



SAFE MOBILITY ACTION PLAN

CAMPUS CAPITAL &
SPACE PLANNING



May 2025

pland
COLLABORATIVE

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INDIGENOUS PEOPLES' LAND AND TERRITORY ACKNOWLEDGEMENT

Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico – Pueblo, Navajo, and Apache – since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.



UNM Smith Plaza

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GLOSSARY

Accessibility

The quality of being easily reached, entered, or used by people who have a disability.

Active Transportation

Active transportation is human-powered mobility, such as biking or walking. Active transportation directly replaces motor vehicle miles traveled, so these modes are effective at reducing vehicle emissions, bridging the first- and last-mile gap, conserving fuel, and improving individual and public health. Bicycles, electric bikes, wheelchairs, scooters, skateboards, and even walking are all considered active transportation. (US Department of Energy)

Albuquerque Bikeway and Trail Facilities Plan

The 2024 Plan recommends bikeway and paved multi-use trail projects across the city to make biking a safer and more appealing option for people of all ages, abilities, and backgrounds. The 2024 Bikeway and Trail Facilities Plan builds upon and revises the City's 2015 plan to reflect Albuquerque's growth as a city, recent investments in bikeways and paved multi-use trails, and national best practices in network planning and bikeway design.

Bike Boulevard (Blvd)

Bike boulevards are low-stress corridors with slow driver speeds and low vehicle volumes. They feature traffic calming elements and enhanced crossing treatments to reduce through vehicle traffic and manage driver speeds. (City of Albuquerque)

Bike Cage

A secured, often enclosed area, designed for the safe storage of privately owned MMVs. Typically accessible with a valid key-card or student ID. May contain features such as electric MMV charging outlets, or a bicycle repair station.

Bike Valet

A service provided where an attendant parks a patron's MMV in a secure area that is monitored by attendants. Physically it exists as a fenced-in corral of bike racks, or as a larger permanent structure with a primary entrance.

Buffered Bike Lanes

Buffered bike lanes are bikeways with striped, horizontal space between the bike lane and the adjacent vehicle travel lane, which provides additional separation between bicyclists and moving vehicle traffic.

Bulb Out

Also known as "curb extensions". Visually and physically narrow the roadway, creating safer and shorter crossings for pedestrians while increasing the available space for street furniture, benches, plantings, and street trees. (NACTO)

CoMap

A collaborative mapping program that generates a spatial visualization of how people experience a campus or region. CoMap invites campus communities to add notes about places or trace routes on a map of the campus. CoMap was utilized during UNM's ICP planning process, and relevant data has been accounted for in this Safe Mobility Action Plan.

Comprehensive Safety Action Plans

In the Safe Streets and Roads for All (SS4A) grant program, comprehensive safety action plans are the basic building block to significantly improve roadway safety. Action Plans are comprehensive safety plans aimed at reducing and eliminating serious-injury and fatal crashes affecting all roadway users. Action Plans use data analysis to characterize roadway safety problems and strengthen a community's approach through projects and strategies that address the most significant safety risks. (DOT) This document is an Action Plan.

Cycle Track

Cycle tracks provide space that is intended to be exclusively or primarily for bicycles, and are separated from vehicle travel lanes, parking lanes and sidewalks. Cycle tracks can be either one-way or two-way, on one or both sides of a street, and are separated from vehicles and pedestrians by pavement markings or coloring, bollards, curbs/medians or a combination of these elements. (NACTO)

Enhanced Pedestrian Way

Enhanced crosswalks are pedestrian crossing countermeasures used in addition to the pavement markings typically used at pedestrian crossings not controlled by a traffic signal or STOP sign. Typically includes median refuge islands, curb extensions, street lights, RRFBs, HAWK beacons, and other amenities. (ND Vision Zero)

Geofence

A virtual geographic boundary, defined by GPS or RFID technology, that enables software to trigger a response when a mobile device enters or leaves a particular area. (Oxford). Typically used in an MMV context to define where ride share fleets are able to travel and park.

High Intensity Activated Crosswalk (HAWK)

A HAWK signal (high-intensity activated crosswalk), also known as a pedestrian hybrid beacon (PHB), is a traffic control device designed to stop road traffic to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections.

High Visibility Crosswalk

High-visibility crosswalks use patterns (i.e., bar pairs, continental, ladder) that are visible to both the driver and pedestrian from farther away compared to traditional transverse line crosswalks. (FHWA)

Integrated Campus Plan (ICP)

The Integrated Campus Plan (ICP) provides UNM a roadmap for future development on the University's campuses. It guides the University's decisions on the physical environment, including the character of each campus, safety, access, wayfinding and signage, and sustainability.

Midblock Crosswalks

Midblock crosswalks facilitate crossings to places that people want to go but that are not well served by the existing traffic network. (NACTO) Observation of pedestrian behavior clearly indicates that people routinely cross at mid-block locations. (FHWA)

MMV

Micromobility vehicles (MMV) includes but are not limited to small, lightweight vehicles like bikes, scooters, skates, rollerblades, and skateboards.

Mobility Hub

A location where people can access multiple modes of transportation with supporting amenities for each. Typically centered around the UNM shuttle locations, they could include designated scooter-share parking, bicycle parking and charging, access to Ride ABQ transfers, and amenities that improve the experience for users such as benches, shelters, trashcans, and wayfinding.

Multi-Use Path

Shared use paths are facilities on exclusive right-of-way and with minimal cross flow by motor vehicle. (DOT) Typically used to accommodate the flow of MMVs and pedestrians.

Modes (of Transportation)

Any method of transportation, such as cars, bicycles, scooters, or walking.

Node

A central point where streets, paths, and or sidewalks meet. For this plan, it typically refers to a crosswalk, intersection, bus stop, or mobility hub.

Path Definition

A division of a plaza, mall, or street marked off with painted lines, signage, and or a change in surface material, for use by MMVs.

Pedestrian Priority Areas

Areas where pedestrian safety and comfort are prioritized, often through design elements and traffic regulations that give pedestrians the right-of-way and reduce conflicts with motor vehicles. (Montgomery County)

Pedestrian Refuge Island

A median with a refuge area that is intended to help protect pedestrians [and MMVs] who are crossing a multilane road. (FHWA) Typically made of concrete and located in place of a typical middle turning lane.

Physical Separation

When a designated space for MMVs is blocked from pedestrian or motor vehicle traffic, typically with vertical elements like curbs, bollards, or planters.

Raised Crosswalks

Raised crosswalks are ramped speed tables spanning the entire width of the roadway, often placed at midblock crossing locations. The crosswalk is demarcated with paint and/or special paving materials. These crosswalks act as traffic-calming measures that allow the pedestrian to cross at grade with the sidewalk.

Rectangular Rapid Flashing Beacon (RRFB)

Rectangular Rapid Flashing Beacon (RRFB) to accompany a pedestrian warning sign. RRFBs consist of two, rectangular- shaped yellow indications, each with a light-emitting diode (LED)-array-based light source. RRFBs flash with an alternating high frequency when activated to enhance conspicuity of pedestrians at the crossing to drivers. (FHWA)

Ride Share / Ride Share Fleet

A collection of vehicles, (typically scooters), that are owned and managed by an external company that provides vehicle rental services.

Route

Routes are any linear path traveled by pedestrians or MMVs. For this plan, they are typically the walkways and ROW managed by UNM, such as pathways near the Duckpond or exterior circulation between buildings.

