a key user group of the state's multimodal system and their access and safety as a key priority. NMDOT can continue to build on this commitment and leverage upcoming planning efforts to deepen its role as a steward of pedestrian safety.

Further integration of pedestrian safety as a priority into the Long-Range Statewide Transportation Plan (LRSTP) and Strategic Highway Safety Plan (SHSP) will make a clear statement both internally and externally: NMDOT needs to and will 'go further' to improve access and safety for pedestrians on our system now and will continuously strive to improve pedestrian safety in all future planning and design efforts. More specific recommendations for this integration can be found in the Planning and Legislation section of this plan.

Action: Consider the LRSTP update (currently underway) and the next substantive SHSP update as key opportunities to identify the trends documented for the reporting period and to recognize the PSAP as a pedestrian-focused effort to reverse those trends.

Planning and Legislation

The actions in this category focus on a combination of existing NMDOT planning procedures and prospective agency goals, as well as state and federal legislation. Taken together, they are intended to advance NMDOT's commitment to pedestrian safety but also position the NMDOT as a partner to other officials or non-governmental organizations working to advance pedestrian safety.

Table 9. Planning and Legislation Actions

ACTION	Responsible Parties	TIMELINE
Adopt a statewide Toward Zero Deaths vision	NMDOT Planning Division (RP)	Long-Term
Integrate Traffic Safety Culture in SHSP and HSP update (process and plan)	NMDOT Planning Division (RP)	Long-Term
Integrate Complete Streets into NMDOT Practices, Policies, and Plans (SHSP, LRSTP)	NMDOT Planning Division (RP)	Long-Term
Create a Pedestrian Safety Task Force to lead implementation, tracking, reporting on progress of the PSAP	NMDOT (RP), Subject Matter Experts and Advocates (P)	Formation of Task Force (Immediate) Convening (throughout five-year planning period)
Revisit speed limit setting policies and speed limit design tables	NMDOT Traffic Technical Support Bureau (RP), NMDOT District Traffic Engineers (P)	Intermediate
Develop or support T/LPA Pedestrian Safety Technical Assistance Program for tribal nations and local governmental agencies	NM-LTAP at UNM (RP), Subject Matter Experts (P), T/LPAs (P)	Intermediate
Explore possibility of dedicated HSIP funding for pedestrian improvements	NMDOT Executive Staff (RP)	Throughout five-year planning period
Support New Mexico Legislative actions that improve pedestrian safety	State legislators or advocacy organizations (RP), NMDOT (P)	Throughout five-year planning period (when / if legislation proposed)
Support federal regulatory actions that improve pedestrian safety	Federal legislators (RP) NMDOT (P)	Throughout five-year planning period (when / if legislation proposed)
Deploy internal NMDOT survey about pedestrian safety practices and staff training needs every other year	NMDOT Ped Safety Task Force (RP)	Intermediate

(RP) Responsible Party
(P) Partner

Immediate – within 1 year
Near-Term – within 2 years
Intermediate – within 4 years
Long-Term – 4+ years

Adopt a statewide Toward Zero Deaths vision

Toward Zero Deaths (TZD) is a national strategy on highway safety to advocate for eliminating serious injuries and deaths on our nation's roadways. The strategy calls for all transportation stakeholders to champion the idea that one death on our nation's roadways is too many, and we must all work together to bring the annual number of roadway deaths down to zero.

A TZD vision would encompass all modes, not just pedestrians, on New Mexico's state roads. Through establishing a singular, unifying goal, TZD could set a stage for enhanced collaboration between (pedestrian-safety) stakeholders in New Mexico and provide a shared 'call to action'. NMDOT would need to educate the public and stakeholders on the differences between the TZD vision and NMDOT's Safety Performance Targets, adopted annually per federal requirements.[45]

Action: Develop and adopt a TZD vision for NMDOT and incorporate it in major plan and policy updates, including the Strategic Highway Safety Plan, Highway Safety Plan, and other documents.

Integrate Traffic Safety Culture in SHSP and HSP update (process and plan)

Traffic Safety Culture[46] is a framework that involves the belief systems of road users (e.g., drivers, motorcyclists, passengers, pedestrians, or bicyclists) that influence their choice of behavior. Road users' behaviors include actions that influence crash risk and crash severity. Approaches within the framework include deploying a data-driven approach to identify risky behaviors that better inform safety strategies, coordinating with traditional and non-traditional stakeholders in shaping beliefs and behaviors, and supporting existing beliefs within a community that promote safe behaviors. Updates to NMDOT's Strategic Highway Safety Plan (SHSP) and Highway Safety Plan (HSP) present a critical opportunity for assessing the culture (e.g., beliefs, common perceptions, and behaviors) of roadway safety both within NMDOT and among the public at large.

Minnesota DOT incorporated the Traffic Safety Culture framework in their recent SHSP update.[47] Examples from Minnesota DOT include developing and distributing age-appropriate information to school-based health educators and school resource officers on safe behaviors while walking, biking, or riding in a motor vehicle; continuing coordination and collaboration with zero-fatality programs in the state; using innovative media messaging to spread awareness of safety issues and shared responsibility of safety efforts; and developing or supporting employer-based safety initiatives or trainings.

Action: As part of the next substantive SHSP and HSP updates, work with consultants to identify whether or how key tenets of Traffic Safety Culture can be integrated into the stakeholder engagement process and the content of the SHSP and HSP itself.[48]

Integrate Complete Streets into NMDOT Practices, Policies, and Plans (SHSP, LRSTP)

A Complete Streets approach to transportation specifies that streets are planned, designed, operated, and maintained to enable safe and convenient transportation and access for all users of all ages and abilities regardless of their mode of transportation.

To support this action, NMDOT can commit to improving pedestrian access and safety, and the overall pedestrian experience, on state-owned/maintained roadways. NMDOT can update various plans to include references to guidelines and designs that support planning and implementation of Complete Streets across the state and

[45] Safety Performance Targets are set annually by NMDOT Statewide Planning Bureau as part of the HSIP. The targets are based on 5-year rolling averages. The targets should be data-driven, realistic, and attainable, and align with the performance management framework and legislative intent.
[46] Toward Zero Deaths. "Traffic Safety Culture." https://www.towardzerodeaths.org/traffic-safety-culture/
[47] Minnesota DOT. "2020-2024 Strategic Highway Safety Plan." February 2020. http://www.dot.state.mn.us/trafficeng/safety/shsp/draft-mn-shsp-2020-24.PDF
[48] Toward Zero Deaths. "Traffic Safety Culture." https://www.towardzerodeaths.org/traffic-safety-culture/

throughout the different stages of a roadway lifecycle. T/LPAs in New Mexico may reference NMDOT's Complete Streets approach in their own roadway design and construction processes.

Action: Building on the provisions set forth in NMSA 67-3-62,[49] NMDOT can consider the inclusion of Complete Streets as a strategy in the next substantive update to the Strategic Highway Safety Plan (SHSP) and as a specific strategy in the Long-Range Statewide Transportation Plan (LRSTP), in addition to other NMDOT plans, policies, and practices.

Create a Pedestrian Safety Task Force to lead implementation, tracking, reporting on progress of the PSAP

NMDOT does not currently have an internal working group focused specifically on pedestrian safety. The group should include NMDOT senior leadership from divisions responsible for design and installation of transportation infrastructure. The PSAP Steering Committee should identify non-NMDOT subject matter experts to participate on the Task Force.

Action: Convene and support a new interdisciplinary Pedestrian Safety Task Force focused on implementing, tracking, and reporting out on the PSAP. The group would meet monthly for the first six months following PSAP adoption and then meet quarterly.

Revisit speed limit setting policies and speed limit design tables

One of the greatest impacts on safety and the severity of all crashes, including pedestrian-involved crashes, is motor vehicle speed. Vehicle speed depends on many factors, including driver choice or behavior, perceived safety of the roadway, roadway features, environmental conditions, surrounding context, and the presence and behavior of other road users, as well as the posted speed limit. Pedestrians hit by a vehicle traveling 20 miles per hour (mph) survive the collision 90% of the time. As the vehicle speed increases, the pedestrian survivability quickly declines to 60% at 30 mph, and only 20% survival at 40 mph.[50] Also as speed increases, the driver's field of vision narrows, reducing their ability to react and respond to unexpected occurrences on or adjacent to the roadway.[51]

Typically, speed limits are set within 5 mph of the 85th percentile speed based on guidance in the *Manual on Uniform Traffic Control Devices*. The 85th percentile speed is determined based on the actual speed of vehicles traveling on a corridor, so if most drivers are driving above the posted speed limit, this policy can lead to increased speed limits as a result of speed studies, regardless of safety or road conditions. Recent publications from the National Transportation Safety Board (NTSB)[52] and the National Association of City Transportation Officials (NACTO)[53] recommend removing these policies so that speed limits accurately reflect the context of the roadway. These publications recognize the impact that vehicle speeds have when conflicts occur, particularly conflicts involving vulnerable road users such as pedestrians. Oregon DOT, based on these publications, recently released an update on how to set speed limits[54] using the 50th percentile speeds and considering the land use context of the road (i.e., urban, suburban, rural). The Oregon DOT update also recommends flexibility in setting speed limits for rural communities where state highways also serve as the main street.

[49] NMSA 67-3-62 requires projects building or widening highways to include provision for pedestrian, bicycle and equestrian traffic along and across the highway.
[50] ITE. "Speed as a Safety Problem." https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/
[51] ITE. "Speed as a Safety Problem." https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/
[52] NTSB. "Reducing Speed-Related Crashes Involving Passenger Vehicles." 2017. www.ntsb.gov/safety/safety-studies/Documents/SS1701.pdf
[53] NACTO. "Safe Speeds." https://nacto.org/safespeeds/
[54] Oregon DOT. "New Speed Zoning Process." April 2020. https://www.oregon.gov/odot/Engineering/Docs_TrafficEng/Speed-Setting-Update-2020-05.pdf

NMDOT may consider adopting speed limits based on the context of the roadway in all circumstances. Currently, speed limits are based on the following factors: observed speeds, roadway geometry, roadside environment, building setbacks, driveway and intersection density, crashes, and presence of multimodal traffic. During a speed study, the speed limit is established at the 85th percentile speed, if no extenuating circumstances (the factors listed above) are present. For example, Oregon DOT is implementing speeds of 20-25 mph on arterial roads in the urban core, and 25-30 mph in urban mixed contexts.[55] NMDOT may consider adopting an approach to setting speed limits that is similar to this one. Another tool that may support speed limit setting is the FHWA USLIMITS2 tool,[56] a web-based tool to help practitioners set reasonable, safe, and consistent speed limits for specific segments of roadway.

Per state statute 66-7-301, 55 mph is the speed limit on a county road without a posted speed limit. Based on New Mexico state statute 66-7-304,[57] the speed limit on county-owned roads can be set and altered by the board of county commissioners of that county to speed limits lower than those established by law, as long as the speed limit is deemed safe per an engineering survey and traffic investigation. The alteration of a speed limit must also be approved by the state transportation commission, and the county is required to post conforming speed limit signs. County roads are defined as any street, road, or highway built and maintained by the county or which has been given to the county by the state transportation commission.

Action: Examine alignment of targets for design speed and speed limits and/or consider 50th percentile speed limits to help set speeds on NMDOT roads in urban areas.[58] Based on this review, NMDOT can update the speed limit design tables to support corridor evaluation and design. NMDOT could publish and share the updated speed limit-setting methodology and speed targets with counties to support alignment with speed limit setting on county roads.[59]

Develop or support T/LPA Pedestrian Safety Technical Assistance Program for tribal nations and local governmental agencies

Many communities in New Mexico may not have the technical resources available to establish and administer pedestrian-safety programs or to implement projects and countermeasures. The existing New Mexico Local Technical Assistance Program (NM-LTAP), funded through FHWA and NMDOT and currently housed at University of New Mexico, should explore the development of a pedestrian safety technical assistance program, in coordination with NMDOT and the national Tribal Technical Assistance Program (TTAP).

Action: Develop a technical assistance program under the NM-LTAP to provide training to T/LPAs on identifying pedestrian safety issues and appropriate countermeasures. As a supporting partner, NMDOT can provide data compiled for this PSAP, as well as additional data compiled during the initial five-year implementation period. The training should provide information on the federal and state funding sources that T/LPAs can pursue for different types of pedestrian programs (e.g., Safe Routes to School programs) and projects (e.g., sidewalk gap closure programs). Additionally, the trainings can discuss potential local funding strategies that the T/LPAs can use or implement in order to fund pedestrian infrastructure, such bonding or business improvement districts.

Explore possibility of dedicated HSIP funding for pedestrian improvements

Funding is needed to implement several of the actions in the PSAP. As stated by one respondent to the internal staff survey, a shortage of available funding often precludes design / engineering staff to 'do what is right' for

[55] Ibid
[56] FHWA. "USLIMITS2." https://safety.fhwa.dot.gov/uslimits/
[57] State of New Mexico. Section 66-7-301 NMSA 1978. https://laws.nmonesource.com/w/nmos/Chapter-66-NMSA-1978#!b/66-7-301, retrieved on 12/07/2020
[58] NMDOT does not have the authority to set speed limits on roads that are owned and maintained by incorporated cities or unincorporated counties.
[59] Consistent with the statute identified, only counties are referenced in this action but it is presumed county authorities could share information with incorporated cities.

pedestrian safety on projects. The Highway Safety Improvement Program (HSIP) funds projects that are consistent with the SHSP and correct or improve a hazardous location or feature of a highway safety problem. NMDOT can utilize the crash cluster analysis and the Network Screening Report to develop a systemic approach to improving pedestrian infrastructure. This approach can proactively identify sites for potential safety improvements based on specific risk factors for pedestrians such as mid-block crossing locations or high-speed roadways.

Action: Determine whether a certain percent of annual HSIP funding can be dedicated solely to systemic pedestrian safety programs and projects identified in this Plan.

Support New Mexico Legislative actions that improve pedestrian safety

Legislative actions, either amendments to existing laws or new laws, aimed at improving safety for pedestrians provide an opportunity for statewide policy changes to improve pedestrian safety. NMDOT's Cabinet Secretary or designee may work with legislators to develop or support state legislation. Examples of state legislation that advance pedestrian safety are described below.

During the stakeholder interviews, participants noted that the current New Mexico Statues Annotated (NMSA) 66-7-334 only requires vehicles to yield the right-of-way to crossing pedestrians at a crosswalk when the pedestrian is in the crosswalk. This puts the onus on pedestrians to assert their right-of-way by entering the roadway while vehicles continue to move toward crossing pedestrians, instead of the vehicles stopping and providing the right-of-way. This leads to confusion about who has the right-of-way among people walking and driving, and also incorrect use of "pedestrian error" in crash reporting.

Vulnerable road user laws are intended to improve safety for pedestrians and bicyclists by introducing penalties for road behaviors that may endanger more vulnerable road users (e.g., texting while driving or failing to yield to pedestrians in crosswalks). These laws also typically define what a vulnerable road user is, including pedestrians, bicyclists, and other non-motorized or low-speed motorized device users ranging from skateboarders to equestrians and moped riders. These types of laws typically set more severe penalties for motorists who severely injure or kill a vulnerable road user as a result of a certain behavior. Several states have passed such laws, including Colorado, Connecticut, Florida, and Oregon.[60]

Action: Support amendments or new state statutes that advance pedestrian safety in New Mexico by providing data, attendance, or testimony at legislative hearings if a state legislator or New Mexico-based advocacy organization proposes legislation.

Support federal regulatory actions that improve pedestrian safety

Regulations for automotive safety technology are set at the federal level and require federal action. One such action could be requiring automakers to improve design of vehicles to lower the severity of a pedestrian-involved crashes. This could include alterations to hood and bumper design on vehicles.[61] Another federal action could be to require the installation of vehicle safety technology that could prevent or lower the severity of pedestrian-involved crashes. These would include changes to the Federal Motor Vehicle Safety Standards, including requiring Driver Monitoring Systems on new vehicles.

Action: Provide pedestrian crash trend data to any member of the New Mexico federal congressional delegation supporting federal regulatory actions that would improve pedestrian safety.

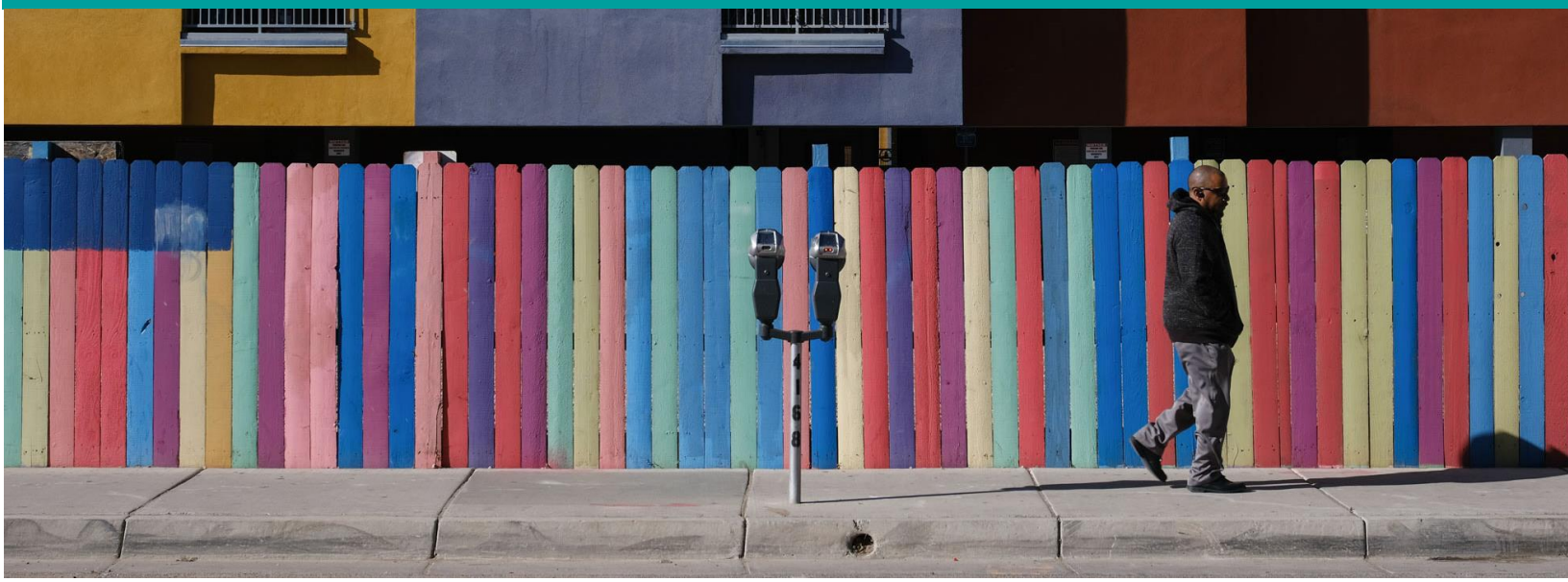
[60] League of American Bicyclists. "Vulnerable Road User Laws." 2018. https://bikeleague.org/sites/default/files/VulnerableRoadUser_8_2018.pdf
[61] NTSB. "Highway Special Investigation Report: Pedestrian Safety." September 25, 2018. https://www.ntsb.gov/news/events/Documents/2018-DCA15SS005-BMG-abstract.pdf

Deploy internal NMDOT survey about pedestrian safety practices and staff training needs every other year

Monitoring internal progress within NMDOT is critical to understanding the impacts of the various actions in the PSAP. The internal survey deployed as part of the initial PSAP process can be recycled in future years to measure progress within NMDOT related to pedestrian safety awareness and possible training needs.

Action: Every two years, issue the 2019 PSAP survey to all NMDOT staff involved with project development. Compare the results over time to help measure internal progress and identify staff needs.

Chapter 3 – Existing Conditions – DRAFT



As part of the development of the PSAP, the consultant team compiled data for an analysis of existing conditions. The analysis consists of three main elements, including a statewide crash analysis, a scan of existing NMDOT plans and procedures, and a summary of other programs and actions taken by peer DOTs. The main purpose of this analysis, summarized in this chapter, is to set a foundation and establish the basis for the recommended actions in **Chapter 2**.

Crash Analysis

Reviewing available crash data is critical to understanding current conditions and risk factors for pedestrians on state roads. Based on a statewide crash analysis covering 2012-2018, **3,903 pedestrian-involved crashes**[62] were reported on New Mexico's roads (including both NMDOT and non-NMDOT roads).[63] Of those, **476 resulted in pedestrian fatalities**. Key findings from the analysis included:

- 79% of reported crashes involving a pedestrian resulted in injury (to the pedestrian)
- 91% of the reported crashes occurred on urban roads[64]
- The top contributing factors to crashes were pedestrian error (25%),[65] alcohol/drug involvement (driver or pedestrian) (24%), and driver inattention (18%)

[62] Some of the crashes involved multiple pedestrians. Data presenting information about the pedestrians involved in the crashes total 4,063 as that is the number of pedestrians that have been involved in those crashes.

[63] The total number of crashes cited is those reported and tallied through the Uniform Crash Report system, which only includes crashes that law enforcement responded to. It is assumed that additional pedestrian-involved crashes occurred during this period, but were not reported and are therefore not accounted for in the totals.

[64] Urban roads are defined by the Federal Highway Administration urban area and NMDOT-modified urbanized area boundaries.

[65] Pedestrian error includes failing to yield to right of way, crossing outside of a crosswalk, and other actions. This data may also be captured under the factor "failed to yield right of way," depending on the assessment of the recorder, as both drivers and pedestrians are combined in this category. "Pedestrian error" is the term used in the Uniform Crash Report (UCR) form and,

- 65% of pedestrians involved in crashes were male
- While only 11% of the New Mexico population is American Indian, according to the US census, 16% of pedestrians involved in crashes are American Indian
- 36% of crashes occurred on two-lane roads (one lane in each direction), and 43% of fatalities occurred on two-lane roads, suggesting that a considerable number of crashes occur on smaller roads with less capacity

Key elements of crashes from the review of the available crash data (from 2012-2018) are presented in Tables 10-16 and in Figure 3. As shown, the total count is 3,903 in some of the tables and 4,063 in others. The reason for this difference is that there were 3,903 crashes, but some crashes involved multiple pedestrians, resulting in a total of 4,063 pedestrians involved in crashes.

Table 10. Pedestrian-Involved Crash Severity

Crash Severity	Count	Percent of Total
Fatal Crash	476	12%
Injury Crash	3,080	79%
Property Damage Only Crash[66]	347	9%
Total[67]	3903	100%
# of Class A injuries reported – Suspected Serious Injury	663	20%
# of Class B injuries reported – Suspected Minor Injury	1,377	40%
# of Class C injuries reported – Other Possible Injury	1,344	40%
Total	3384	100%

Table 11. Pedestrian-Involved Crashes by Road System

Road Type	Count	Percent of Total
Rural Interstate	66	2%
Rural Non-Interstate	288	7%
Urban	3,549	91%
Total	3,903	100%

when taken literally, suggests that the behavior or choice of the pedestrian was the primary or sole cause of the crash. What the UCR form does not account for and crash reporting does not typically capture is how deficiencies in the built environment may have been the primary cause of the pedestrian's behavior or choice, such as the lack of a protected crossing in a location with high pedestrian traffic or the lack of adequate crossing times for a pedestrian signal phase at an intersection.

[66] This crash classification is most commonly used when no bodily harm was incurred by anyone involved in the crash.

[67] Note that this number indicates the most severe level of injury in a crash. This is not the number of fatalities or injuries, as multiple people can be killed or injured in a crash. For the total number of *people* in crashes by level of injury, see the total of Class A, B, and C injuries reported below.

Figure 3. Pedestrian-Involved Crash Corridor and Cluster Infographic

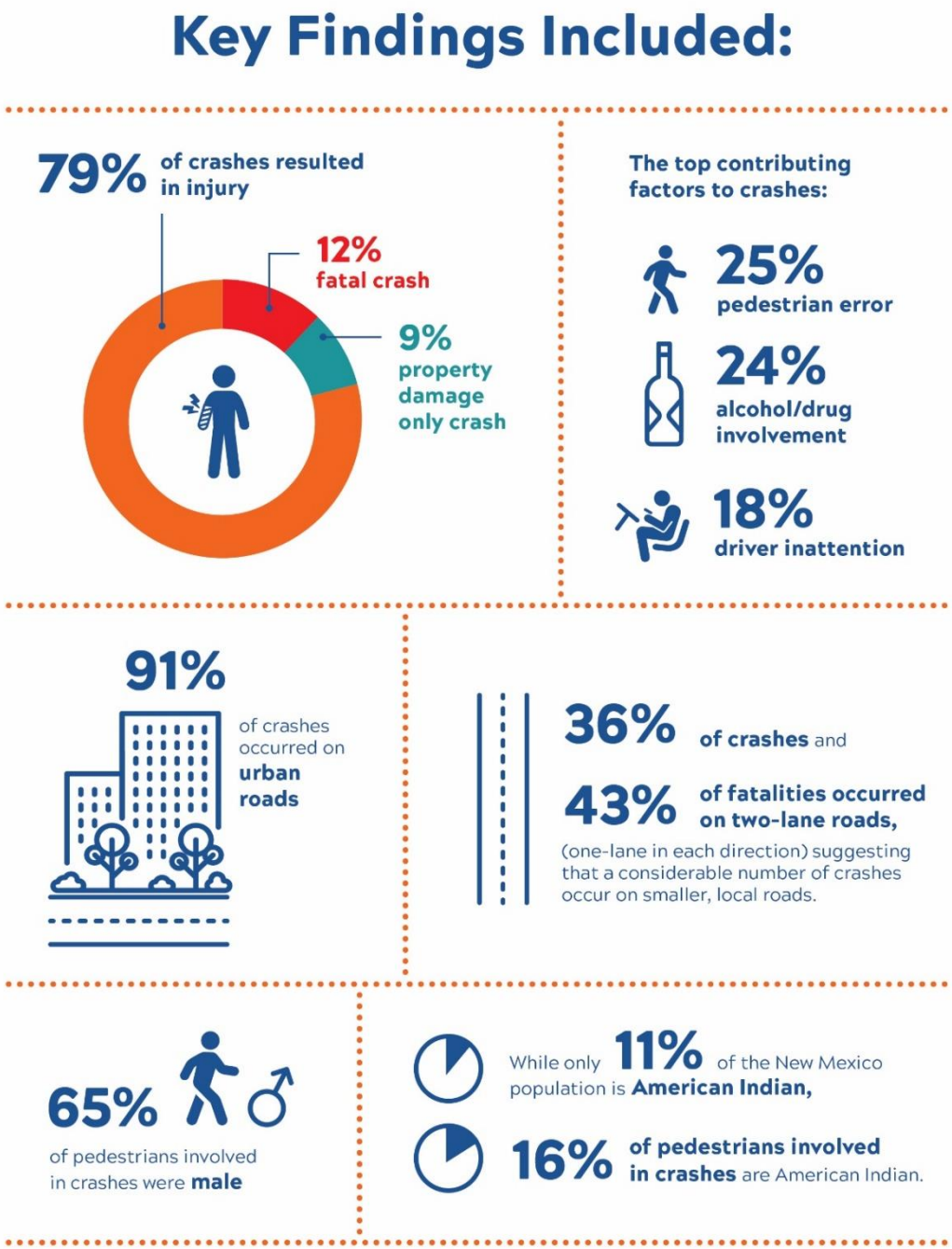


Table 12. Highest Contributing Factor to Pedestrian-Involved Crashes

Highest Contributing Factor	Count	Percent of Total
Pedestrian Error[68]	957	25%
Alcohol/Drug Involved	930	24%
Driver Inattention	699	18%
Motorist or Pedestrian Failed to Yield Right of Way	376	10%
None	276	7%
Missing Data	114	3%
Other - No Driver Error	101	3%
Other - Improper Driving	83	2%
Disregarded Traffic Signal	73	2%
Excessive Speed	60	2%
Other (Combined)	234	6%
Total	3,903	100%

Table 13. Age Range for Pedestrians in Pedestrian-Involved Crashes (Driver Seat Position = Pedestrian[69])

Age Range	Count	Percent of Total
0-10	207	5%
11-20	575	14%
21-30	779	19%
31-40	583	14%
41-50	565	14%
51-60	559	14%
60-70	341	8%
71-80	131	3%
81+	52	1%
Missing Data	271	7%
Total	4,063	100%

Table 14. Gender of Pedestrians in Pedestrian-Involved Crashes (Driver Seat Position = Pedestrian)

Pedestrian Gender	Count	Percent of Total
Male	2,648	65%
Female	1,313	32%
Missing Data	102	3%
Total	4,063	100%

[68] Pedestrian error includes failing to yield to right of way, crossing outside of a crosswalk, and other actions. This data may also be captured under the factor "failed to yield right of way," depending on the assessment of the recorder, as both drivers and pedestrians are combined in this category. "Pedestrian error" is the term used in the Uniform Crash Report (UCR) form and when taken literally, suggests that the behavior or choice of the pedestrian was the primary or sole cause of the crash. What the UCR form does not account for and crash reporting does not typically capture is how deficiencies in the built environment may have been the primary cause of the pedestrian's behavior or choice, such as the lack of a protected crossing in a location with high pedestrian traffic or the lack of adequate crossing times for a pedestrian phase at a busy intersection.

[69] Pedestrians and pedal cyclists (bicyclists) are categorized as non-motorized vehicles and are identified by seat position values of pedestrian and pedal cyclist, respectively.

Table 15. Race of Pedestrians in Pedestrian-Involved Crashes (Driver Seat Position = Pedestrian)

Pedestrian Race	Percent of Total New Mexico Population	Count	Percent of Total Crashes
Caucasian	37%	1,139	28%
Hispanic	49%	1,002	25%
American Indian	11%	632	16%
Black	3%	150	4%
Asian	2%	19	<1%
Other	3%	447	11%
Missing Data	N/A	674	17%[70]
Total		4,063	100%

Table 16. Number of Roadway Lanes at Pedestrian-Involved Crash Locations

Road Design – Lanes	Count	Percent of Total
One Lane	848	22%[71]
Two Lanes	1,407	36%
Three Lanes	660	17%
Four+ Lanes	399	10%
Missing Data	589	15%
Total	3,903	100%

As **Figure 4** (below) shows, pedestrian-involved crashes in New Mexico during the study period generally occured in areas with higher populations, such as Santa Fe, Albuquerque, and Las Cruces. One corridor that stands out as an exception to this is the north-south US Route 491 in San Juan and McKinley counties, where fatal crashes are clustered along a generally rural corridor with a comparatively low population. As shown on Figure 5, Bernalillo County, which contains the City of Albuquerque, has the highest number and density of crashes. As clearly shown, injury crashes are the most common and there are distinct corridors where notable crash clustering occurred during the reporting period.

[70] It is assumed that racial data is missing for 17 % of the crashes because reporting officers completing the UCR form either did not know the race of the pedestrian(s) involved in the crash or they knew but neglected to respond to this question.

[71] The number of actual one-lane roads on the state network is less than one percent. These are roads that provide capacity for the safe passage of only one vehicle at a time. The count and percent data for one lane facilities presented in the table suggests that reporting officers are often misinterpreting the meaning of this field in the UCR and incorrectly assuming that 'one-lane' refers to one lane in each direction, which actually equates to a two-lane facility. Therefore, it can be assumed that nearly all crashes reported on one-lane roads (and accounted for in the table) actually occurred on two-lane roads. This issue and the need for clarification has been addressed through the Plan's recommendations.

Figure 4. Statewide Pedestrian-Involved Crashes (2012-2018)