ROW (Right of Way)

In construction and transportation, "ROW" refers to the land or area designated for public use, such as roads, sidewalks, bike lanes, and utility easements.

Safe Mobility

The concept that access to reliable, affordable, and efficient transportation is fundamental to the success and happiness of a community, its businesses, residents, and visitors. (Alta)

Safe Micromobility Infrastructure

Infrastructure that dedicates space and amenities for micromobility vehicles (MMV). Typically in areas that would otherwise have conflicts with vehicles or pedestrians.

Safe Streets for All (SS4A) (DOT Grant)

The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. The Infrastructure Investment and Jobs Act (IIJA) established the Safe Streets and Roads for All (SS4A) discretionary program with \$5 billion in appropriated funds over 5 years, 2022-2026. (USDOT)

Separated (Protected) Bike Lanes

Separated bike lanes, also known as protected bike lanes, are a form of buffered bike lane that features some form of vertical separation from motor vehicles and are located at street level. (City of Albuquerque)

Shared Street

A commercial shared street environment should be considered in places where pedestrian activity is high and vehicle volumes are either low or discouraged. Street furniture, including bollards, benches, planters, street lights, sculptures, trees, and bicycle parking, may be sited to provide definition for a shared space, subtly delineating the traveled way from the pedestrian-exclusive area. (NACTO)

Standard Bike Lanes

Through striping, bike lanes delineate a separate, dedicated space for people biking. Standard bike lanes are typically located at the road edge and do not provide additional vertical or horizontal separation from vehicular travel lanes. (City of Albuquerque)

UNM 2040 Strategic Framework

The UNM 2040 Strategic Framework provides UNM with a 20-year aspirational vision, a renewed statement of shared values and mission for UNM, and a set of university-level strategic goals to pursue over the next 5 years that will move us toward our aspirational vision. The initiatives described in the framework are designed to drive UNM toward achievement of the strategic goals.

Valet (MMV Valet)

A safe and secure facility for MMV storage where users leave their vehicle with an attendant. Includes a fenced perimeter and attendant station, and typically includes a shade structure and landscaping. Users receive a valet ticket to retrieve their vehicle upon return.

Zone

Zones are the open areas where pedestrians and MMVs are interacting with each other, like the campus malls and plazas.



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EXECUTIVE SUMMARY

This Safe Mobility Action Plan is a safety plan aimed at reducing and eliminating serious-injury and fatal crashes affecting all roadway and non-roadway users, including active MMV and pedestrians for the University of New Mexico's Central, North, and South campuses in Albuquerque. Improving road safety and campus transport and mobility is essential for creating a more accessible, efficient, and sustainable environment for students, faculty, and staff. As UNM's campuses grow and evolve, so do the challenges related to transportation, safety, and connectivity.

This plan was initiated in alignment with the active transportation goals outlined in UNM's Integrated Campus Plan (ICP) and to pursue funding opportunities such as the U.S. Department of Transportation's Safe Streets for All (SS4A) grant. This plan includes extensive internal stakeholder engagement, public engagement, site analysis, existing active transportation infrastructure assessment, coordination with local government's mobility plans, and research of national best practices used to inform the subsequent recommendations presented.

The recommendations are organized into three categories: 1) Infrastructure Improvements, 2) Strategies for Promoting Safe and Responsible Use, and 3) Policies and General Recommendations. Recommendations and strategies to address safe mobility include proposed improvements to pathway construction, intersections and crosswalks, access control, mobility hubs, secure storage and charging for micromobility vehicles, signage and wayfinding, and non-infrastructure related policy guidance.

These projects support the safe, responsible, and confident use of active transportation on and into campus, and align with the goals and recommendations of the Integrated Campus Plan.

01

EXECUTIVE SUMMARY

PURPOSE & OBJECTIVES

Purpose

The University of New Mexico (UNM) is committed to creating a safer, more accessible campus for everyone through the development of the Safe Mobility Action Plan. This plan focuses on improving infrastructure and policies for active transportation users on both roadways and non-roadways, which includes pedestrians and micromobility device users.

The term "active transportation" refers to walking, using assistance devices for significant mobility limitation, and using micromobility vehicles (MMVs) to navigate the campus. MMVs include but are not limited to small, lightweight vehicles like bikes, scooters, skates, rollerblades, and skateboards, which are popular on campus but require thoughtful planning to ensure safe and efficient use.

Building from the input gathered from UNM stakeholders and the larger UNM community, the plan aims to address everyday mobility challenges, enhance safety, improve accessibility, and make the campus a more enjoyable and connected space for everyone.

Refer to the "Glossary" on page 8 for definitions of acronyms, abbreviations and transportation safety terms used throughout this plan.

Project Goals

The goals of this plan are to guide infrastructure improvements and policy decisions for the short-, mid-, and long-term implementation of safe mobility solutions.

1. Identify challenges to safe mobility on UNM's Main Campus (Central, North, and South Campuses) and propose solutions to advance the Integrated Campus Plan's (ICP) mobility goals and recommendations into action.
2. Improve safety at roadways and entry points for pedestrians and MMV users.
3. Reduce conflicts and collisions between pedestrians and MMV users on shared walkways, plazas, and interior roads.
4. Enhance safety education to unaffiliated campus visitors who are not reached by standard University communication.
5. Identify and implement financially feasible safety measures that align with state and federal funding sources.
6. Address risks associated with increased MMV use, including improper use, storage, charging, and security concerns.
7. Develop and improve existing and future pedestrian and MMV facilities to ensure safe and secure use on campus.

02

PLAN BACKGROUND

Plan Study Area

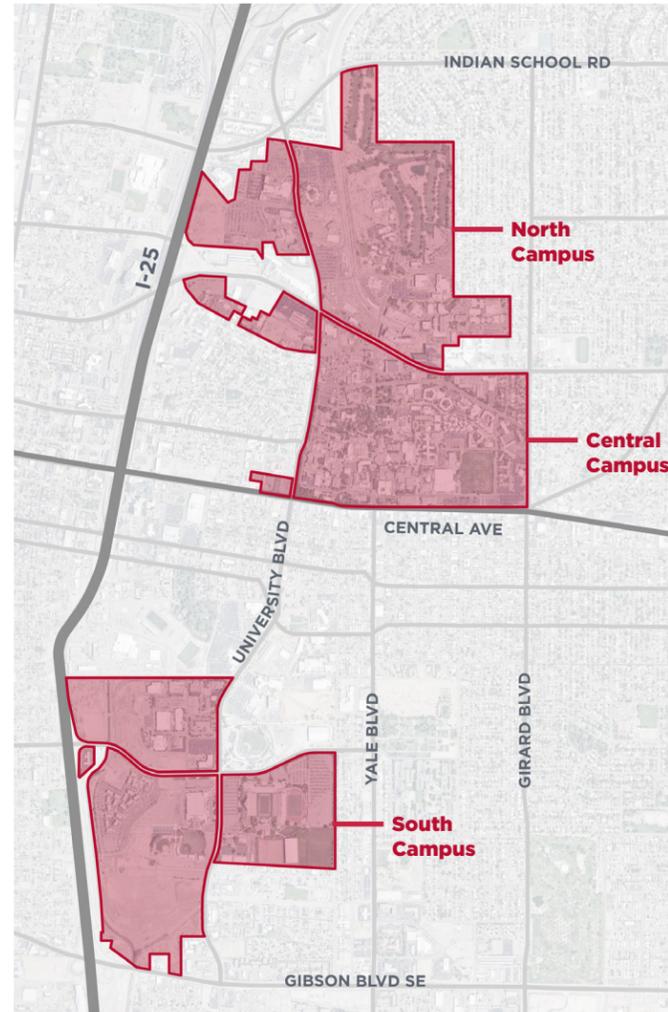
This Safe Mobility Action Plan focuses on assessments and recommendations for UNM's Main Campus in Albuquerque. This includes Central, North, and South Campuses.