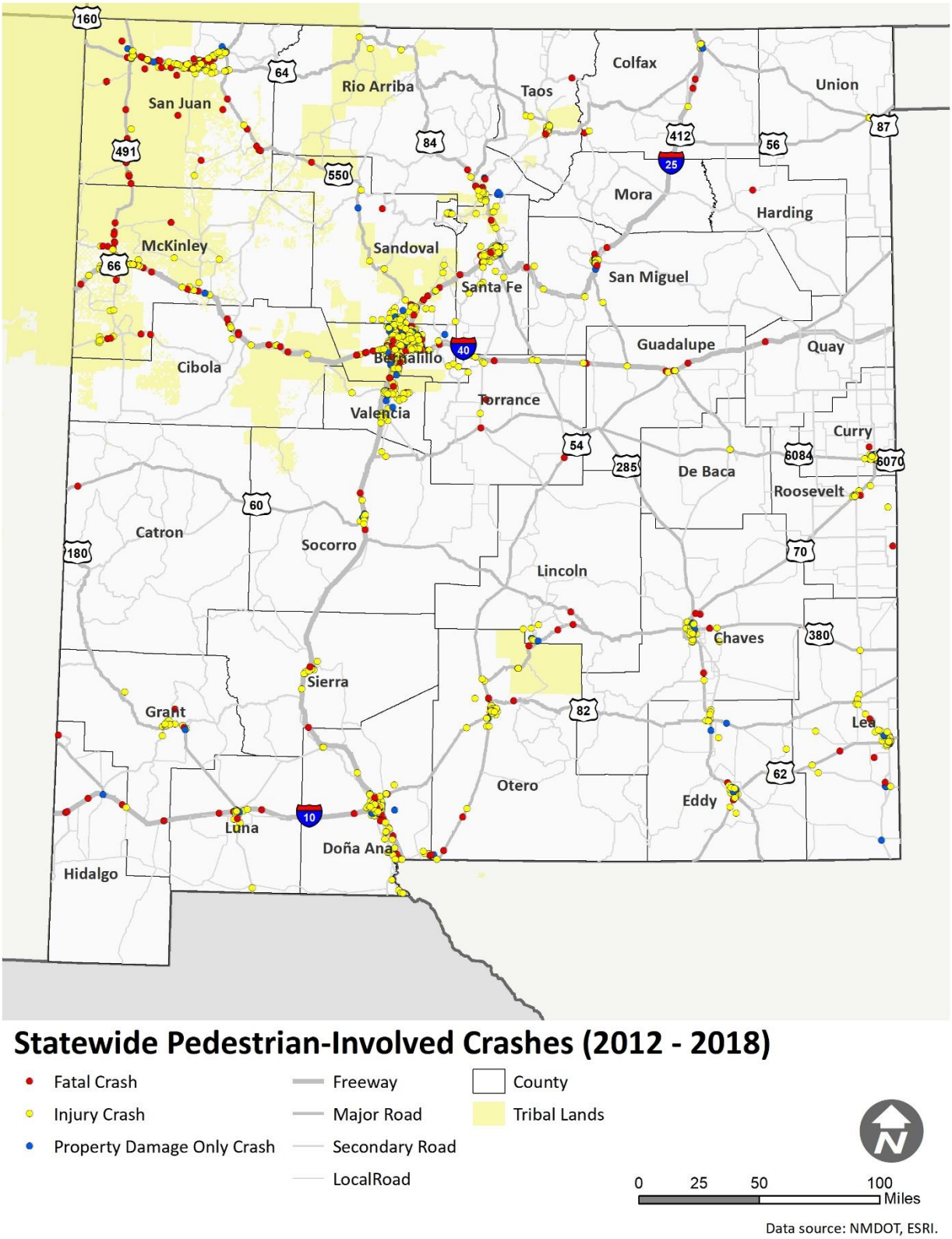
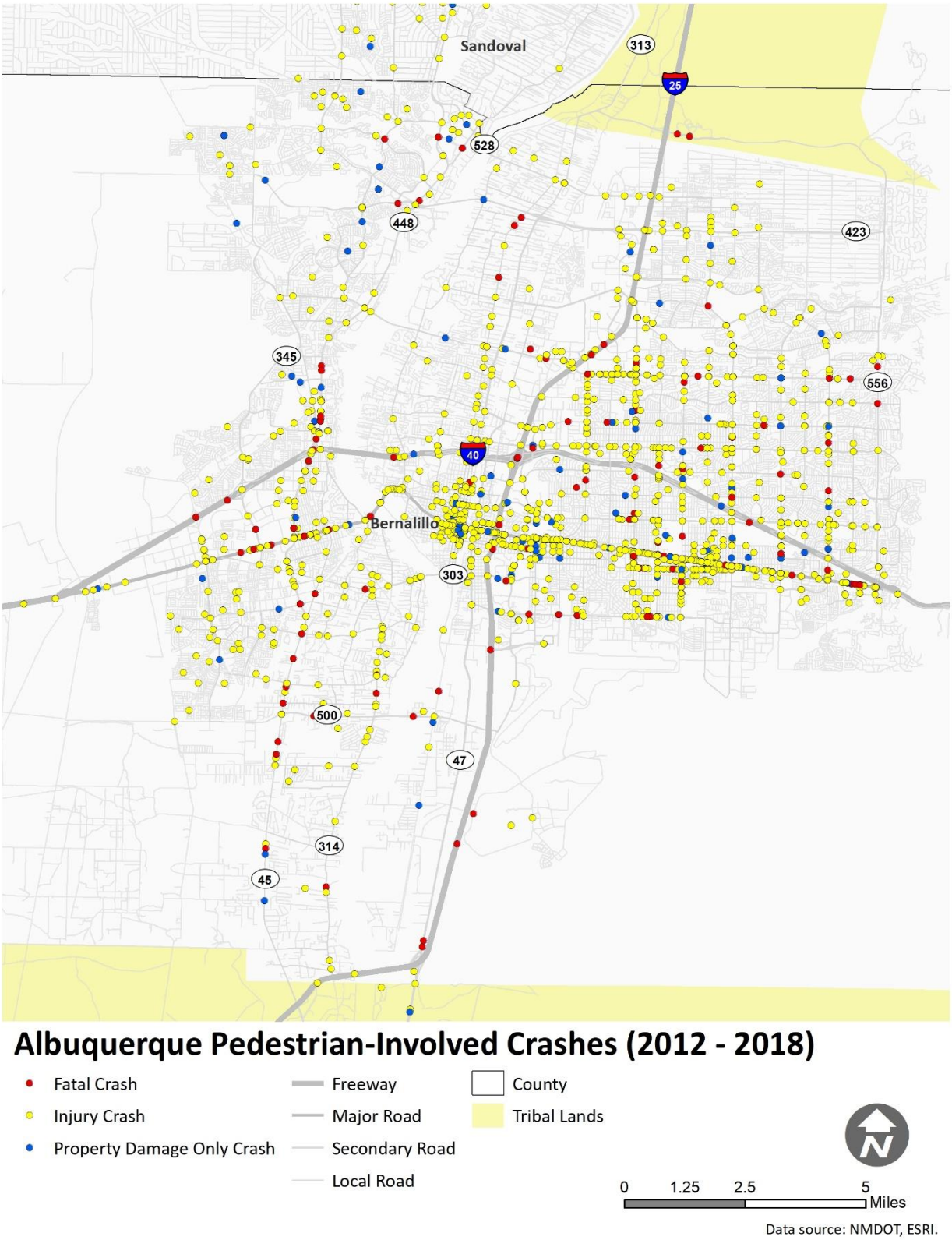


Figure 5. Albuquerque Pedestrian-Involved Crashes (2012-2018)



Key High-Crash Clusters

The project team identified 20 key clusters throughout the state with the highest concentrations of pedestrian-involved crashes during the reporting period that resulted in pedestrian injuries or fatalities. The team then analyzed the crashes within the clusters to document key characteristics, such as roadway type, surrounding land uses, time of day, and crossing type, among others. The clusters are shown in **Figure 6** and include the following communities:

- Albuquerque (1,850 crashes)
- Santa Fe (225 crashes)
- Las Cruces (222 crashes)
- Gallup (146 crashes)
- Farmington (112 crashes)
- Roswell (65 crashes)
- Hobbs (62 crashes)
- Carlsbad (54 crashes)
- Alamogordo (54 crashes)
- Clovis (40 crashes)
- Silver City (31 crashes)
- Taos (27 crashes)
- Las Vegas (26 crashes)
- Shiprock (23 crashes)
- Los Lunas (21 crashes)
- Espanola/Sombrillo/El Valle De Arroyo Seco (21 crashes)
- Deming (21 crashes)
- Truth or Consequences (14 crashes)
- Socorro (14 crashes)
- Portales (9 crashes)

Within these clusters, the team looked more closely at high-crash corridors as called out in the map in **Figure 6**. These high-crash corridors contained a total of 1,419 crashes (36% of all pedestrian-involved crashes). Depending on the size of the cluster, the number of high-crash corridors reviewed per cluster spanned from one (Portales region) to six (Albuquerque region).

Table 17 lists the high-crash corridors reviewed for this sub-analysis. Nearly half of these high-crash corridors are owned or maintained by NMDOT. The top 20 high-crash corridors are presented to give direction and efficacy to several of the actions presented in **Chapter 2**. However, all corridors throughout the state where crashes occurred during the reporting period are important and warrant attention. The remaining corridors are identified in numerical order (from highest to lowest number of crashes) in **Appendix 2**.

Table 16. Pedestrian-Involved High Crash Corridors

Corridor	City	Number of Pedestrian-involved Crashes
Central Ave SE	Albuquerque	331
NM 45*	Albuquerque	124
San Mateo Blvd NE	Albuquerque	112
Montgomery Blvd NE	Albuquerque	89
US 66 Central Ave SW	Albuquerque	84
Menaul Blvd NE	Albuquerque	50
Cerrillos Road / NM 14*	Santa Fe	44
4th St NW	Albuquerque	42

Business 40NM 118	Gallup	31
US 491*	Gallup	23
NM 342 / Lohman Ave*	Las Cruces	26
NM 516 / Main St from South Lake St to Pinion Hills Blvd	Farmington	25
US 70 / Spruce Ave	Las Cruces	22
NM 68 / Paseo del Pueblo Sur*	Taos	22
US 285 / Main St*	Roswell	18
NM 516 / Main St from Rd 6500 to South Lake St*	Farmington	18
NM 602*	Gallup	17
US 491*	Shiprock	16
NM 188 / NM 185 / Valley Dr*	Las Cruces	16
NM 18*	Hobbs	15

**Roads owned or maintained by NMDOT.*

Within these high-crash corridors, each crash was then analyzed to gain insight on the following factors:

- Crash severity
- Vehicular movements
- Contributing factors
- Time of day
- Posted speed limit
- Number of lanes
- Presence of center median
- Surrounding land uses
- Type of crossing location (i.e., signalized intersection, pedestrian hybrid beacon, mid-block un-marked crosswalk)[72]

Results from this analysis are discussed in the subsequent sections and illustrated in **Figure 6.**

Crash Severity

10% of crashes occurring on high-crash corridors were fatal. Nearly 80% of crashes occurring on high-crash corridors caused injury.

[72] The type of crossing present is critical to pedestrian safety. A signalized intersection represents an intersection that has a traffic light or other traffic stopping device, such as a high-intensity activated crosswalk. A pedestrian hybrid beacon is a traffic control device that warns and controls traffic via flashing amber lights at unsignalized locations. Un-marked mid-block crossings represents areas along a corridor where there are no pedestrian crossing signage or pavement markings present.

Vehicular Movements

Crashes resulted from drivers traveling straight (57%), turning left (13%), or turning right (11%).

Contributing Factors

The most common contributing factor for crashes included alcohol / drugs (26%)[73] and pedestrian error (21%).

Time of Day

The majority of crashes occurred during the day (51%), followed by those occurring at night but with streetlights present (28%). Only 15% of crashes occurred at night with no streetlights present.

Roadway Characteristics

The majority of crashes on high-crash corridors occurred on roadways with posted speed limits between 35-45mph and with a center median or turn lane, and surrounded by predominantly low- to mid-density commercial land uses. These high-crash corridors also tend to have long distances between signalized intersections, which could explain the high number of crashes occurring at mid-block locations with no crosswalks.

Type of crossing location

The majority of the crashes on high-crash corridors occurred at the following locations:

- Signalized intersections (38%)
- Un-signalized intersections (37%)
- Mid-block locations with no crosswalk (25%)
- Mid-block locations with a crosswalk (1%). Note that there currently are very few mid-block crosswalks in New Mexico, which points to the high percentage of crashes occurring at mid-block locations with no crosswalks.

See **Figure 6** for a summary of these key statistics along high-crash corridors. Review of these factors was critical to better understanding the current state of pedestrian safety on New Mexico roads and helped form the recommendations presented in this Plan. For the full report on crash statistics in these high-crash clusters, see **Appendix 2**.

[73] This includes impairment of motorist and/or pedestrian due to use of alcohol or drugs.

Figure 6. Crash Cluster and Corridor Identification Map

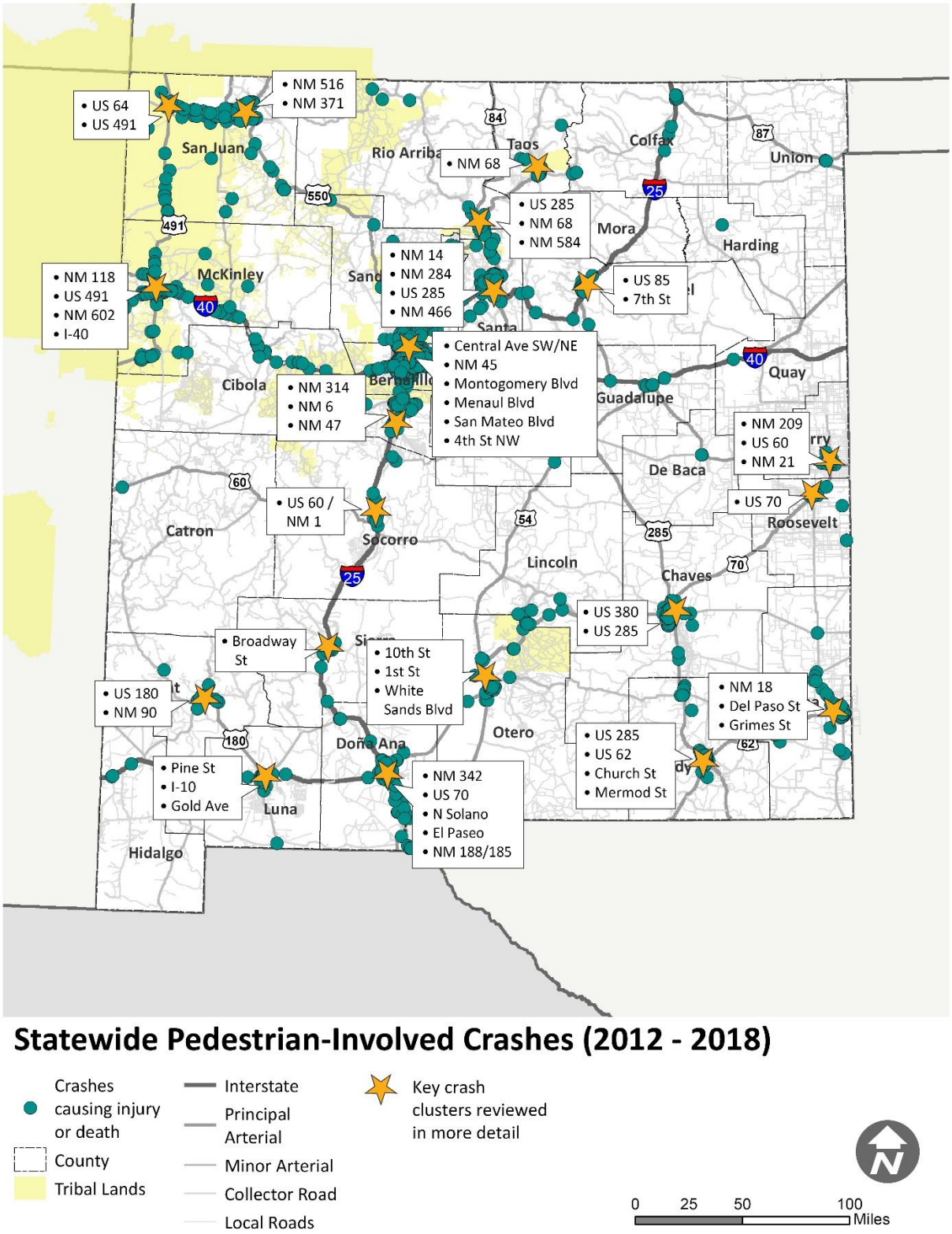
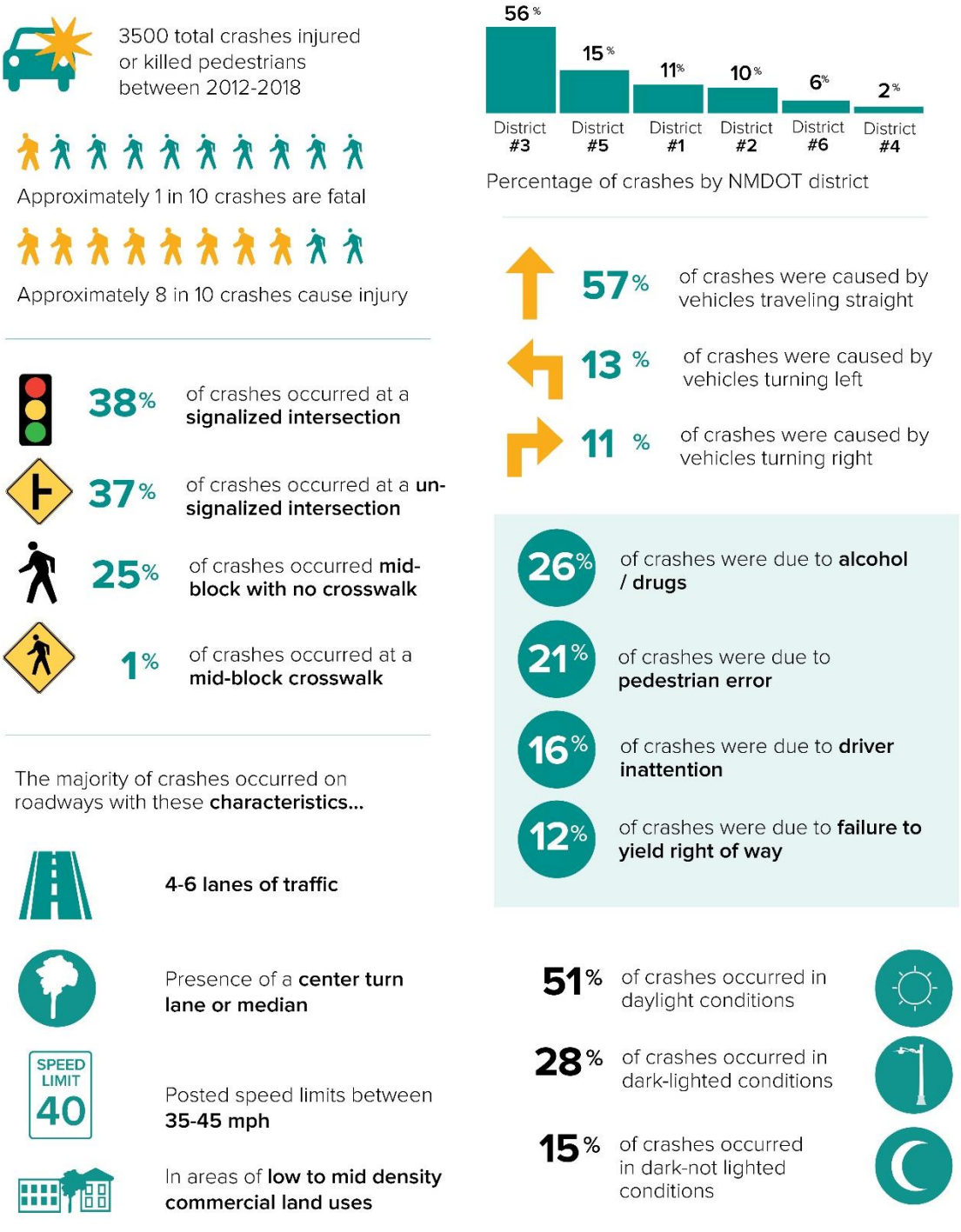


Figure 7. Pedestrian-Involved Crash Cluster and Corridor Identification Infographic



Relevant NMDOT Documents and Policies

The PSAP is, in many ways, an extension of several plans and guidelines already adopted by NMDOT. Taken together, these plans guide the development and maintenance of a multimodal transportation system. Several of the existing plans recommend actions to enhance pedestrian access and safety on the state's roads. The actions recommended in this PSAP build on the preceding guidance and seek to further define and provide direction on how NMDOT can help reverse the trend of pedestrian injuries and fatalities throughout the state.