Many facilities owned by UNM and local governments share mobility traffic flows into campus. Acknowledging the overlap in shared facilities in an important consideration when addressing safe mobility improvements. Recommendations are inclusive of UNM landholdings and, in some instances, overlap with local government right of ways. However, facilities owned by the City of Albuquerque are outside the detailed analysis and scope of this plan. Any future improvements for roads and facilities will require multi-jurisdictional collaboration.

The assessment and the recommendations include both UNM land holdings and CABQ roads and facilities. Any future improvements on facilities outside of UNM's landholdings will require collaboration with local jurisdictions.

A note about Branches and Satellite Campus

While most recommendations in this plan are focused on site-specific mobility challenges and opportunities on UNM's Central Campus in Albuquerque, many of the concepts and policies presented here have relevancy at UNM's branch and satellite campuses. For example, implementing a pavement maintenance program or eliminating accessibility barriers are good practice at any location. It is important to consider the unique context of each landholding when considering the applicability of this plan's recommendations. Refer to the Branch & Satellite Campuses Frameworks in the Integrated Campus Plan for specific recommendations related to those sites.



Map 1. Plan Study Area



Plan Needs

According to the New Mexico Department of Transportation (NMDOT) 2021 Pedestrian Safety Action Plan, 79% of crashes within our state resulted in injury and 12% resulted in fatality. Of these crashes, 91% occurred on urban roads. The University's Main Campus is located in Albuquerque's urban center with Central campus bordering Central Ave. Central Ave was reported as a "pedestrian-involved high crash corridor."

In addition, the NMDOT 2023 Traffic Crash Annual Report indicated 117 crashes occurred in an average day in New Mexico, with a pedestrian hit by a vehicle every 13 hours and a bicyclist hit by a vehicle every 29 hours.

The National Highway Safety Traffic Administration (NHTSA) ranked New Mexico as the #1 State with the highest pedestrian fatality rate of 4.40 per 100,000 population. NHTSA also reported 93 pedestrian fatalities in 2022.

These crash and pedestrian injury highlights reinforce the need for UNM — the largest university in New Mexico — to develop a Safe Mobility Action Plan that reduces collisions and improves safety on and around campus.

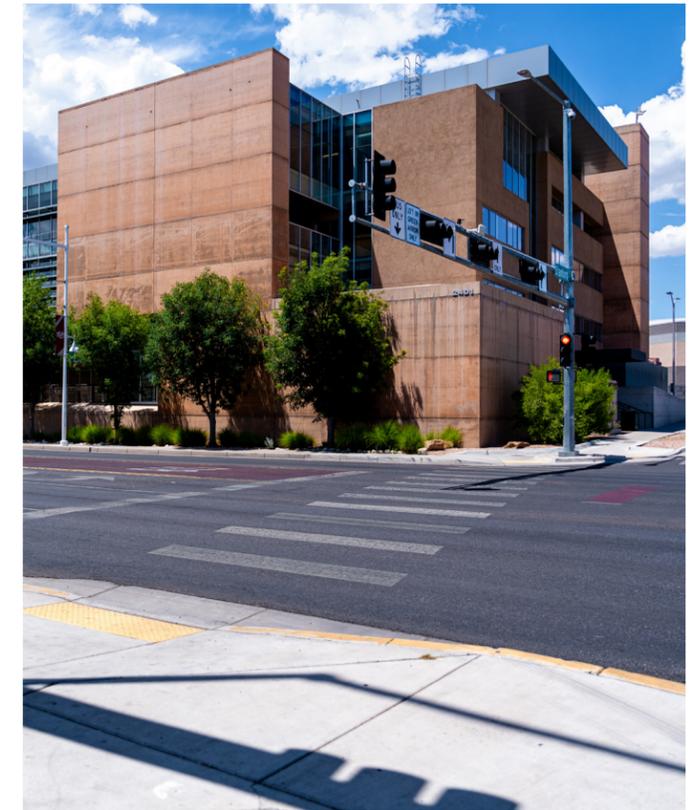


Figure 1. Crosswalk at Central Ave and Stanford Dr.



Ranked #1 State with highest pedestrian fatality rate



Every 29 hours a bicyclist is hit by a vehicle in NM



Every 13 hours a pedestrian is hit by a vehicle in NM

UNM 2040 & THE INTEGRATED CAMPUS PLAN

Alignment with UNM 2040 Strategic Framework

The UNM 2040 Strategic Framework provides UNM with a 20-year vision, renewed values and mission, and key strategic goals to implement over the next 5 years to move UNM towards the vision.

VISION: Be a global leader in realizing human potential, addressing critical community challenges, and demonstrating the power of inclusive diversity.

MISSION: The University of New Mexico serves as the state's premier institution of higher learning and provider of health care by promoting discovery, generating intellectual and cultural contributions, honoring academic values, and serving our community by building an educated, healthy, and economically vigorous New Mexico.

VALUES: Excellence, Inclusion, Environment, Integrity, and Place.

In addition, UNM 2040 outlines several goals below that have informed the recommendations in this Plan.

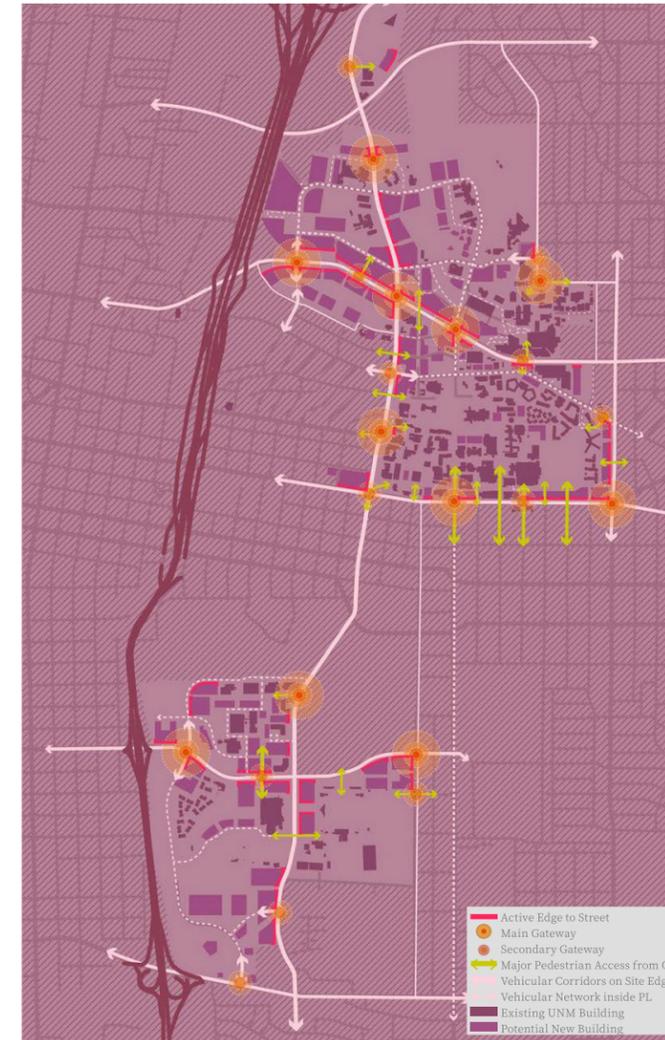
- > Goal One: Advance New Mexico
- > Goal Two: Student Experience And Educational Innovation
- > Goal Three: Inclusive Excellence
- > Goal Four: Sustainability
- > Goal Five: One University

Integrated Campus Plan Alignment

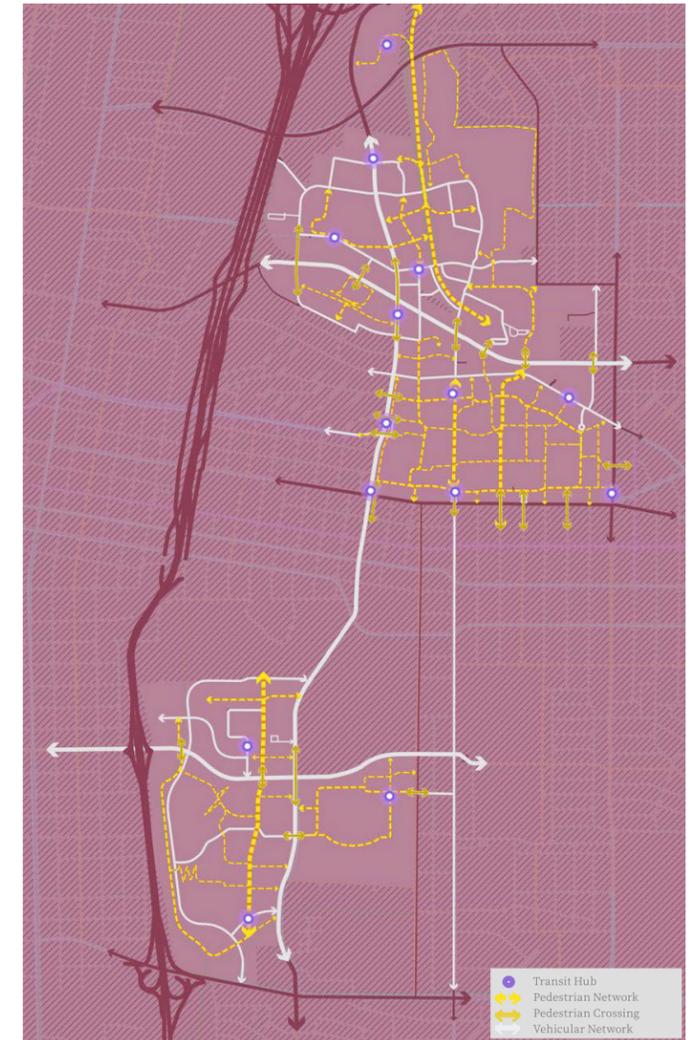
The Integrated Campus Plan (ICP) provides a roadmap for future development on the University's campuses. The ICP incorporates the five goals of UNM 2040 and offers key recommendations that have initiated this Safe Mobility Action Plan. Chapter 3 "Albuquerque Campuses Frameworks" is most relevant and highlights design recommendations for mobility networks to improve the pedestrian and MMV experience on and around campus including:

- > Stitch to the City Grid
- > Promote Safe Streets and Micro-Mobility Connectivity
- > Connect Campus Districts
- > Establish a Flexible Framework

The ICP framework has provided the basis for many of the recommendations outlined in this Plan.



Map 2. Stitch to the City Grid



Map 3. Promote Safe Streets and Micro-Mobility Connectivity



Advance New Mexico

Understand the unique opportunities of our distinct cultures



Student Experience & Educational Innovation

Transform the educational experience



Inclusive Excellence

Utilize an equity and inclusion lens to expand opportunity



Sustainability

Create long-term sustainability



One University

Achieving 2040 goals

Stitch to the City Grid

The ICP intentionally strengthens existing north-south connections and creates new east-west connections to promote a pedestrian network that seamlessly intertwines with the surrounding existing city grid. By creating clear pathways with consistent lighting and wayfinding, the UNM campus becomes a transparent, yet safe environment for all. (Source: UNM Integrated Campus Plan, 2024)

Promote Safe Streets and Micro-Mobility Connectivity

A top priority for UNM is the safety and security of students, faculty, staff, and community members on campus. The ICP provides a roadmap for improving and addressing existing safety issues at key intersections, sidewalks, and corridors through providing ample space for active transportation and prioritizing the pedestrian. (Source: UNM Integrated Campus Plan, 2024)

Figure 2. UNM 2040 Goals (Source: The University of New Mexico, <https://opportunity.unm.edu/>)

EXISTING PLANS & REPORTS

Planning efforts have been underway for the University of New Mexico that involve transportation and mobility studies as well as data collection. Many of the existing plans provided by UNM and the UNM Safe Mobility Taskforce are incorporated into this Plan. Most notably the Integrated Campus

Plan (August 2024), UNM 2040 Vision, and recently completed CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan have directly guided the analysis and recommendations outlined in this Plan. A summary of a few documents is provided below. Refer to the Appendix for the complete document inventory list.

Document	Contents	Author	Date Published
UNM Integrated Campus Plan (ICP)	This plan is a guiding document for all decisions relating to design across the University of New Mexico's campuses including Main Campuses (Central, North South), Branches and Satellite Sites. These design solutions will ensure uniform design throughout campus for the foreseeable future as the development of campus continues. Key concerns about future development and expansion of UNM is that the campus will lose its architectural and cultural integrity due to a lack of clarity in design regulations for new construction on campus. The UNM ICP will define clear guidelines for UNM's campus, ensuring that the campus maintains its unique character for years to come.	University of New Mexico	8/22/2024
CoMap Results	Survey results collected from the Integrated Campus Plan (ICP) engagement phase. Results included skate conflict areas, feedback regarding walking + biking conflicts, and reported locations with needed improvements across Main Campus.	UNM & Sasaki	n.d.
UNM Wayfinding and Signage Standards and Guidelines (Chapter of ICP)	UNM's dedication to developing consistent wayfinding and signage is rooted in an attempt to expand upon diversity, and bolster inclusivity between all of UNM's campuses. The document's core principles for creating cohesive signage is to celebrate the students of UNM, while maintaining an aesthetic that honors the unique architecture and color schemes of New Mexico. The document includes specifications for sign type, color, vocabulary, and language while remaining cost effective. Concepts were created for different buildings on campus, specifying their general style and location within the Campus.	University of New Mexico	3/1/10
Crash Heat Map around UNM	Graphic density heatmap of pedalcyclist crashes surrounding UNM and adjacent neighborhoods.	UNM Geospatial and Population Studies	2023
UNM Crossings Observation - Potentially Dangerous Mid-Block Crossings	This document is a brief summary of current crossing conditions on Central Ave, and how they can be safer in order to protect pedestrians, and account for the amount of pedestrians that cross outside of designated crossing areas on Central. Data was collected to determine the volume of pedestrians that cross Central on a given day, which crossings they use, and what time they cross. This document provides important context to the existing conditions of pedestrian traffic around Central Ave, and a call to action for adapting crossings to account for inevitable pedestrian traffic violations.	UNM LEAF	2024