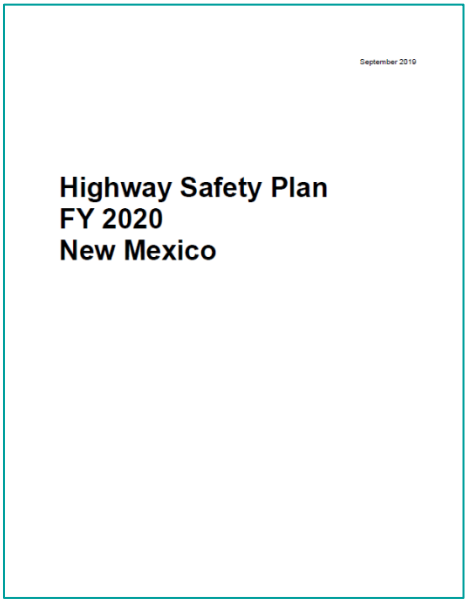
The following relevant guidance documents and policies are described in further detail below:

- Highway Safety Plan (HSP) (2020)
- Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations (2018)
- New Mexico Strategic Highway Safety Plan (SHSP) (2016)
- 2040 Long Range Multi-Modal Transportation Plan (2015)
- Relevant state statutes

The citations from these documents and statutes provided in this chapter highlight key elements related to pedestrian safety, but are not intended to convey all relevant content.

Highway Safety Plan (HSP) (2020)

Responsible Party: NMDOT Traffic Safety Division



The main goal of the HSP is to identify highway safety needs, establish performance measures, and develop strategies to address the needs and meet the performance measure targets. The HSP, a requirement of the National Highway Traffic Safety Administration (NHTSA), is more focused on educational and enforcement strategies, rather than engineering and infrastructure. The HSP identifies several focus areas for pedestrian safety including:

- High-Risk Demographic: Males 25-39 and 55-59
- High-Risk Locations: Bernalillo (Albuquerque), San Juan, McKinley, and Doña Ana counties
- High-Risk Behavior: Alcohol use, driver inattention, pedestrian error, and failure to yield

The key action recommended in the HSP is to increase outreach regarding pedestrian safety through media campaigns such as the "Look for Me" campaign. The plan also recommends completion of pre- and post-campaign awareness surveys to understand the effectiveness of campaigns and inform future campaign messaging; support for community-based projects, particularly in identified high-risk areas; and collaboration with local law enforcement to increase community awareness of traffic safety and provide training to law enforcement on pedestrian-involved crash investigations.

Network Screening Report (2019)

Responsible Party: NMDOT Multimodal Planning and Programs Bureau

NMDOT developed a Network Screening Report (NSR), using the AASHTO Highway Safety Manual process. With this tool, NMDOT reviews the transportation network and identifies sites with high potential for safety improvements in crash frequency. The NSR completed network screening processes for NMDOT roadway segments and intersections, with a separate set of results for pedestrian-involved crashes that considered all state roadways. NMDOT uses the NSR to identify locations for safety studies and projects and to prioritize Highway Safety Improvement Program (HSIP) funding.

Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations (2018)

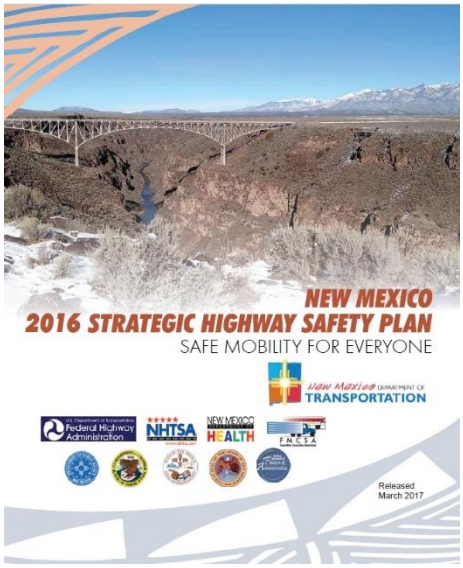
Responsible Party: NMDOT

This action plan, developed by the Every Day Counts-4 Committee for Safe Transportation for Every Pedestrian, provides specific recommendations for improving pedestrian conditions at uncontrolled pedestrian crossing locations, where no traffic control (e.g., traffic signal or stop sign) is present. Relevant recommendations from the plan include:

- Develop pedestrian count and observation procedures for use in road safety audits and projects.
- Explore incentives for encouraging local agencies to complete more pedestrian counts and make the data available for use internally and externally.
- Continue requiring pedestrian counts in all road safety audits and consider including the requirement for HSIP applications, depending on the location of the project.
- Develop a formalized approach for studying pedestrian activity in all engineering studies.
- Develop a predictive model (systematic analysis) to be used to identify locations where there is a high potential for pedestrian-involved crashes to occur. This model should consist of a pedestrian-involved crash analysis to identify key risk factors that contribute to pedestrian-involved crashes by analyzing potential contributing pedestrian-involved crash risk factors.
- Develop design guidance for installing marked crosswalks at uncontrolled and mid-block locations. The guidance should represent best practices as found in the Federal Highway Administration's (FHWA) *Guide for improving Pedestrian Safety at Uncontrolled Crossing Locations* (2018). Using the new guidance, evaluate ways to enhance crossings near transit stops. Additionally, provide internal training on installing marked crosswalks to acquaint Project Development Engineers with placement and design options.
- Develop a phased improvement program to select countermeasures and prioritize locations for improving pedestrian facilities at uncontrolled locations. Recommended improvements shall be divided into three types of interventions: simple measures, moderately complex measures, and complex measures.

Strategic Highway Safety Plan (SHSP) (2016)

Responsible Party: NMDOT Multimodal Planning and Programs Bureau



An SHSP is a major component and requirement of the FHWA Highway Safety Improvement Program (HSIP). It is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. An SHSP identifies a state's key safety needs and guides investment decisions towards strategies and countermeasure with the most potential to save lives and prevent injuries. Pedestrians are identified as a high-priority safety emphasis area in the NM SHSP. The SHSP identifies the actions and strategies for a five-year period from 2017-2021 to achieve this goal. Pedestrian priority safety strategies include:

- Explicitly include the safety of all road users in the design of transportation projects, including maintenance projects and plans.
- Include safe interaction and connectivity of transit, pedestrian, and bicycle modes in the planning, design, and construction of transportation facilities.
- Continue improving the collection and analysis of pedestrian-involved crash data (whether or not a motor vehicle is involved) and facilitate the development of an integrated database that includes all data collected at state, local (MPO and RTPO), and tribal levels
- Install traffic calming road sections and intersections, such as road diets.
- Encourage and fund pedestrian safety education and enforcement programs.
- Install street lighting and other measures to improve conspicuity and visibility of pedestrians.
- Using data, identify hot spots and other related safety issues and evaluate countermeasures as part of the HSIP Systemic Pedestrian Safety Program.
- Develop guidelines and policies that include safe interaction and connectivity of transit, pedestrian, and bicycle modes in planning and design of transportation facilities.
- Encourage state and local siting policies and decisions that facilitate safe walking and bicycling to school.
- Research options for addressing alcohol-impaired pedestrian activity and for supporting successful program and efforts by other partners.

New Mexico 2040 Plan - Long Range Multi-Modal Transportation Plan (2015)

Responsible Party: NMDOT Planning Division

The overall goal of the FHWA mandated *New Mexico 2040 Plan* (2040 Plan) is to "provide multimodal access and connectivity for community prosperity". Pedestrian focused actions include:

- Develop a state bicycle, pedestrian, equestrian (BPE) plan to refine the strategies set forth in the 2040 Plan and establish priorities for facility development.
- Train staff and planning partners on ADA-compliant design standards for sidewalks, curb ramps, crosswalks, pedestrian facilities in rural areas, and other pedestrian elements that meet all of the requirements of the Americans with Disabilities Act.
- Develop design guidance (including model plan and profile views for streets) to address pedestrian needs along NMDOT facilities in local communities.

- Improve safety through enhanced roadway features designed for drivers and pedestrians, the two most common modes of transportation for seniors. Safety improvements include larger and brighter stoplights, adequate lighting and larger signs, traffic calming, and protected left-turn lanes for drivers, and high visibility crosswalks, median islands, and smart signals that detect pedestrians.

Included in the plan is an approach to support NMDOT decision-making about when and where projects should have a Complete Streets approach. Criteria including land use, households without motor vehicles, bicyclist and pedestrian counts, crash history, access to destinations, senior populations, and supportive plans (bike/pedestrian plan, regional transportation plan, or Safe Routes to School plans) in place.

Relevant New Mexico State Statutes

Responsible Party: New Mexico State Legislature

66-7-105. Traffic-control signal legend

This statute outlines the permitted vehicular and pedestrian user movements at traffic signals. The statute requires that vehicles yield to pedestrians lawfully crossing the roadway (A(1)), (C(1)). At signalized crossings, pedestrians must wait for a green light or a "walk" signal to be permitted to cross (C(4)). During a red with green arrow signal, pedestrians may not enter the roadway unless it is safe to do so and without interfering with any vehicular traffic (D(2)).

66-7-106. Pedestrian-control signals

The statute pertains to special pedestrian control signals exhibiting the words "walk" and "don't walk". During a "walk" signal, pedestrians may proceed with the right-of-way across the roadway in the direction of the signal (A(1)). During a "don't walk" signal, no pedestrian shall start to cross the roadway in the direction of the signal, but any pedestrian who has partially completed the crossing on the walk signal shall proceed to a sidewalk or safety island while "don't walk" is displayed (A(2)).

66-7-333. Pedestrians subject to traffic regulations

Local authorities may require that pedestrians shall strictly comply with the directions of any official traffic-control signal and may by ordinance prohibit pedestrians from crossing any roadway in a business district or any designated highway except in a crosswalk.

66-7-334. Pedestrians' right-of-way in crosswalks

When traffic controls are not in place or operation, drivers shall yield the right-of-way, slowing down or stopping if need be to so yield to a pedestrian crossing the roadway within a crosswalk when the pedestrian is in a crosswalk (A). Pedestrians shall not leave curbs suddenly so that it is impossible for a driver to yield (B). Vehicles shall not overtake or pass other vehicles stopped at marked crosswalks (D).

66-7-335. Crossing at other than crosswalks

A pedestrian shall yield the right-of-way when not crossing at a marked crosswalk or within an unmarked crosswalk (A). Where pedestrian tunnels or overhead pedestrian crossings are provided, pedestrians shall yield the right-of-way to all vehicles on the roadway (B). Between adjacent intersections where traffic-control signals are in operation, pedestrians shall not cross at any place except in a marked crosswalk (C).

66-7-337. Drivers to exercise due care

Notwithstanding the provisions of 66-7-333 through 66-7-340, every driver of a vehicle shall exercise due care to avoid colliding with any pedestrian upon any roadway and shall give warning by sounding of horn when necessary and exercise proper precaution upon observing any child or any confused or incapacitated person upon a roadway.

66-7-339. Pedestrians on roadways

The statute clarifies how pedestrians should use roadways with and without sidewalks. Where sidewalks are provided, it is unlawful for a pedestrian to walk on the adjacent roadway (A). Where sidewalks are not provided, a pedestrian walking along the roadway shall, when practicable, walk only on the left side of the roadway or its shoulder facing traffic that may approach from the opposite direction (B). A person violating these provisions is guilty of a penalty assessment misdemeanor (C). Drivers must anticipate a pedestrian's presence on roadway and exercise reasonable care.

67-3-62. Provisions for pedestrian, bicycle and equestrian traffic required

The statute states that no expenditure or contract for the expenditure of state public funds for the purposes of constructing new highway in new alignments or substantially widening highways along existing alignments can be made by the state highway department unless the design and construction of the highway makes provision for pedestrians, bicycles, and equestrian traffic along and across the highway (A). Exceptions to this requirement can be made after the state highway department providing notice and a public hearing determines that provisions for pedestrian, bicycle and equestrian traffic would be contrary to public safety (A(1)) or the cost of the provision would be disproportionate to the need or probable usage (A(2)). Public hearings are also required when the highway department is petitioned by authorized officials or affected pedestrian, bicycle, or equestrian associations (B(3)).

National Guidance

FHWA Guidebook on Identification of High Pedestrian-Involved Crash Locations

The FHWA *Guidebook on Identification of High Pedestrian-Involved Crash Locations*[75] identifies useful approaches beyond existing crash data to achieve greater pedestrian safety. A proactive approach uses models, such as **safety performance functions (SPFs),** to determine the expected number of crashes (or crash frequency) for locations within a set region. These estimates can be used to prioritize the sites that may potentially need treatments. The approach is proactive because it addresses a potential risk, rather than an experienced problem.

Another example of a proactive approach gaining traction across the US is the **systemic approach**. A systemic highway safety improvement uses a particular countermeasure or set of countermeasures implemented on all roadways or roadway sections where a crash type or risk factor is linked with a particular roadway or traffic element. Locations are selected for treatment based on an analysis of which roadways or roadway sections have a given risk factor or crash type that may be mitigated by the improvement, not the frequency or rate of crashes at a location.

FHWA *How to Develop a Pedestrian and Bicycle Safety Action Plan*

In 2017, FHWA published a comprehensive document to provide an overview and framework for developing pedestrian safety action plans. Best Practice Recommendations from FHWA's *How to Develop a Pedestrian and Bicycle Safety Action Plan*[76] include:

- Take a multidisciplinary approach. Relying on stand-alone strategies, such as roadway design or awareness campaigns, will not accomplish the goal of reducing fatalities and injuries.
- Create specific benchmarks and metrics – include explicit targets for reducing fatalities, injuries, and crashes, as well as a timeline for achieving these results.
- Coordinate with existing plans such as:
    - State Strategic Highway Safety Plan (SHSP).
    - Americans with Disabilities Act (ADA) Transition Plan.
- Match identified safety problems and community concerns with specific countermeasures and programs that address those problems, as well as specific funding sources.
- Include a process for program evaluation to track progress toward meeting the plan's goals.

[75] Federal Highway Administration. "Guidebook on Identification of High Pedestrian Crash Locations." 2018. https://www.fhwa.dot.gov/publications/research/safety/17106/17106.pdf

[76] Federal Highway Administration. "How to Develop a Pedestrian and Bicycle Safety Action Plan." 2017. https://safety.fhwa.dot.gov/ped_bike/ped_focus/docs/fhwasa17050.pdf

What are Peer DOTs Doing?

As states and regions place more emphasis on multimodal planning and safety for all road users, many new resources are emerging. This summary synthesizes guidance and best practices from other DOTs with successful plans in place and making meaningful progress, as well as national recommendations from FHWA resources.

State DOT Case Studies

Pedestrian planning efforts in other states can help inform NMDOT's efforts. These include but are not limited to Arizona, Colorado, Utah, and Minnesota. The following section outlines key elements from these states' Pedestrian Safety Action Plans relevant to the development of New Mexico's PSAP.

Arizona Department of Transportation (ADOT) Pedestrian Safety Action Plan (2017)[77]

- Consultants for ADOT conducted specific analysis to determine high-crash/high-injury state highway segments, including Tribal lands.
- Consultants conducted risk analysis of highway segments to proactively identify where pedestrian improvements are needed.
- Consultants utilized existing tools, such as PEDSAFE[78], which provides a list of possible engineering, education, or enforcement treatments and an analysis feature to find the most appropriate countermeasure for specific crash types.
- The plan prioritized countermeasures by calculating average injury severity cost of crash type (i.e., crossing highway) based on number of crashes within each severity category. (There is an average cost per crash associated with the varying levels of severity. Effectively, this metric helps illustrate which crash types result in the highest monetary cost in terms of injury, allowing crash types to be compared and prioritized for countermeasure intervention).

MnDOT Statewide Pedestrian System Plan - Minnesota Walks (2016)[79]

- Aims to establish design standards that go beyond ADA compliance.
- Suggests recreating the model for Safe Routes to School to include other every day destinations such as parks and transit stops.
- Offers innovative funding solutions.
- Recommends establishing a main street revitalization program that focuses on creating walkable downtowns in communities where main streets are state highways.
- Recommends collaborating with local and regional level partners such as chambers of commerce and tourism organizations to provide funding for programs that address walkability.
- Recommends research into creative funding mechanisms, such as cost sharing between agencies or public-private partnerships, to address pedestrian improvements in public and private projects.

Colorado Statewide Bicycle and Pedestrian Plan (2015)[80]

- Calls to expand permanent data collection infrastructure for pedestrian counts.
- Includes project-level and system-level performance measures.
- Investment Decision Criteria include provisions that prioritize transportation equity, public health, and pedestrian infrastructure.