Table 1. Existing Plans and Reports

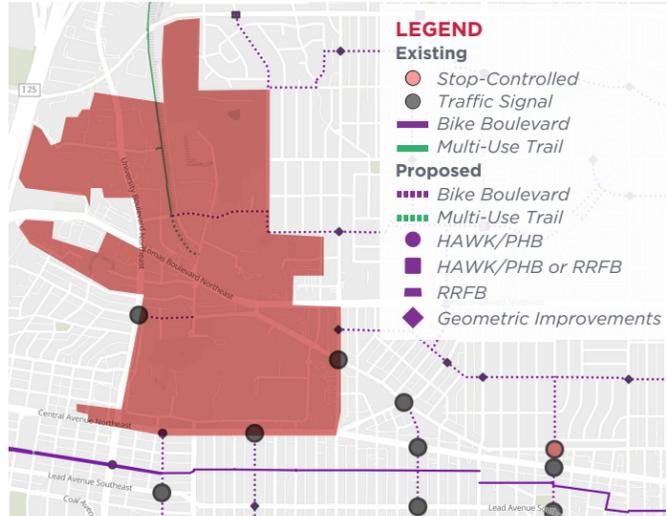
Document	Contents	Author	Date Published
UNM ADA Transition Plan	Summary of Self Evaluation Results Pathways Element - Central Campus: This report presents the pathways element of the ADA Transition Plan for University of New Mexico's Central Campus. This document presents the results and recommendations of the Self Evaluation and Transition Plan as they relate to pathways at the University of New Mexico.	University of New Mexico	August 2022
Steps for Developing a UNM Safe Mobility Action Plan	This document is an outline of key phases of the planning process, including the collection of data, stakeholder input, the identification of problems through the referencing of national resources and guidelines, the development of recommendations, the timeline and evaluation of the Safe Mobility Action Plan, and the communication and dissemination of the written plan.	UNM CCSP	n.d.
How to Develop a Pedestrian and Bicycle Safety Action Plan	Webinar document serves as a roadmap for a safety action plan, providing key data that should be collected, tasks that should be completed, and milestones that should be listed. This guide serves to ensure a safety action plan achieves the most important tasks, and delivers the most critical deliverables needed to enact change and guide decision-making in the future.	USDOT FHWA	8/1/2017
2024 Bikeway and Trail Facilities Plan	The 2024 Bikeway and Trail Facilities Plan builds upon and revises the City's 2015 plan to reflect Albuquerque's growth as a city, recent investments in bikeways and paved multi-use trails, and national best practices in network planning and bikeway design. The 2024 Plan recommends bikeway and paved multi-use trail projects across the city.	City of Albuquerque	12/16/24
2024 Regional Transportation Safety Action Plan (RTSAP)	The MRCOG 2024 Regional Transportation Safety Action Plan is a guiding document for safety in the region. MRCOG performed a crash analysis using the most recent five-year data available (2017-2021). The safety counter measures recommended reflect the most current national best practices.	Mid-Region Council of Governments	August 2024
2021 NMDOT Pedestrian Safety Action Plan	The 2021 Pedestrian Safety Action Plan advocates for safe and efficient transportation systems for the traveling public. The plan highlights data related to pedestrian-involved crashes for New Mexico. The actions in address pedestrian safety through roadway engineering and design, improving crash data, advancing roadway user education, and implement policy solutions.	New Mexico Department of Transportation	August 2021

CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan

The City of Albuquerque recently completed a bikeway and trail facilities plan that outlines current and future enhanced crossings, multi-use trails, and proposed network spines.

The plan address intersections, and roads near campus. Implementing the proposed enhancements to roads around campus would connect campus to the larger CABQ bikeway and trail facilities network. Road enhancements that impact UNM include:

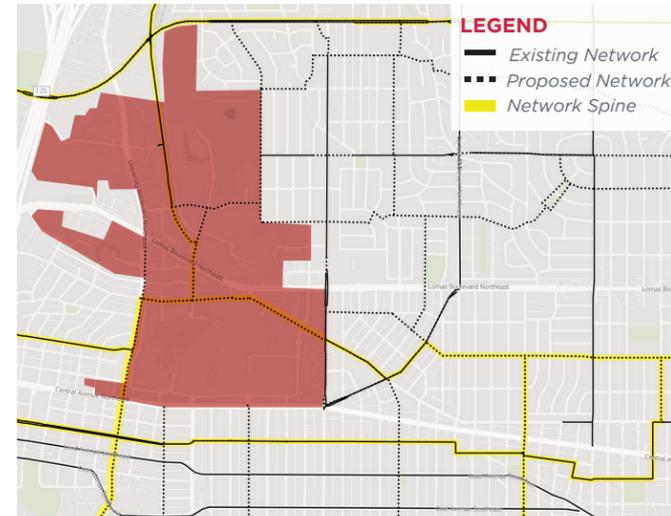
- > Separated bike lane along University Boulevard
- > Bike Boulevards on Buena Vista Drive, Sanford Drive, Las Lomas Road, and Tucker Boulevard
- > Buffered Bike Lanes on Las Lomas Road, Campus Boulevard, and Yale Boulevard
- > Bike Lane on Yale Boulevard
- > HAWK at Central Ave and Buena Vista Drive



Map 4. Enhanced Crossings

Enhanced Crossings

Major street crossings and signalized intersections can create significant barriers to people bicycling across the City of Albuquerque. The 2024 Plan identifies numerous crossing improvements along existing and proposed paved multi-use trails and bike boulevards that are critical for bicyclist comfort and providing connections to major destinations and other important bikeways and trails. The 2024 Plan recommends crossing locations around UNM. (Source: CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan)



Map 5. Network Spines

Network Spines

The 2024 Plan designates a series of corridors as network spines that support longer distance travel by bicycle, link together key destinations, and connect multiple neighborhoods. Spines include a range of facility types and are intended to provide long-distance, low-stress connections. (Source: CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan)

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03

SITE ANALYSIS

EXISTING CONDITIONS

Features

The University Central Campus is located along Lomas Blvd to the North, Central Avenue to the South, Girard Blvd to the East, and University Blvd to the West. Major street crossings and signalized intersections around the perimeter are City of Albuquerque facilities. There are also several internal crossings and intersections shown on the following pages.

The North Campus extends from Lomas Blvd towards Indian School, reaches I-25 to the west and UNM's North Golf Course to the east. North Campus is bisected by the busy University Blvd where major street crossings and signalized intersections are located.

- > 16 Intersections, Signalized
- > 15 Intersections, Non-Signalized
- > 7 Crossings, Not Signalized
- > 21 Crossings, Internal
- > 2 ART Stations

These bordering major roads and insular campus roads are currently inadequate to host both vehicles and active transportation users. 22 intersections and crossings are not signalized, while 16 intersections are signalized. There are 21 crossings within the campus perimeter, and two secure MMV shelters. To the South, along Central Ave, there are two ART bus rapid transit stations.

The UNM Earth Data Analysis Center records several other existing features in the built environment including locations for existing bicycle racks on Main Campus. Central campus has 123 existing bicycle racks; North Campus has 6 existing bicycle racks; and South Campus has 12 existing bicycle racks.