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[77] Arizona Department of Transportation. "Pedestrian Safety Action Plan." 2017. http://www.azbikeped.org/downloads/ADOT-Pedestrian-Safety-Action-Plan.pdf

[78] US Federal Highway Administration. "PEDSAFE Countermeasures." http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

[79] Minnesota Department of Transportation. "Minnesota Walks." 2016. https://www.minnesotawalks.org/wp-content/uploads/2019/06/Minnesota-Walks-Report.pdf

[80] Colorado Department of Transportation. "Statewide Bicycle and Pedestrian Plan." 2015. https://www.codot.gov/programs/colorado-transportation-matters/documents/statewide-bicycle-and-pedestrian-plan.pdf

Utah Pedestrian Safety Action Plan (2016)[81]

- The UDOT PSAP includes specific tasks to address the plan's goals that are based on the emphasis areas of: Data, Analysis, and Evaluation, Driver Education and Licensing, Highway and Traffic Engineering, Law Enforcement and Emergency Services, Communication Program, Pedestrian Education and Outreach Program, and Legislation, Regulation, and Policy.
- Tasks include complete an ongoing statewide analysis of intersection characteristics and their impact on pedestrian safety and crash risk, improve details of police crash reports involving pedestrians, create guidelines for when added pedestrian infrastructure is recommended, etc.
- Other tasks include evaluate existing state code to identify laws or policies that are outdated, inappropriate, ineffective, irrelevant, etc., and create an index of model ordinances and policies for local governments.

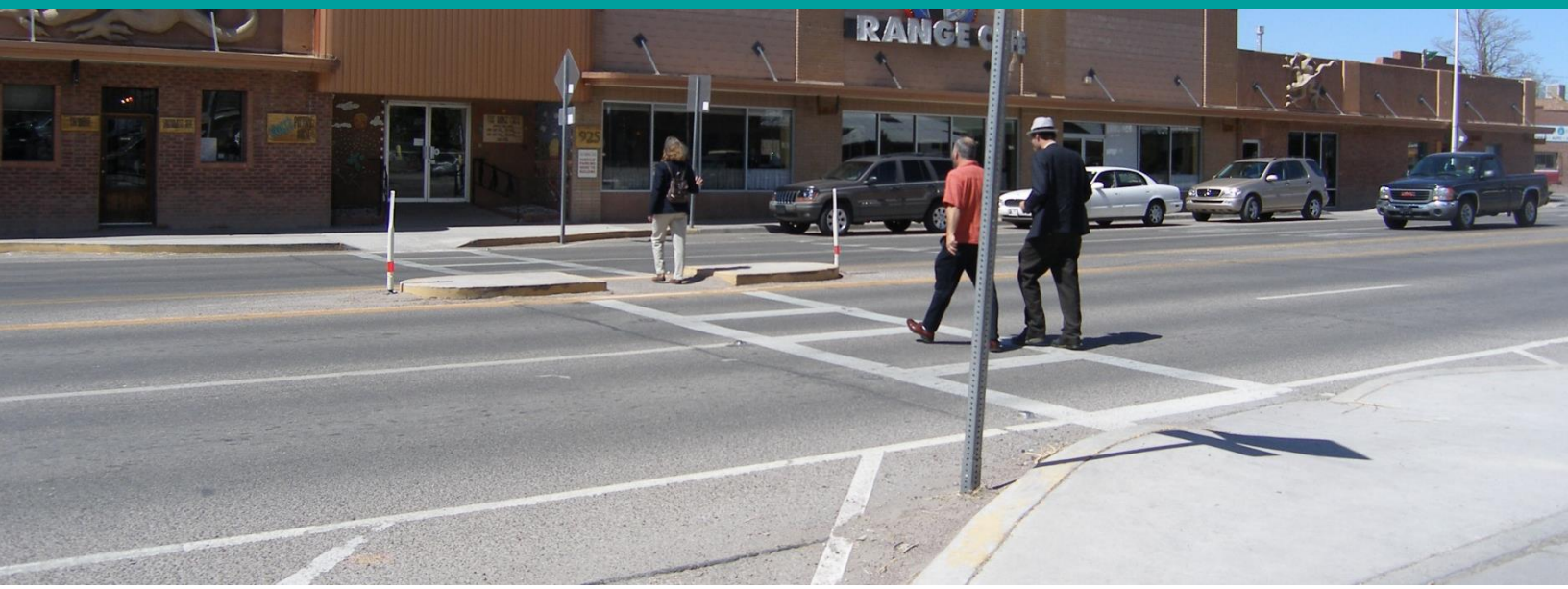
Massachusetts DOT Pedestrian Transportation Plan (2019)[82]

- The MassDOT Pedestrian Transportation Plan includes initiatives and actions that:
    - Promote pedestrian safety, accessibility, and connectivity in decision-making and project development.
    - Establish a set of prioritized pedestrian projects on MassDOT-owned roadways and bridges that address safety, equity, accessibility, and critical gaps in connectivity.
    - Slow vehicle speeds and improve visibility of people walking.
    - Improve pedestrian-accessible paths of travel to transit.
    - Launch a year-round maintenance and operations plan for MassDOT-owned pedestrian facilities, and encourage municipalities to do the same.
    - Invest in data collection to inform initiatives and track progress.

  MassDOT administers state funding programs to support the implementation of improved infrastructure at the municipal level, such as the Complete Streets Funding Program[83] which provides training, design guidance, planning assistance, and funding to municipalities that adopt Complete Streets policies. Similarly, the Chapter 90 program[84] fully reimburses cities and towns for expenditures on road-related construction projects and pedestrian facilities, with flexibility for localities to use the fund.

[81] Utah Department of Transportation. "Utah Pedestrian Safety Action Plan." 2016. https://www.udot.utah.gov/main/uconowner.gf?n=30709316600516086
[82] MassDOT. "Pedestrian Plan." https://www.mass.gov/service-details/pedestrian-plan
[83] MassDOT. "Complete Streets Funding Program" www.mass.gov/complete-streets-funding-program
[84] MassDOT. "Chapter 90 Program" https://www.mass.gov/chapter-90-program

Chapter 4 – Public Outreach – DRAFT



Purpose and Overview

This chapter outlines the outreach strategies that the project team used in developing the Pedestrian Safety Action Plan (PSAP). The outreach process included a range of public and stakeholder engagement efforts to inform plan priorities, identify appropriate strategies, and develop a vision to improve pedestrian safety in New Mexico. As shown in

Figure 8, key outreach efforts included stakeholder interviews and virtual workshops, as well as a series of targeted surveys for NMDOT staff, attendees at the 2019 Tribal Transportation Safety Summit, and the general public.

Public and stakeholder engagement is an essential element for understanding and addressing pedestrian safety in New Mexico. In the development of the PSAP, NMDOT provided multiple venues for public agency staff and community members to learn about pedestrian safety concerns in New Mexico, reflect on their experiences, and identify potential improvements. Public and stakeholder outreach was also valuable in understanding the range of pedestrian conditions experienced across the state, and allowed the project team to gain a greater understanding of needs and opportunities among New Mexico communities.

Figure 8. Key Components of the Public and Stakeholder Outreach Efforts

Key Goals

Outreach efforts for the PSAP were based on the following four overarching goals. These goals, and the outreach efforts used to implement them, are consistent with the 2018 NMDOT Statewide Public Involvement Plan.

1. **Educate about the Project** – Educate the public, NMDOT staff, and stakeholders throughout the state on what the PSAP is, NMDOT's roles and responsibilities as they relate to the PSAP, and what key trends, issues, and opportunities are facing New Mexico in regard to pedestrian safety. Information about the project was conveyed in a way that is accessible and linguistically appropriate to provide equitable engagement across stakeholder groups.

2. **Gather Input on the Pedestrian Experience and Investments** – The outreach process captured and integrated how stakeholders and members of the public perceive pedestrians and their safety and what policies, programs, and investments would be most effective to enhance access and safety in the future.

3. **Build Relationships and Support** – The importance of pedestrian safety in general is amplified through the support of local municipalities, agencies, and institutions. The PSAP outreach process set out to create and further cultivate pedestrian safety champions and ensure that pedestrian safety needs are well-integrated into roadway designs and programs throughout the state.

4. **Reach Under-Represented Groups** – The project team identified strategies for reaching statistically under-represented groups. In response to a potential language barrier, a Spanish interpreter was present at public workshops. In addition, targeted workshops were conducted for tribal stakeholders and for a youth group with members under the age of 24. Interviews were also conducted with stakeholders who could speak to the needs of various groups, including tribes, seniors, and economically disadvantaged populations.

Stakeholders and Participants in the Outreach Process

The project team conducted outreach in order to reach a diverse set of community members and stakeholders across the state. In addition to the general public, key stakeholder groups included public sector agency staff, researchers, public health advocates, and other individuals engaged in pedestrian safety issues. Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs), which encompass multiple member governments (cities, counties, towns, transit districts, and tribes) within their respective spheres of influence, are also important stakeholders. Local and tribal communities were engaged through survey efforts and were encouraged to participate in the virtual workshops discussed later in this chapter.

Methodology

Public and stakeholder outreach for the PSAP featured a combination of outreach strategies, including online participation options, targeted workshops, and interviews. Detailed descriptions of outreach strategies are provided in the section below, with supplemental material available in **Appendix 3**. These strategies were outlined in a **PSAP Outreach Plan** developed at the beginning of the plan development process to operationalize the PSAP's specific goals and objectives into outreach efforts. The project team began internal coordination in late 2019 and conducted public and stakeholder outreach throughout 2020. The sequence of public and stakeholder outreach efforts is depicted in Figure 9.

To refine the plan scope and potential outreach efforts, NMDOT planning staff consulted with a 10-person **Project Steering Committee** to provide input on the scope of the plan and at key points in the outreach and plan development process. Committee members included representatives from various NMDOT divisions, as well as external stakeholders, including an MPO representative, the coordinator for the City of Albuquerque's Vision Zero initiative, and the pedestrian safety program manager from the University of New Mexico. The general approach to public and stakeholder outreach was also informed by the Statewide Public Involvement Plan.

Figure 9. Sequence of Events in Public/Stakeholder Outreach Process

Note on Impacts of COVID-19

It is important to note that the Outreach Plan was revised and updated during the course of 2020 as the COVID-19 pandemic affected the outreach strategies and the intended plan development timeline. As a result, the project team used alternative approaches such as virtual workshops in lieu of planned pop-up events due to social distancing guidelines in place throughout 2020.

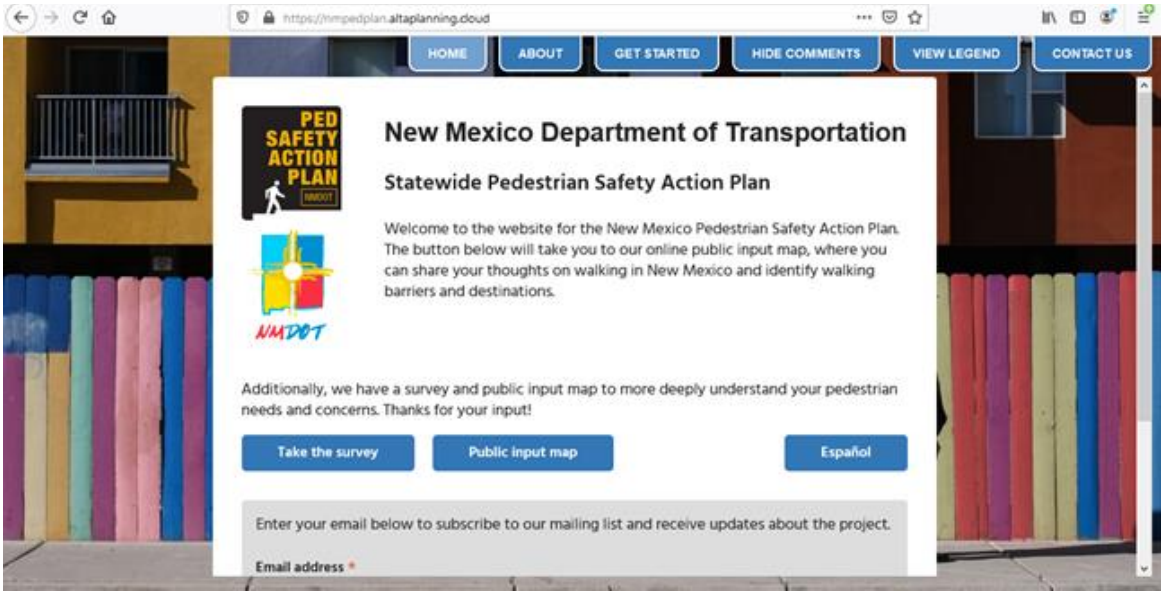
Outreach Strategies

The outreach strategies implemented in the development of the PSAP were intended to create equitable opportunities for public participation and expand awareness of the Plan throughout the state. The set of outreach techniques described below allowed the project team to reach a broad and diverse range of stakeholders.

Project Website

A project-specific website served as a resource hub and provided updates on outreach and engagement opportunities, as well as links to the online survey and the interactive web-based map (see Figure 10). The website, survey, and map were all available in English and Spanish. The website also included a field where visitors to the page could provide their email address to receive future project updates. As of December 10, 2020, there were 113 subscribers from throughout the state. Members of the public could also provide general feedback through a 'Contact Us' form available on the site. Comments identified concerns, such as motorists not conforming to traffic signals or an overall desire for pedestrian infrastructure improvements. See **Appendix 4** for a complete list of comments received.

Figure 10. Project Webpage



Promotion

NMDOT promoted outreach efforts and information regarding the PSAP though press releases and social media posts using Facebook and Twitter (see Figure 11 for examples of social media posts). These outlets were particularly important at the beginning of the process to introduce the project and generate interest and input.

As of December 10, 2020, NMDOT had 6,294 Facebook followers and 2,458 Twitter followers. The project web page and survey – discussed below – were broadly promoted via these social media platforms and through a press release that reached multiple outlets across the state.

Additionally, partner agencies, community organizations representing historically marginalized groups, active transportation advocacy organizations, and universities and colleges were also directly contacted throughout 2020 about upcoming workshops and to disseminate the public survey. Overall, 90 organizations were contacted, including transit agencies, metropolitan planning organizations, and community organizations.

Figure 11. Examples of Promotion using Social Media

Interactive Map

Overview

An interactive map, available on the project website, provided members of the public with the opportunity to share location-specific input on their experiences as a pedestrian. The map enabled users to provide three main types of input:

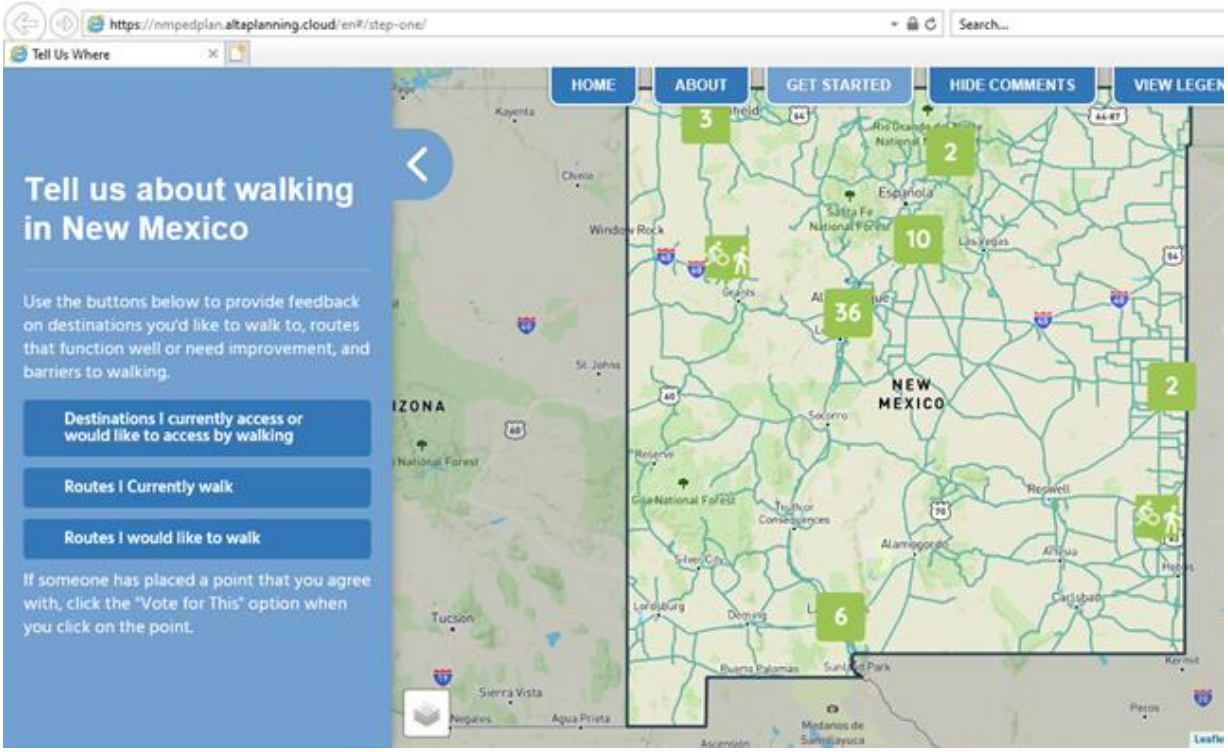
1. Specific locations they currently access or would like to access.
2. Routes participants currently walk.
3. Routes they would like to walk if conditions were improved.

For each entry, participants were provided a comment box to explain the point they selected. Participants were also able to interact with and "like" each other's comments. In total, 214 data points were provided through the interactive map. The greatest concentration of input was located in the Albuquerque metropolitan area.

Results

Input received via the interactive map highlighted specific areas where pedestrians feel unsafe walking due to infrastructure issues, such as deteriorating and discontinuous sidewalks, high vehicle speeds, and insufficient lighting (see Figure 12). Input also highlighted locations where pedestrians lack a dedicated route to access grocery stores and local destinations. See **Appendix 4** for a complete list of all comments received.

Figure 12. Online Interactive Map



Routes I currently walk

Input received from respondents on routes they currently walk reflected desired improvements that would make existing routes more comfortable. Stated concerns included gaps in the sidewalk, lack of clear signage, and ADA accessibility. Other concerns included high motorist and bicyclist speeds. Some input referred to routes that respondents enjoy walking.

Routes I would like to walk

Frequently cited destinations that participants would like to more easily access include schools and shopping destinations. Other input referred to routes that are available but do not feel safe due to deteriorating sidewalks or a lack of clear signage.

Desired Improvements and Access to Destinations

Input received from respondents was generally related to desired improvements and barriers to reaching specific destinations. Responses included locations that need repairs, and a desire for improved lighting, slower vehicle speeds, and connections to and from trails.

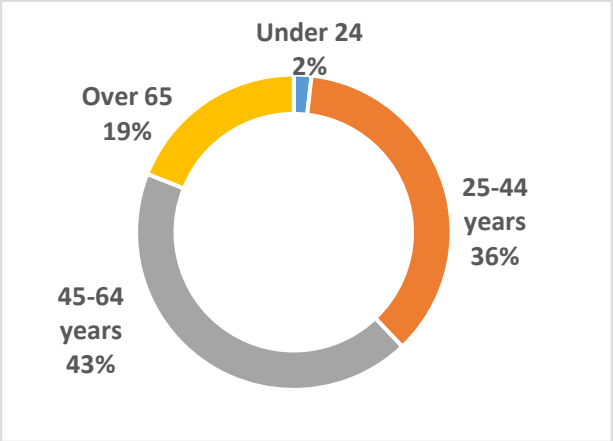
Public Online Survey

One of the key mechanisms for generating public input was an online survey available on the project website from winter 2019/2020 to fall 2020. A total of 445 individuals completed the survey. To gain a sense of behaviors and priorities, respondents were asked a variety of questions specific to their travel patterns, walking experiences, and recommendations for transportation safety improvements. The results provide valuable insights into major issues surrounding pedestrian safety in New Mexico. Refer to **Appendix 3** for complete survey results.

Demographics

Respondents were disproportionately between the ages of 25 and 64 and more likely to identify as female (58%), compared to the general population, which is 50.5% female. Overall, only about 2% of respondents were under 24 years old while 19% were over 65 years old (see Figure 13).

Figure 13. Age of Respondents



Travel Patterns

As illustrated in Figure 14, survey respondents were generally inclined to walk for short-distance trips, with about 54% of total respondents indicating they walk for trips less than a mile “always” or “often.” By contrast, only about 15% of respondents reported walking for trips under one mile “rarely” or “never.” Many respondents reported their top reason for walking is for exercise/recreation (55.5%) while about 68.5% of total respondents indicated that they walk for recreation three or more times per week (see Figure 15).

The responses may also reflect the effects of COVID-19 and the general increases in walking for certain trips and decreases in other types of trips. Furthermore, as illustrated in Figure 16, more than half of respondents indicated they walk for a personal errand at least once a week, while about 87% of respondents indicated they never walk to work or school. Additionally, the 2019 American Community Survey reports 2.6% of New Mexico’s workers 16 years and older walked to work, indicating respondents are more likely to walk to work than the broader population.

Figure 14. Public Survey - Frequency that Trips Under 1 Mile are Made by Walking

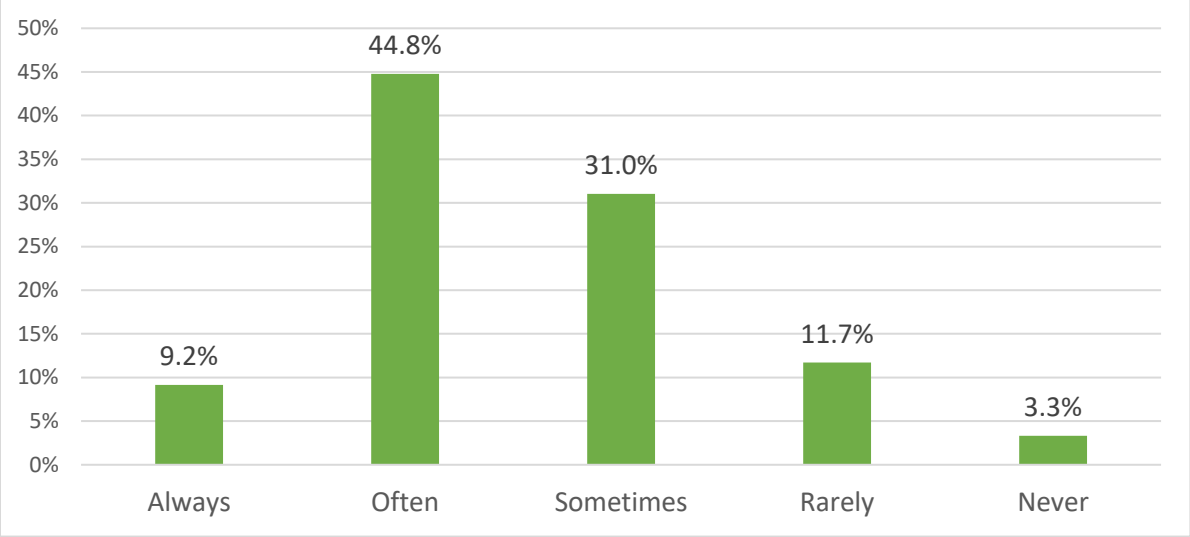


Figure 15. Public Survey - Most Important Reason Why Respondents Walk

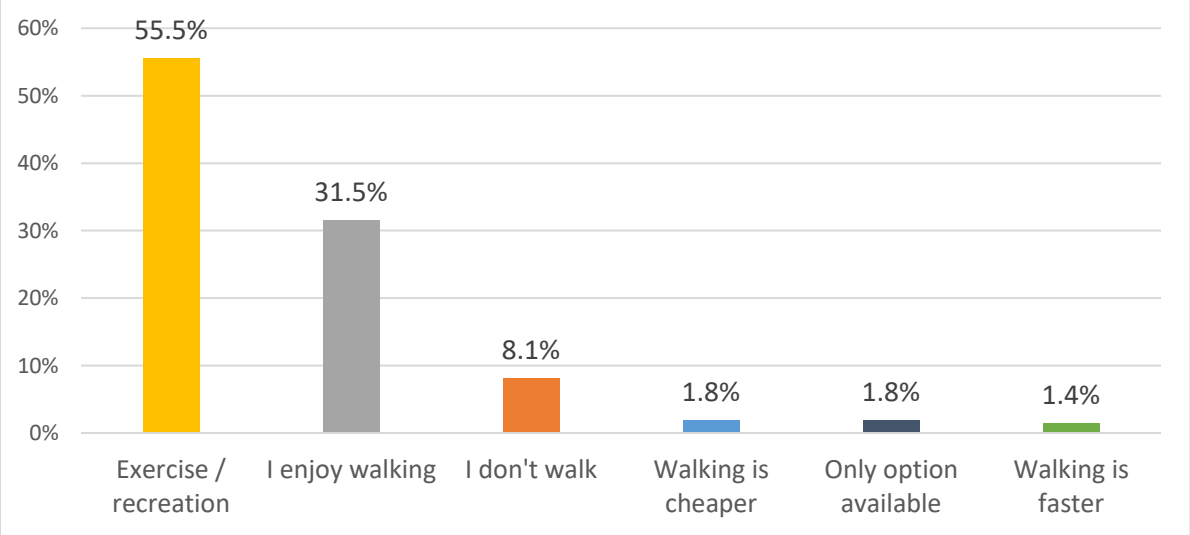
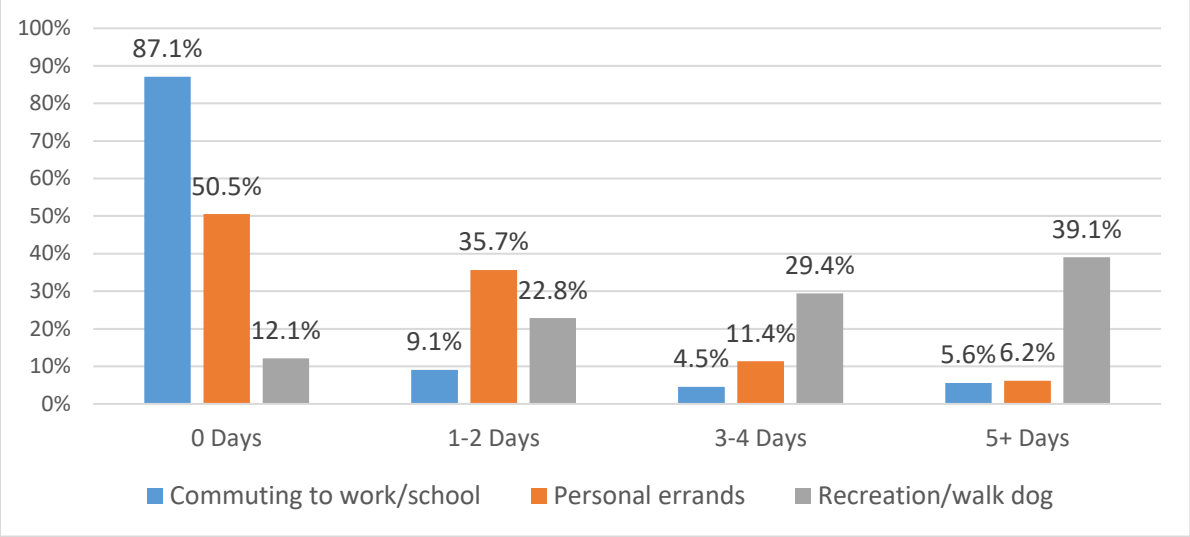


Figure 16. Public Survey - Frequency of Walking to Various Destinations Per Week



Pedestrian Barriers and Experiences

When respondents were asked what prevents them from walking more often, the most commonly cited reason was that destinations are too far (40.0%). Other commonly identified barriers to walking included traffic speed/safety (19.3%) and lack of sidewalks (14.2%). See Figure 17 for full results on barriers to walking.

When asked about their general experiences in New Mexico, respondents indicated a variety of conditions that negatively affect their experience as a pedestrian (see Figure 18 and Figure 19). Overall, more than half of respondents indicated that pedestrian walkways are not well maintained (53.7%) and almost half reported that there are no street crossings where they need them (48.3%). In addition, over half reported that they do not feel safe from motor vehicles (64.0%) and a little less than half reported they cannot conveniently walk where they want (44.0%).

Figure 17. Public Survey - Barriers to Walking

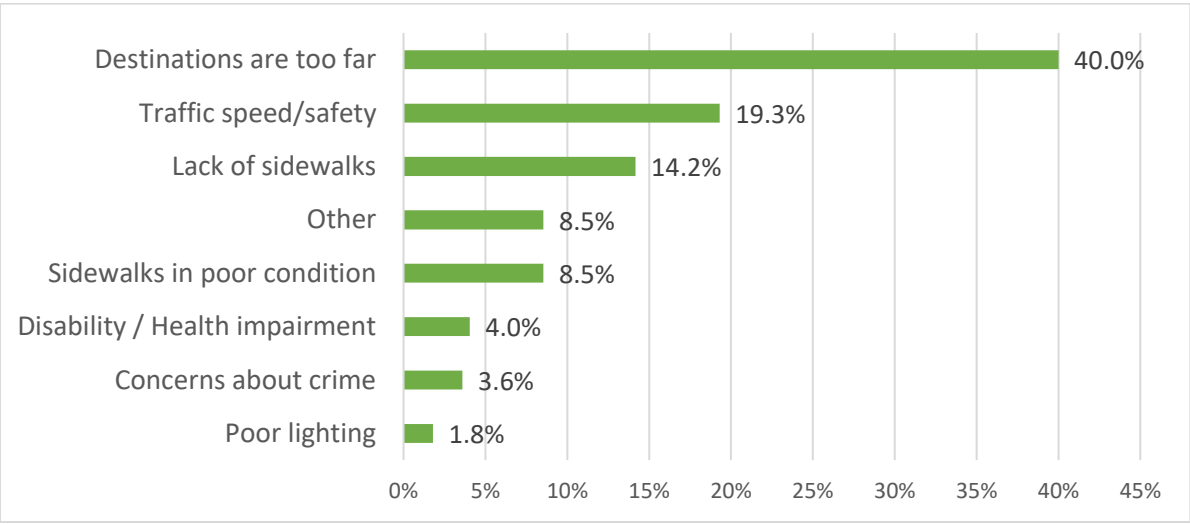
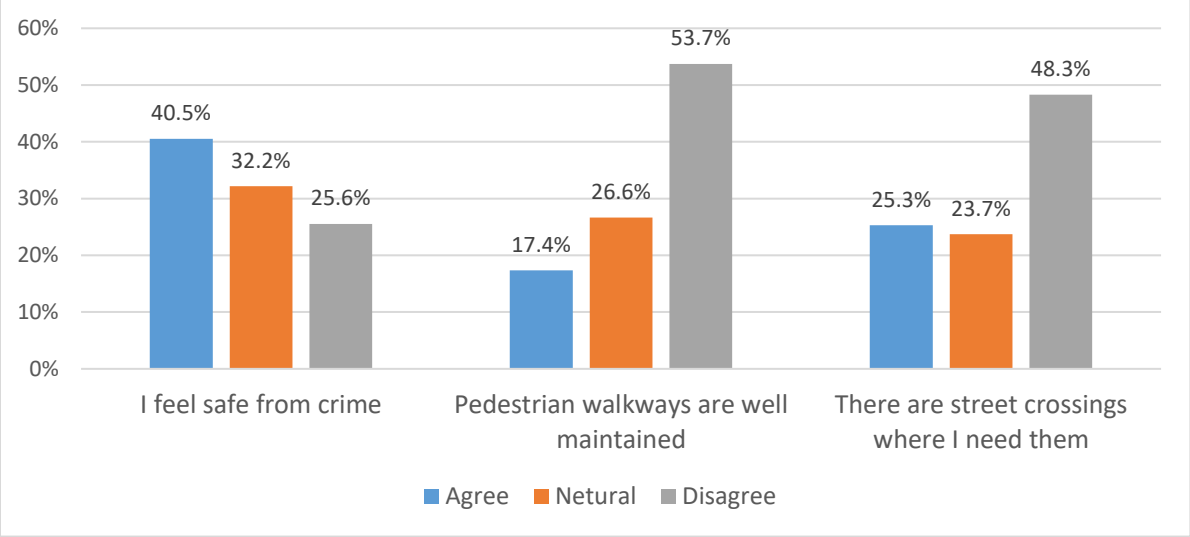
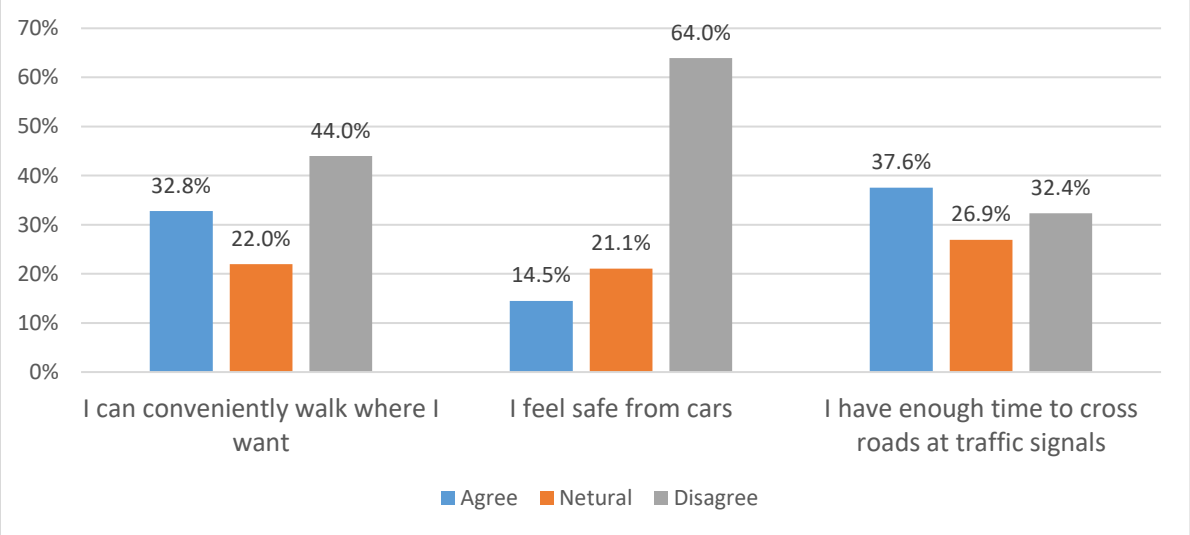


Figure 18. Public Survey - Walking Experiences part 1



Note: Totals may not equal 100% as responses of "N/A" are omitted from this figure.