16

Intersections, Signalized



15

Intersections, Non-Signalized



7

Crossings, Not Signalized



21

Crossings, Internal



6

North Campus bicycle racks

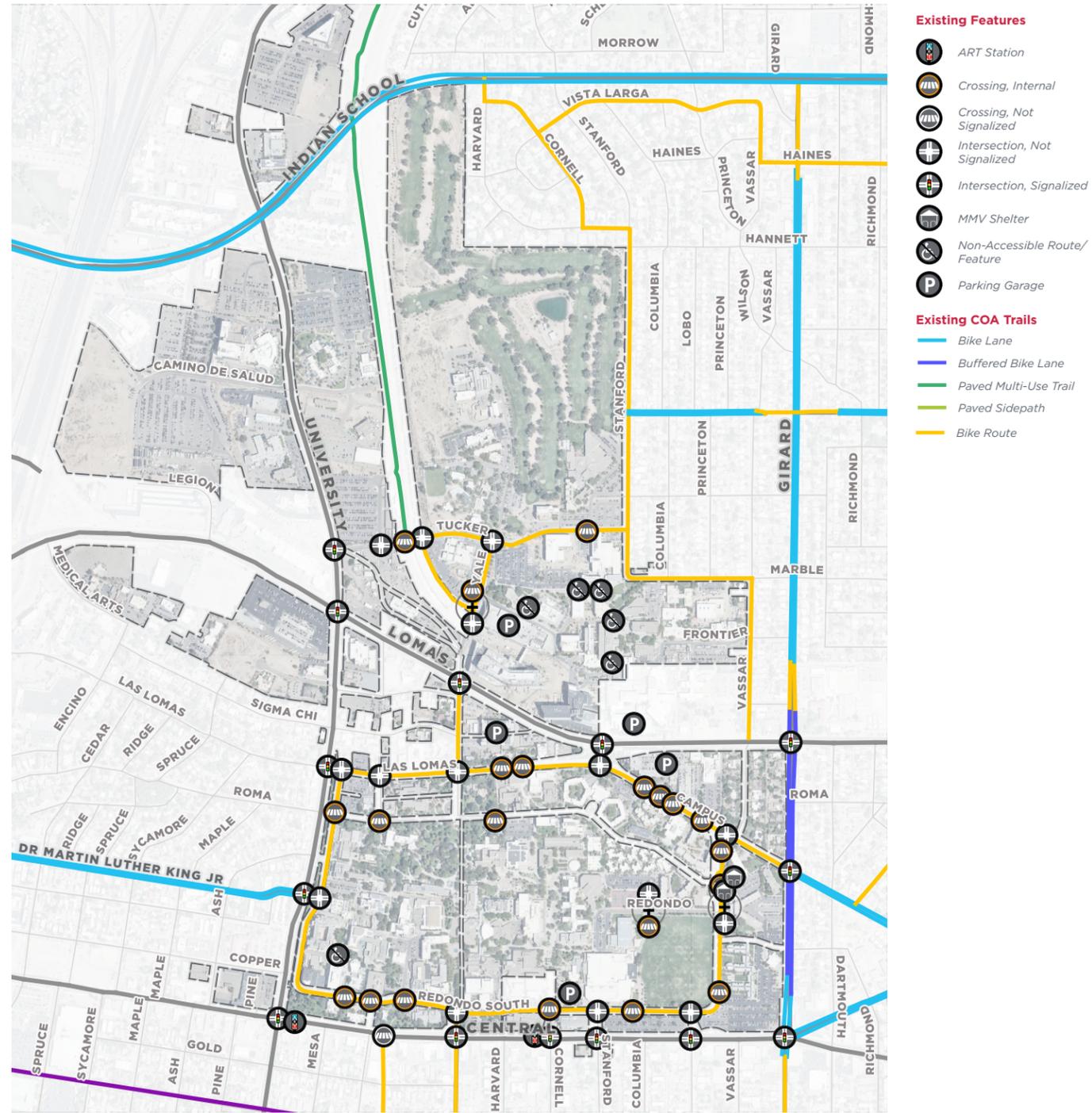
123

Central Campus bicycle racks

12

South Campus bicycle racks

EXISTING FEATURES (CENTRAL AND NORTH CAMPUS)



Map 6. Existing Mobility Amenities on Main Campus



EXISTING FEATURES (SOUTH CAMPUS)

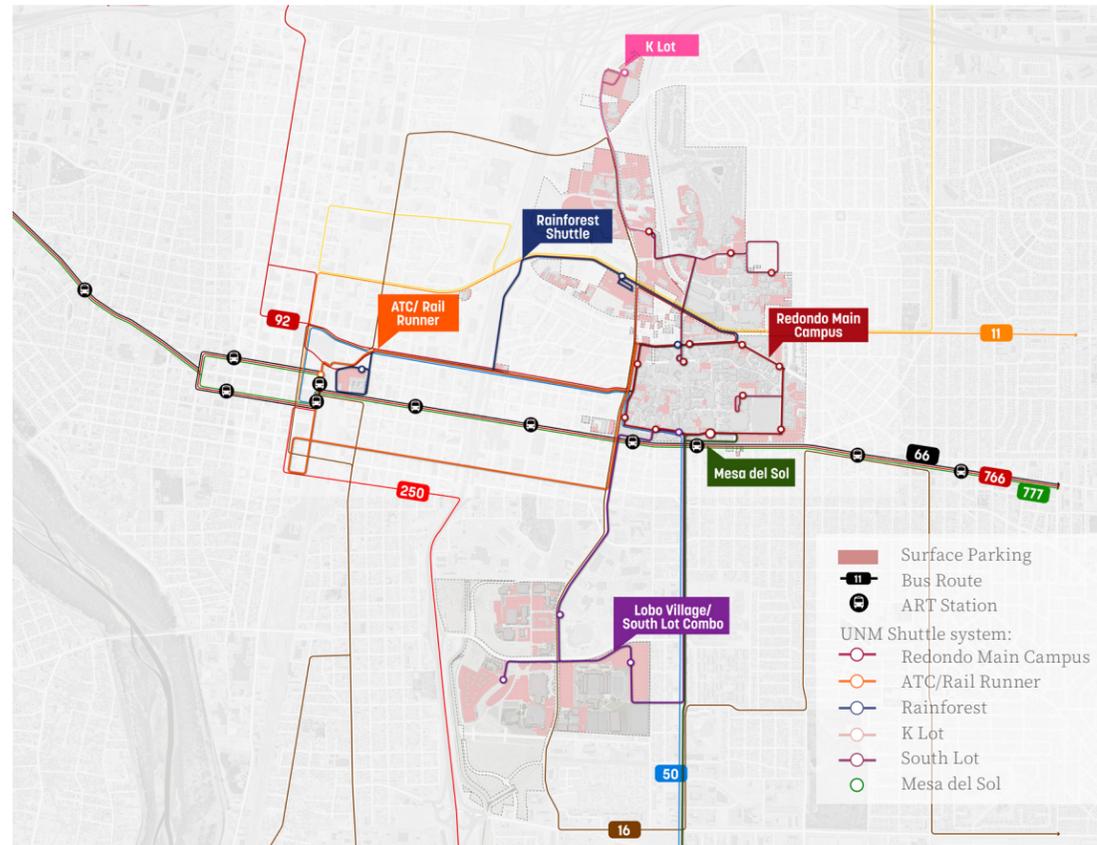


Map 7. Existing Mobility Amenities on South Campus



Shuttle Network

UNM Parking and Transportation Services (PATS) Transit System provides connections between commuter parking lots, student housing, academic facilities, and other key transit destination hub facilities in Albuquerque. PATS provides free shuttle services to UNM students, staff, faculty, and visitors between North, Central, and South Campuses. The map below illustrates the existing shuttle network across Main Campus and the Albuquerque Main Campus area.