Figure 19. Public Survey Responses – Walking Experiences part 2

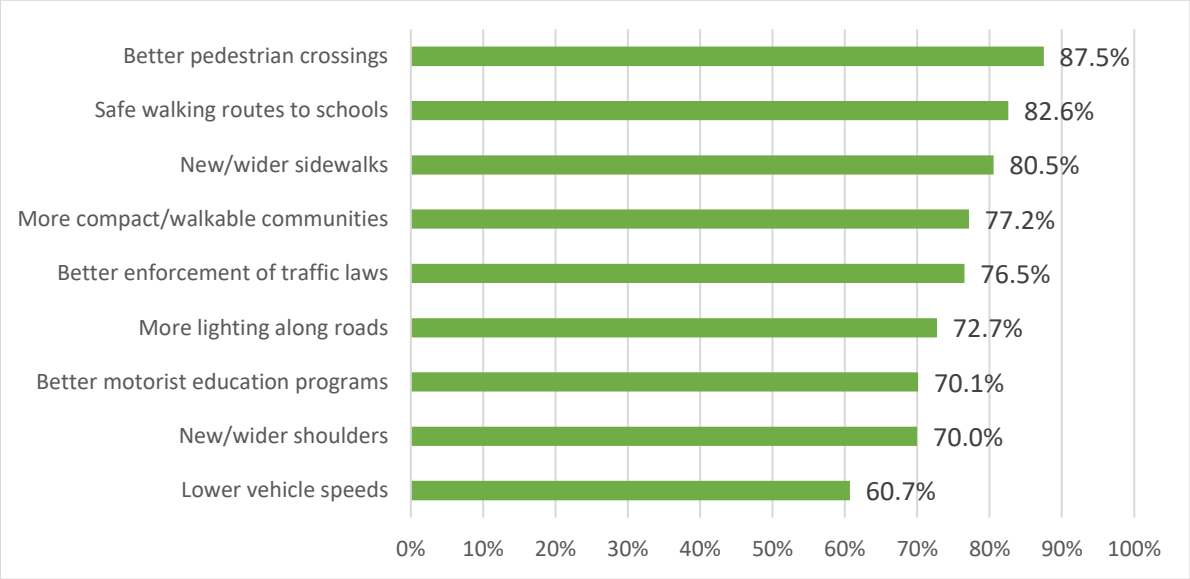


Note: Totals may not equal 100% as responses of "N/A" are omitted from this figure.

Improvements to Pedestrian Safety

Respondents were also asked to rate their perceived level of effectiveness for various improvement strategies on a scale from very ineffective to very effective. Figure 20 contains the ranked list of improvement strategies and combines the total number of responses for "effective" and "very effective." The top three most effective strategies were better pedestrian crossings (87.5%), safe walking routes to schools (82.6%), and new/wider sidewalks (80.5%). Despite the fact that respondents considered high traffic speeds to be a major barrier to walking, they considered "lower vehicle speeds" to be among the least affective strategies for improving pedestrian safety.

Figure 20. Public Survey - Effective/Very Effective Improvements



Key Takeaways

The public survey results provide valuable insight into how pedestrians in New Mexico experience walking, the reasons they do and do not walk, and what would encourage them to walk more frequently. In particular, respondents demonstrated a high demand for walking trips, though at present they indicated they walk primarily for recreational / exercise purposes. Survey results also indicate that demand for walking trips decreases as trip length increases. The most significant **barriers to walking** are that destinations are too far, traffic speeds are too high, and there is a lack of pedestrian infrastructure. Respondents reported that the **most desired improvements** to pedestrian safety include better pedestrian crossings, safer walking routes to schools, and new/wider sidewalks.

The feedback from the public survey informed various roadway design-related recommendations included in the Plan (see **Chapter 2**). These recommendations include: 1) regular consideration of pedestrian infrastructure as part of roadway improvement projects, 2) greater use of leading pedestrian intervals, and 3) installation of Pedestrian Hybrid Beacon signals to enhance safety at pedestrian crossing locations.

Public Sector Outreach

In addition to the website, map, and survey, the project team engaged stakeholders from public sector agencies through a variety of other means, as described below.

NMDOT Key Informant Workshop

A workshop was held in March 2020 with 11 key NMDOT senior staff and the consulting team. The purpose of the workshop was to provide NMDOT staff with an introduction and update to the project, and to solicit input on four specific questions. Following a presentation on the origins of the project, key statistics and maps related to pedestrian safety in New Mexico, and best policy practices at the federal, state, and regional levels, participants broke up into two small groups for facilitated discussion of the questions outlined below. Approximately 15 minutes were devoted to brainstorming and discussing each question. The questions were:

- Why does New Mexico have one of the highest pedestrian fatality rates in the US?
- What is working/not working in regard to the NMDOT's practices and policies?
- What NMDOT policies and procedures are most in need of improvement now?
- What are the biggest constraints and opportunities related to improving pedestrian safety throughout the state?

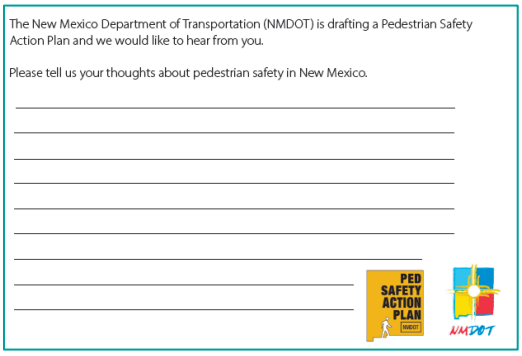
A summary of the responses to these questions is included in **Appendix 5**.

Transportation Day at the Roundhouse

Transportation Day at the Roundhouse is an annual event where both legislators and the public, including many students, are provided an opportunity to speak directly with transportation agencies to learn about transportation in the state. The event was held on February 12, 2020. NMDOT MPPB participated in this event by hosting a table to share information about the PSAP and to encourage participation through the survey and interactive map. NMDOT staff engaged attendees by inviting them to fill out a comment card and post their answers on a collective display board (see Figure 21). Notable comments received included:

- I feel safe walking in New Mexico if I'm with a parent or guardian.
- I feel safe walking in New Mexico when there are other kids.
- I would feel safer walking in New Mexico if there was no gun violence.
- I would feel safer walking in New Mexico if drivers stopped at crosswalks.

Figure 21. Materials from Transportation Day at the Roundhouse



Internal Staff Survey

Purpose

In addition to the public survey, the project team administered an internal NMDOT staff survey to gauge the level of awareness and perceived effectiveness of state-level projects and programs. The survey was intended for staff involved in project development, and a total of 58 NMDOT staff responded to the survey. A summary of specific and open-ended responses is provided below.

Key Findings

Responses to the internal staff survey reveal opportunities to more heavily prioritize pedestrian safety in NMDOT-led projects. While responses indicated that NMDOT staff is generally aware of pedestrian safety as a statewide concern, staff indicated a need for increased training on how to incorporate pedestrian safety in their projects and to better identify potential pedestrian safety countermeasures.

The following presents a summary of key survey results by category.

Safety Conditions

- **55%** of respondents are aware that New Mexico has had the highest pedestrian fatality rate in the US.
- **70%** of respondents think NMDOT is effective in reducing crashes.

Planning and legislative

- **70%** of respondents are aware of pedestrian related goals and objectives in the New Mexico 2040 Long Range Transportation Plan.
- **55%** of respondents do not know the NMDOT undertook the Every Day Counts (EDC) 4 Safe Transportation for Every Pedestrian (STEP) initiative in New Mexico in 2017 and 2018.
- **58%** of respondents are aware of state statute 67-3-62 (NMSA), which requires provisions for pedestrian, bicycle, and equestrian traffic on NMDOT projects, except in certain circumstances.

Procedures

- **53%** of respondents who are involved with project development said they do not have standard procedures for quantitatively or qualitatively measuring pedestrian demand in a project area when designing a project.
- Regarding the question: Do NMDOT procedures help you understand what specific pedestrian treatments/facilities are more appropriate for specific settings/contexts?
    - 25% agree
    - 42% somewhat agree
    - 33% do not agree
- Regarding the question: Do you agree that pedestrian access and safety are adequately accounted for in NMDOT projects?
    - 46% agree
    - 30% somewhat agree
    - 23% do not agree
- **55%** of respondents think there are key elements missing from current procedures which, if included, would help them better understand existing and future levels of pedestrian demand.
- **50%** of respondents think there are key elements missing from current procedures which, if included, would help them better identify appropriate pedestrian treatments/facilities for a given project.
- **60%** of respondents stated that an analysis of pedestrian-involved crash statistics (frequency and type) for a given area is NOT a standard part of their project identification and selection process.
- **56%** of respondents stated that an analysis of pedestrian-involved crash statistics (frequency and type) for a given area is NOT a standard part of their design process.

- **62%** of respondents feel that they need additional training to effectively address pedestrian access and safety in project design.

NMDOT Staff Training Opportunities

As shown in Table 17, respondents indicated that, in order to address pedestrian safety, they need training in the following areas:

Table 17. NMDOT Staff Training Opportunities

Training Opportunities	Number (Percentage)
ADA Access	31 (72%)
Intersection Treatments	31 (72%)
Mid-Block Crossings	26 (60%)
Walk audits to 'score' pedestrian environment	24 (56%)
Safe routes to school	24 (56%)
Other	10 (23%)
Total Number of Respondents	43

Other responses included:

- Work zone pedestrian treatments (4 responses).
- Alternatives to the 85% percentile for setting speed limits (1 response).
- Rail crossing for pedestrians/bicyclists (1 response).
- Pedestrian access routes (1 response).

New Mexico MainStreet Testimonial Videos

In order to gain qualitative input regarding pedestrian safety in communities across the state, while complying with current public health requirements related to COVID-19, the project team solicited short videos from three New Mexico MainStreet communities.[85] The Main Street in each community that responded – Corrales, Lovington, and Los Alamos (White Rock) – is also a state or US highway and therefore owned and operated by NMDOT, as is the case in many of the state's 31 MainStreet communities. This dynamic creates challenges as roadway conditions affect pedestrian safety and access to local businesses and community resources, though potential improvements are under the purview of NMDOT.

The local MainStreet Executive Director in each of the three communities engaged with local municipal staff, residents, and business owners to discuss the importance of pedestrian safety in their downtowns. The following are the questions the directors considered in their remarks:

1. How do customers access your business?
2. What connections do you think safe conditions for pedestrians have with local economic development?
3. What features currently make your Main Street an enjoyable walking experience?
4. What improvements could be made to your Main Street that would make it safer for pedestrians?
5. How does having safe, pedestrian-friendly access to downtown assets such as shops, services, parks, libraries, and other popular destinations affect your business or community?
6. How does your Main Street balance the need to be a space for safe transportation, daily activities, and special celebrations?

Videos were limited to a maximum of two minutes and participants gave their consent to NMDOT for a variety of uses, including training videos, social media posts, and public service announcements. Common issues and major themes identified in the videos included:

- Safe pedestrian access to downtown businesses - for both residents and visitors - is critical for supporting local economic development.
- Sidewalk (or shoulder) conditions, safe crossings, and lighting are key contributors to safety.
- The ability to walk safely within a community can attract new residents.
- Providing safe access from public parking areas to downtown shops can increase visitor's spending as people walk past other businesses.

The following is a link to a compilation of the videos/interviews that MainStreet stakeholders provided to the project team: https://youtu.be/p5c6tut4t5E

[85] New Mexico MainStreet is a program administered by the state Economic Development Department that works to promote economic activity on Main Street corridors and Downtown settings through cultural and historic preservation and programming efforts.

Tribal Outreach

General Outreach Efforts

Outreach to tribal communities is critical to understanding specific challenges and opportunities among Pueblos and other American Indian communities across New Mexico. The project team specifically sought input from tribal members and stakeholders through interviews, a tribal stakeholders' workshop, and a survey administered at the Tribal Transportation Safety Summit. See the Key Stakeholder Interviews section and the Virtual Workshops section in this chapter for additional information.

Tribal Safety Summit Survey

In fall 2019, the NMDOT project team attended and administered a survey at the Tribal Transportation Safety Summit in Santa Fe. The survey was designed to better understand the pedestrian safety issues that are specific to Tribal communities. There were 26 total respondents to the survey.

Pedestrian Experiences

When asked what **barriers prevent them from walking** more frequently, respondents reported that the greatest barriers were distance to destinations (73.1%) and a lack of pedestrian facilities (46.2%). Other factors included concerns about traffic safety (34.6%) and personal security (30.8%). See Figure 22 for a full set of responses.

When respondents were asked about the **primary reasons they walk** (see Figure 23), respondents reported health/relaxation as the most common reason (84%) followed by walking being good for the environment (56%). A small number of respondents indicated they walk because it is convenient (12%) and to save money (12%).

When respondents were asked what they perceive to be **biggest pedestrian safety issues** (see Figure 24), they identified vehicle speeds and lack of pedestrian facilities as the two most significant issues (each at 53.9%), followed by distracted driving (46.2%).

Figure 22. Tribal Safety Survey - What barriers prevent you from walking more frequently?

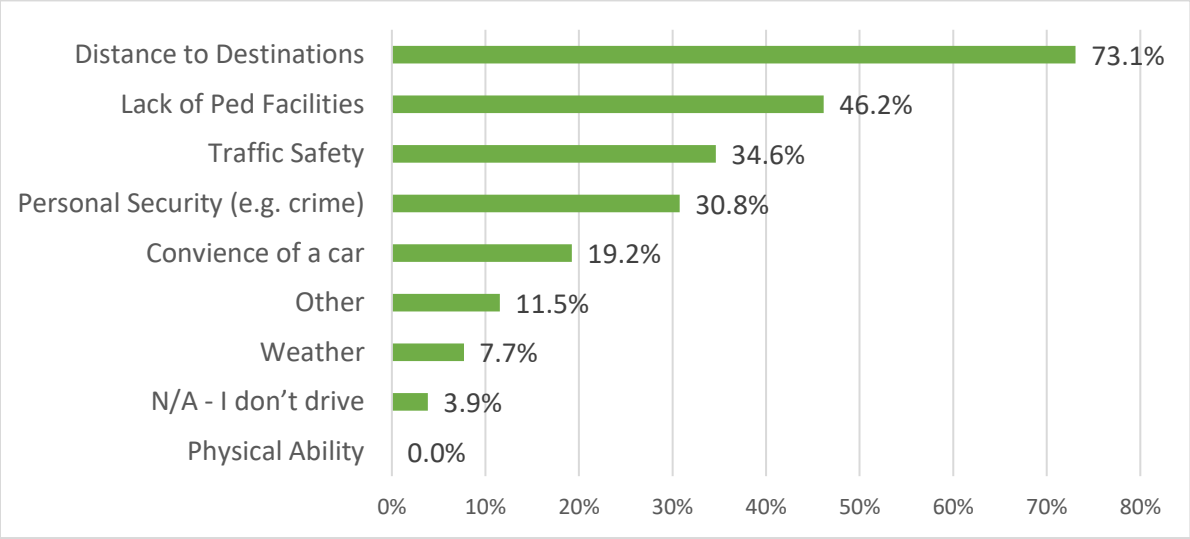


Figure 23. Tribal Safety Survey - What are the two primary reasons you walk?

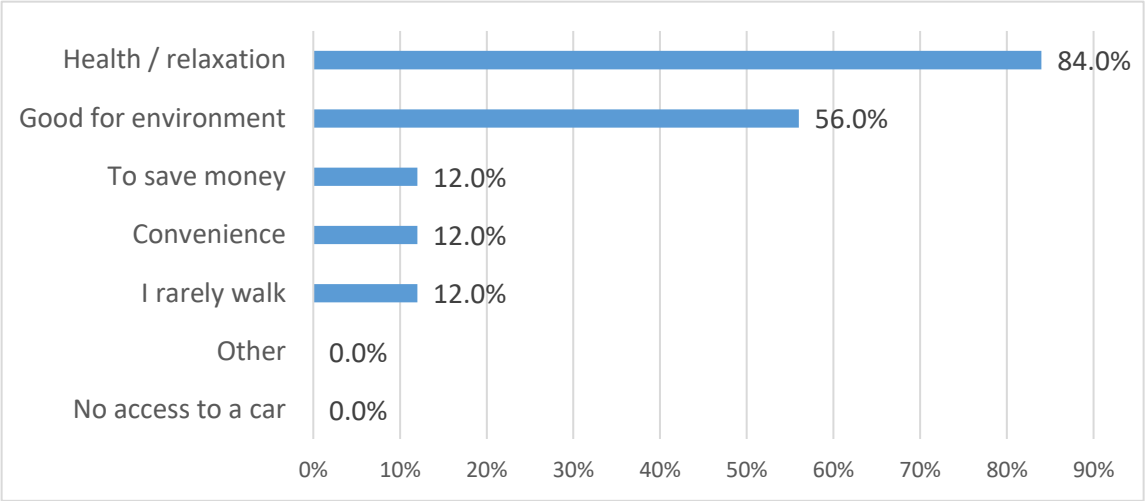
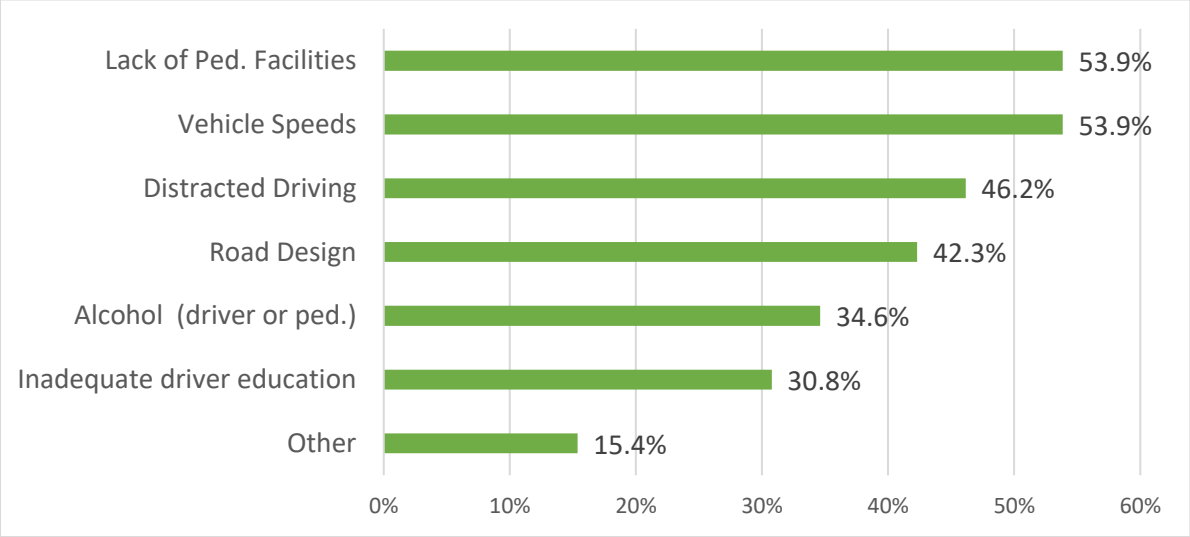


Figure 24. Tribal Safety Survey - What do you think is the biggest pedestrian safety issue in New Mexico?

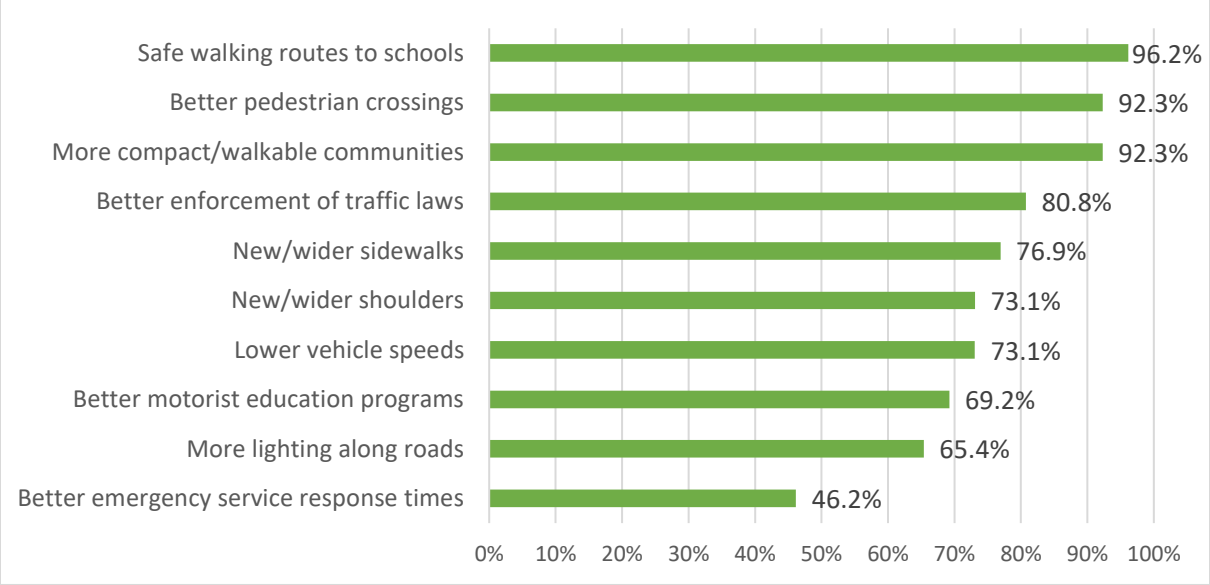


**Percentages do not equal 100% since respondents could choose multiple options*

Potential Improvements

Respondents were also asked to rate their **perceived level of effectiveness for various improvement options** on a scale from very ineffective to very effective. Figure 25 below contains the ranked list of improvement strategies and combines the total number of responses for "effective" and "very effective." The top three most effective strategies were safe walking routes to school (96.2%), better pedestrian crossing (92.3%), and more compact/walkable communities (92.3%).

Figure 25. Tribal Safety Survey - Effective/Very Effective Improvements



Survey Takeaways

Similar to the public survey results, respondents indicated they walk primarily for recreational purposes, while distances to destinations and a lack of pedestrian facilities are barriers that prevent respondents from walking for other trip types. The lack of pedestrian facilities was also the most frequently cited safety issue among respondents, underscoring the need for improved infrastructure across tribal communities. This finding is also relevant for NMDOT since state highways form the main streets for many tribal communities.

Virtual Workshops

Purpose and Approach

The purpose of the virtual workshops, held via Zoom in fall 2020, was to continue to raise awareness about pedestrian safety issues in New Mexico, share feedback received from the public survey and stakeholder interviews, and solicit feedback on preliminary action items for the PSAP. In addition to the three workshops with targeted audiences (e.g., a youth group, tribal stakeholders, and transportation stakeholders), two workshops were held for the general public. Each workshop followed a similar format and provided opportunities for attendees to ask questions and provide input via the live chat box. Each workshop administered a series of polling questions to solicit input on pedestrian safety priorities.

The workshops with the Together for Brothers youth group and tribal stakeholders also served to advance the Plan's equity goal by ensuring that concerns of traditionally under-represented groups are heard. Spanish language interpretation was also provided at the two general public workshops to support the goal of reaching under-represented groups.

Note: The original scope of work for the project included a series of interactive workshops and listening sessions around the state. However, due to ongoing COVID-19 restrictions related to large group gatherings, in-person workshops and pop-up events were suspended for the project. Instead, the project team fully transitioned to a virtual platform to conduct the workshops.

Workshop Polling

Polling questions administered during the workshops were designed to understand attendees' priorities for pedestrian safety and gain general insights into pedestrian behavior. Workshop participants were specifically asked to identify their top two priorities for the following categories: enforcement, policies and funding, roadway design, education and promotion, perceptions and attitude. The list of priorities included potential action items identified from previous outreach efforts, namely from key stakeholder interviews. Participants were also asked to respond to the question "I walk because…" with responses displayed in real time via a word cloud. A comprehensive list of all polling questions and responses with bar graphs are located in **Appendix 3**. Priorities identified through the polling exercises are listed in the following workshop sections.

Tribal Focused Workshop

The project team held a workshop focused on pedestrian safety in tribal lands on October 28, 2020. Seven tribal leaders, members, and employees attended. Polling responses are listed in order of highest to lowest indicated priorities.

Roadway Design

1. **Installing pedestrian safety improvements along high crash locations (50%)**
2. **Implement speed reduction techniques to reduce crash severity (50%)**
3. Develop statewide Complete Streets design guidance (0%)
4. Expand proactive safety planning to address locations with design issues (0%)

Enforcement

1. **Collaborating with communities to define the role of enforcement in addressing pedestrian safety (50%)**
2. **Coordinating with police departments to deploy targeted enforcement in locations that experience a high number of crashes (33%)**
3. Provide additional guidance to police departments on interpreting crash data (17%)
4. Improve access to enable police departments to further target locations with probabilities of crashes (0%)

Policies and Funding

1. **Prioritize projects with strong pedestrian safety elements during project selection (40%)**
2. **Provide more guidance to local communities on funding opportunities for pedestrian projects (40%)**
3. Join Vision Zero or Towards Zero Deaths Initiatives (20%)
4. Modify state transportation funding programs to include more pedestrian safety requirements (0%)

Education and Promotion

1. **Statewide education and promotion programs to encourage walking (50%)**
2. **Continue public safety initiatives and campaigns (DNTXT, ENDWI) (33%)**
3. Emphasize health benefits of walking in educational campaigns (17%)

Perceptions and Attitudes

1. **NMDOT-led trainings and educational initiatives to increase awareness and interest in pedestrian safety statewide (57%)**
2. **Emphasize pedestrian safety in NMDOT's mission (43%)**
3. Develop clear terms and guidance related to pedestrian involved crashes (0%)

Transportation Stakeholders Workshop

The project team held this focused workshop to solicit input from people who are already involved in transportation safety, including representatives from local and state public agencies. Public agencies are important stakeholders to the extent that the policies, projects, and programs developed in the plan affect their areas of responsibility. The workshop was held on November 5, 2020 and a total of 65 participants attended. Polling responses are listed in order of highest to lowest indicated priorities.

Roadway Design

1. **Install pedestrian safety improvements along high crash locations (41%)**
2. **Expand proactive safety planning to address locations with design issues (24%)**
3. Develop statewide Complete Streets design guidance (20%)
4. Implement speed reduction techniques to reduce crash severity (15%)

Enforcement

1. **Collaborate with communities to define the role of enforcement in addressing pedestrian safety issues (37%)**
2. **Coordinate with police departments to deploy targeted enforcement in locations that experience a high number of crashes (35%)**
3. Provide additional guidance to police departments on interpreting crash data (21%)
4. Improve access to up-to-date data to enable police departments to further target locations with probabilities of crashes (8%)

Policies and Funding

1. **Prioritize projects with strong pedestrian safety elements during project selection (35%)**
2. **Modify state transportation funding programs to include more pedestrian safety requirements (31%)**
3. Provide more guidance to local communities on funding opportunities for pedestrian projects (26%)
4. Join Vision Zero or Towards Zero Deaths Initiatives (7%)

Education and promotion

1. **Statewide education and promotion programs to encourage walking (40%)**
2. **Continue public safety initiative campaigns (DNTXT, ENDWI, LOOK FOR ME) (32%)**
3. NMDOT Staff trainings and education initiatives (18%)
4. Emphasize health benefits of walking in educational campaigns (9%)

Additional Priorities

- Dedicated funding for local governments for pedestrian safety
- The role of appropriate lighting near intersections, particularly in high pedestrian-use areas
- Target education to new/existing drivers to be included in driving manual
- Equity in design for pedestrians

Public Workshops

The project team held two public workshops on October 29 and November 4 2020, with a total of 42 participants. The feedback from these meetings is consolidated as the content and interactive questions were the same. Polling responses are listed in order of highest to lowest indicated priorities.

Roadway Design

1. **Install pedestrian safety improvements along high crash locations (35%)**
2. **Expand proactive safety planning to address locations with design issues (25%)**
3. Develop Statewide Complete Streets design guidance (20%)
4. Implement speed reduction techniques to reduce crash severity (20%)

Enforcement

1. **Collaborate with communities to define the role of enforcement in addressing pedestrian safety issues (36%)**
2. **Provide additional guidance to police departments on interpreting crash data (26%)**
3. Coordinate with police departments to deploy targeted enforcement in locations that experience a high number of crashes (21%)
4. Improve access to up-to-date data to enable police departments to further target locations with probabilities of crashes (18%)

Polices and Funding

1. **Modify state transportation funding programs to include more pedestrian safety requirements (33%)**
2. **Prioritize projects with strong pedestrian safety elements during project selection (28%)**
3. Join Vision Zero or Towards Zero Deaths Initiatives (26%)
4. Provide more guidance to local communities on funding opportunities for pedestrian projects (13%)

Education and promotion

1. **Statewide education and promotion programs to encourage walking (39%)**
2. **Continue public safety initiatives and campaigns (DNTXT, ENDWI, LOOK FOR ME) (33%)**
3. NMDOT staff trainings and educational initiatives (18%)
4. Emphasize health benefits of walking in educational campaigns (10%)

Summary and Takeaways from Workshops

The project team used feedback generated from the virtual workshops to help identify priorities for improving pedestrian safety and shape the recommendations described in **Chapter 2**. The key topic areas and highest priorities identified for each across the four workshops were:

Roadway Design

- Install pedestrian safety improvements along high crash locations (corridors).

Enforcement

- Collaborate with communities to define the role of enforcement in addressing pedestrian safety issues.

Policy and Funding

- Prioritize projects with strong pedestrian safety elements during project selection.

Education and Promotion

- Support or lead statewide education and promotion programs to encourage walking.

Together for Brothers Youth Group

The project team led a one-hour virtual workshop/focus group with 14 youth stakeholders and community partners from Together for Brothers (T4B), an organization based in Albuquerque that mentors young men of color. The team introduced the project and discussed the importance of planning for pedestrians and pedestrian safety. Three interactive poll questions were asked during the workshop and additional questions were asked during small group breakout sessions. Overall, the goal of the workshop was to hear from younger stakeholders about their general perceptions of walking and pedestrian safety, as well as encourage them to get involved in organizations and activities promoting pedestrian safety.

Themes that emerged from the workshop included a desire for improved pedestrian infrastructure, including lighting, sidewalks, and crosswalks; many attendees walk primarily for leisure or exercise and not to access destinations; and perceptions of safety among attendees are dependent on contexts including time of day, location, and roadway design. See Table 18 for a brief summary of feedback received during the workshop and **Appendix 3** for a complete set of meeting notes.

Table 18. Summary of Feedback from Together for Brothers Workshop

What is it like to walk in your neighborhood?	What is one thing that would encourage you to walk more?	I walk because…
• Easy • Comfortable • Safe, Enjoyable • Unsafe • Uncomfortable	• Better sidewalks • Trees • Safer crossings	• School • Exercise • Enjoyable

Key Stakeholder Interviews

Purpose and Overview

The project team conducted a series of in-depth interviews with key stakeholders involved in a variety of pedestrian safety issues including transportation planning, health promotion, crash data collection and evaluation, advocacy, and pedestrian safety research. Interview subjects were selected by NMDOT staff to represent a broad cross-section of perspectives, experience, and knowledge about pedestrian safety issues around the state. Interviewees included representatives from police departments across the state, tribal organizations, advocacy organizations, and research centers. See **Appendix 6** for a list of all interviewees.

Members of the project team conducted 15 interviews in the summer of 2020 based on a series of suggested common questions. Actual interview questions varied depending on the interviewee's areas of expertise. An overview of key takeaways is provided below and a comprehensive summary of the interviews is located in **Appendix 7**.

Key Takeaways

Interviews with key stakeholders revealed several themes related to improving pedestrian safety. These encompassed policies and funding, law enforcement, data collection and evaluation, roadway design, and perceptions and values regarding pedestrian safety. Key takeaways from the interviews are categorized under these themes and directly relate to many of the actions recommended in **Chapter 2**.

Policies and Funding

- There is an overall need for more funding for pedestrian projects. Projects funded through the Local Government Road Fund could include more pedestrian safety requirements if more funding were available.
- There is a need to prioritize projects with strong pedestrian safety elements.
- Policies that have been developed at the local level could be scaled to the state-level and coordinated through existing advocacy groups or a new statewide working group dedicated to policy changes.

Enforcement

- Law enforcement officers highlighted the challenge of enforcement and ensuring pedestrian safety given auto-oriented roadway designs across New Mexico.
- Police departments can use crash data to proactively target locations with high rates of crashes in the past. Such efforts have resulted in reduced crash rates in Las Cruces.
- Law enforcement is tasked with reporting on injuries and roadway conditions information for which they are not necessarily trained.

Data Collection and Evaluation

- The TraCS system (crash reporting system) is difficult to navigate for law enforcement; as a result, some reports may not accurately reflect what happened during a crash.
- There are opportunities for researchers and data users to collaborate with police departments on the contents of the Uniform Crash Report to ensure consistent data collection practices and that information needed for planning and analysis is obtained at the scene of crashes.
- Modifications to the Uniform Crash Report could make crash reporting easier for law enforcement officers and improve accuracy.

Roadway Design

- The auto-centric nature of the state's transportation system and built environment pose a barrier to pedestrian safety. Travel speeds are widely considered to be too high for safe pedestrian crossings.

- Agencies could consider proactively addressing roadways with designs that discourage pedestrian activity in addition to addressing locations with high crash rates. Roadways that pedestrians avoid simply because they are too unsafe to cross should also be assessed in terms of potential safety improvements.
- Countermeasures should be pursued that address crash severity as well as total crashes, including road diets and PHB signals.

Perceptions, Values, and Attitudes

- There is a perception that pedestrian safety is not a priority for NMDOT and for jurisdictions across the state. It was noted that some communities have had cultural shifts and have been more successful in implementing pedestrian policies, programs, and projects.
- There is a general "blame the victim" (i.e., pedestrian) attitude, which detracts from a shared understanding of collective roles and responsibilities as transportation system users, engineers, planners, designers, and members of institutions.

Public Comment Period

NMDOT held a 45-day public review period for the Draft PSAP is in early 2021. The public review draft plan was made available on the project website, announced via social media postings, announced through an email to individuals who had participated in outreach efforts for the PSAP and signed up for notifications through the webpage 'Contact Us' form, and sent to MPOs and RTPOs for distribution to their member entities.

More details to follow pending comments received.