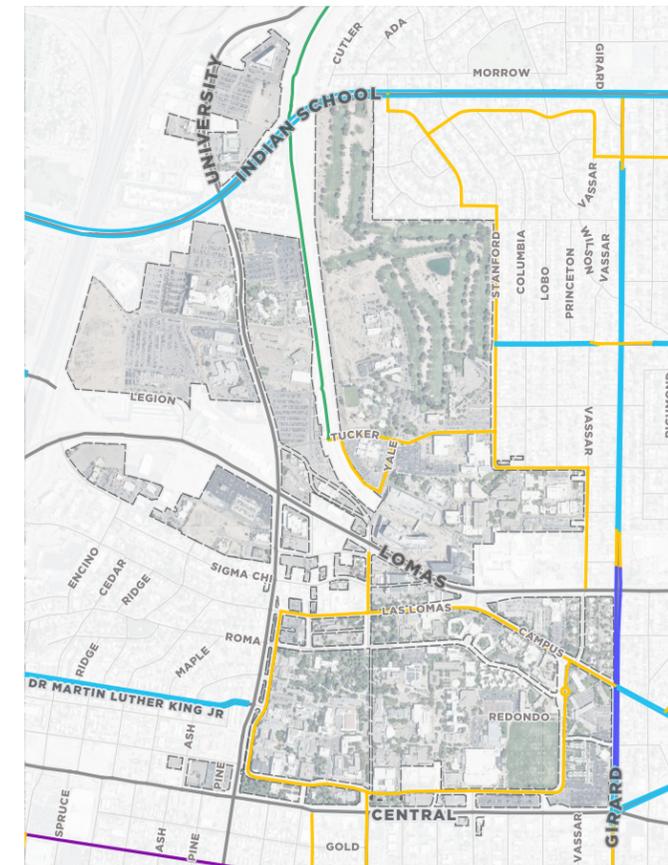
Map 8. Shuttle Network (ICP)

Bike Network

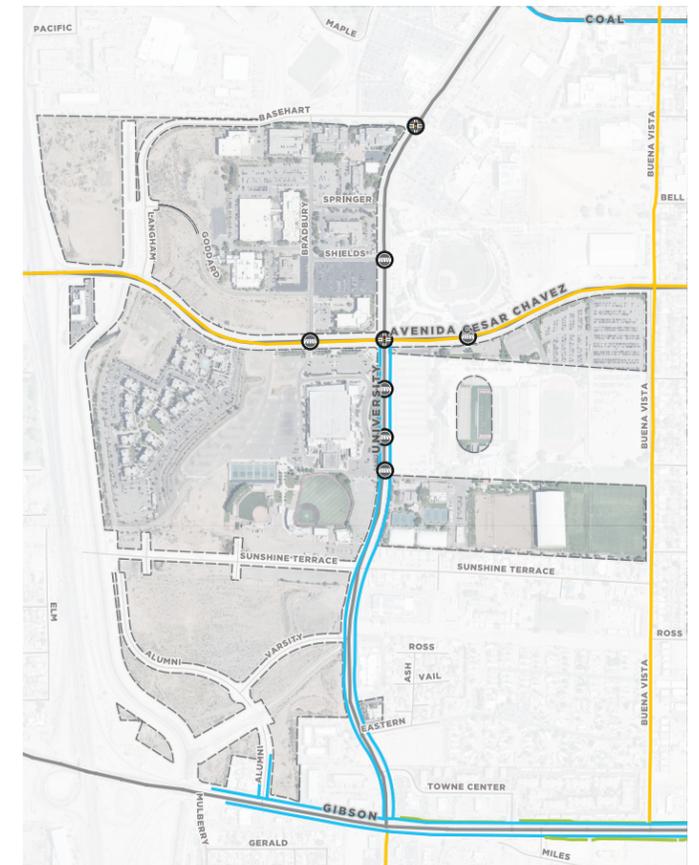
The City of Albuquerque Bike Network System connects to many perimeter areas of the Main campus. This includes the North Diversion Channel Trail and 50-Mile Loop. However, the existing bike facilities with safe mobility infrastructure (i.e. Buffered Bike Lane, Standard Bike Lane, etc.) do not connect directly into campus.

Existing COA Trails

- Bike Lane
- Buffered Bike Lane
- Paved Multi-Use Trail
- Paved Sidepath
- Bike Route



Map 9. Existing CABQ Bikeways on Main Campus



Map 10. Existing CABQ Bikeways on South Campus

Crash Data and Conflict Areas

CoMap Results

The Integrated Campus Plan (ICP) collected survey results from the UNM community on mobility conflict areas between pedestrians, MMV users, and vehicles. The survey also noted areas in need of improvement as it relates to mobility infrastructure. These CoMap conflict heatmap areas are shown on the following maps.

NMDOT Crash Data

The UNM Geospatial and Population Studies published recent pedalcyclist and pedestrian crash data from the New Mexico Department of Transportation (NMDOT). Crashes reported between 2019-2023 are shown on the following maps. Many of these crash sites and conflict areas overlay on major crossings on the perimeter of campus. The Federal Highway Administration ranks these crashes with the following injury severity:

- > Killed
- > Class A - Incapacitated - carried from scene
- > Class B - Visible Injury
- > Class C - Complaint of injury - but not visible
- > Class O - No apparent Injury

Both the NMDOT Crash Data for pedalcyclists and pedestrians and the CoMap conflict heatmap areas have informed the recommendations identified in this plan.

Main Campus Pedalcyclist Crashes

18 pedalcyclist crashes were recorded near UNM's Central campus from 2019-2023. The majority of these were "Class B" and "Class C" injuries, where cyclists sustained visible minor injuries or possible injuries. The most dangerous intersections were Yale Blvd and Central Ave, Girard and Lomas Ave, and University Blvd and Central Ave. This is also reflected in the Section 5.0 "Engagement & Collaboration" on page 86 where the public cited

22 Main Campus pedalcyclist crashes reported

4 South Campus pedalcyclist crashes reported

Lomas Blvd and Central Ave as the highest conflict areas for active transportation. Specific pedalcyclist crash locations are listed below:

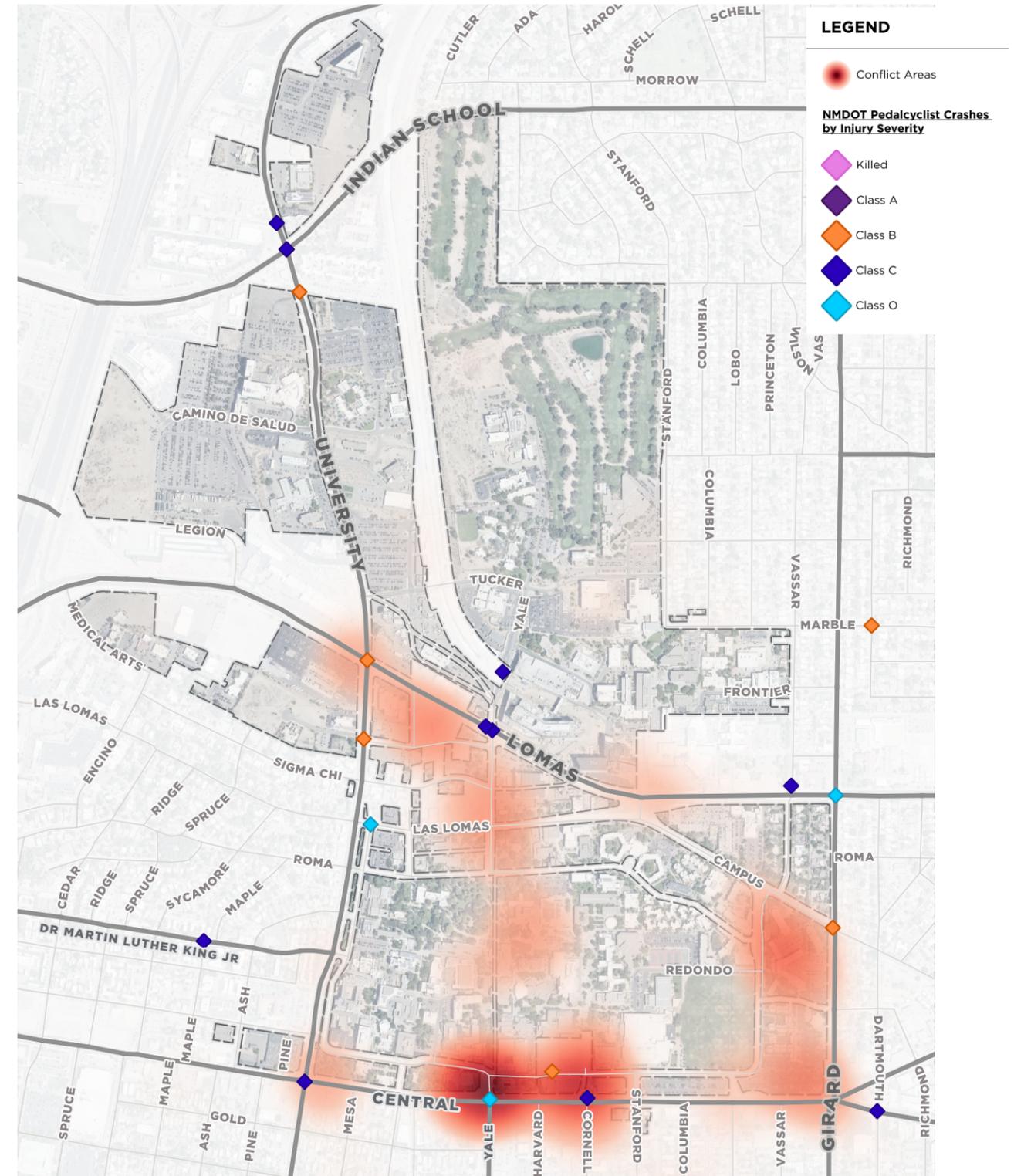
- > 2 at the Lomas and Yale intersection,
- > 1 internally on Redondo between the Bookstore and Popejoy,
- > 3 at Yale and Central,
- > 1 at Cornell and Central,
- > 2 at University and Central,
- > 1 at Redondo and Las Lomas,
- > 1 at Mesa Vista and University,
- > 1 at University and Yale,
- > 1 at Yale and Camino de Salud,
- > 1 at Campus Blvd and Girard,
- > 3 at Girard and Lomas,
- > 1 on Vassar between Lomas and Revere, and
- > 4 at University and Indian School.

South Campus Pedalcyclist Crashes

Between 2019-2023, 4 pedalcyclist crashes were recorded on UNM's South Campus. Three of the four crashes were along University Blvd.

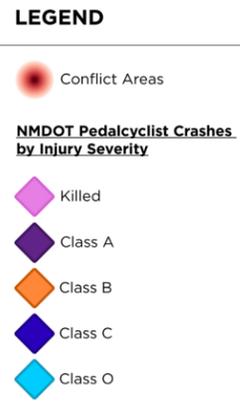
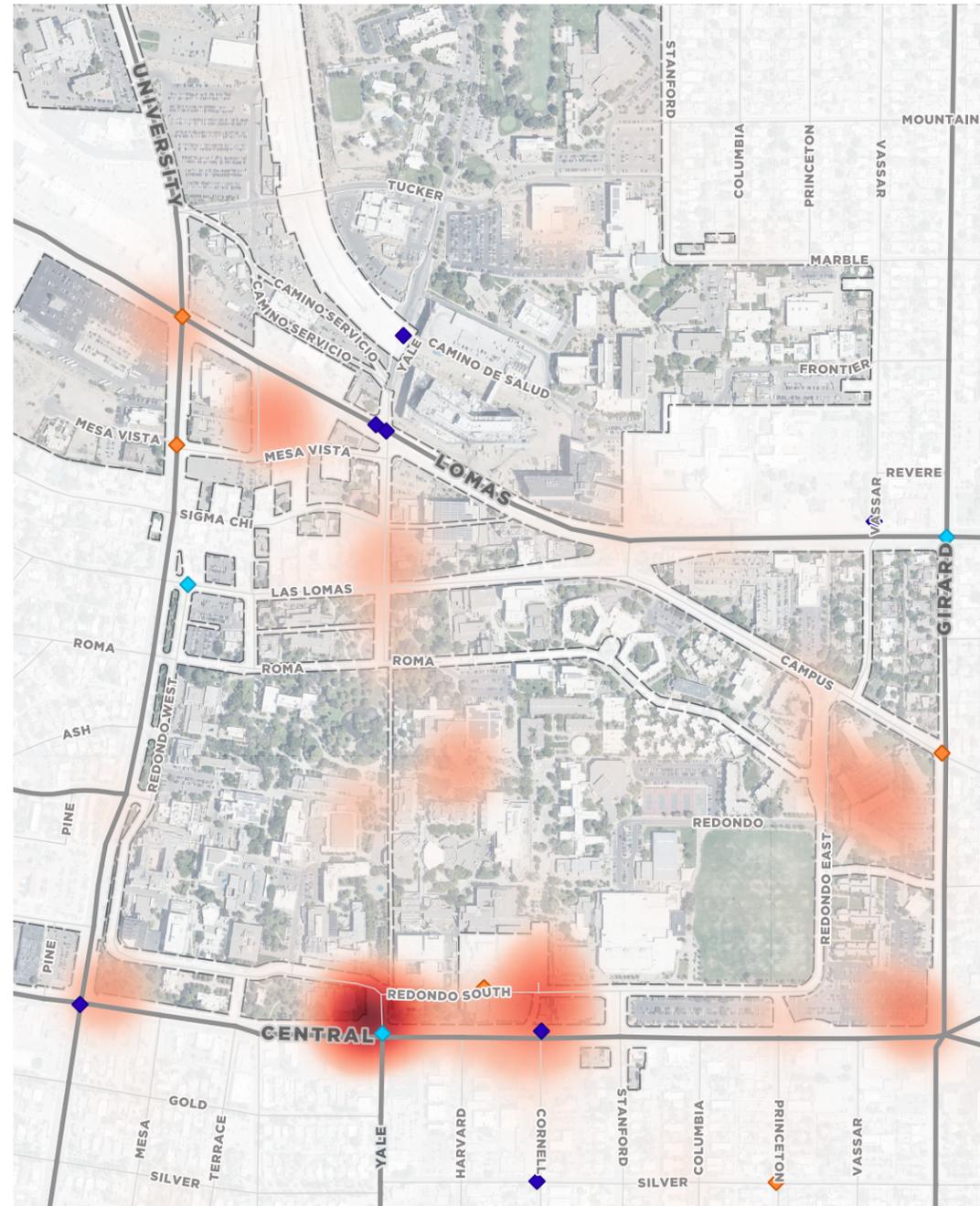
- > 1 crash at University and Basehart,
- > 2 at University and Avenida Cesar Chavez, and
- > 1 at Yale and Avenida Cesar Chavez

PEDALCYCLIST CRASHES & COMAP CONFLICT AREAS (MAIN CAMPUS)



Map 11. CoMap Results and NMDOT Pedalcyclist Crashes (Main Campus)

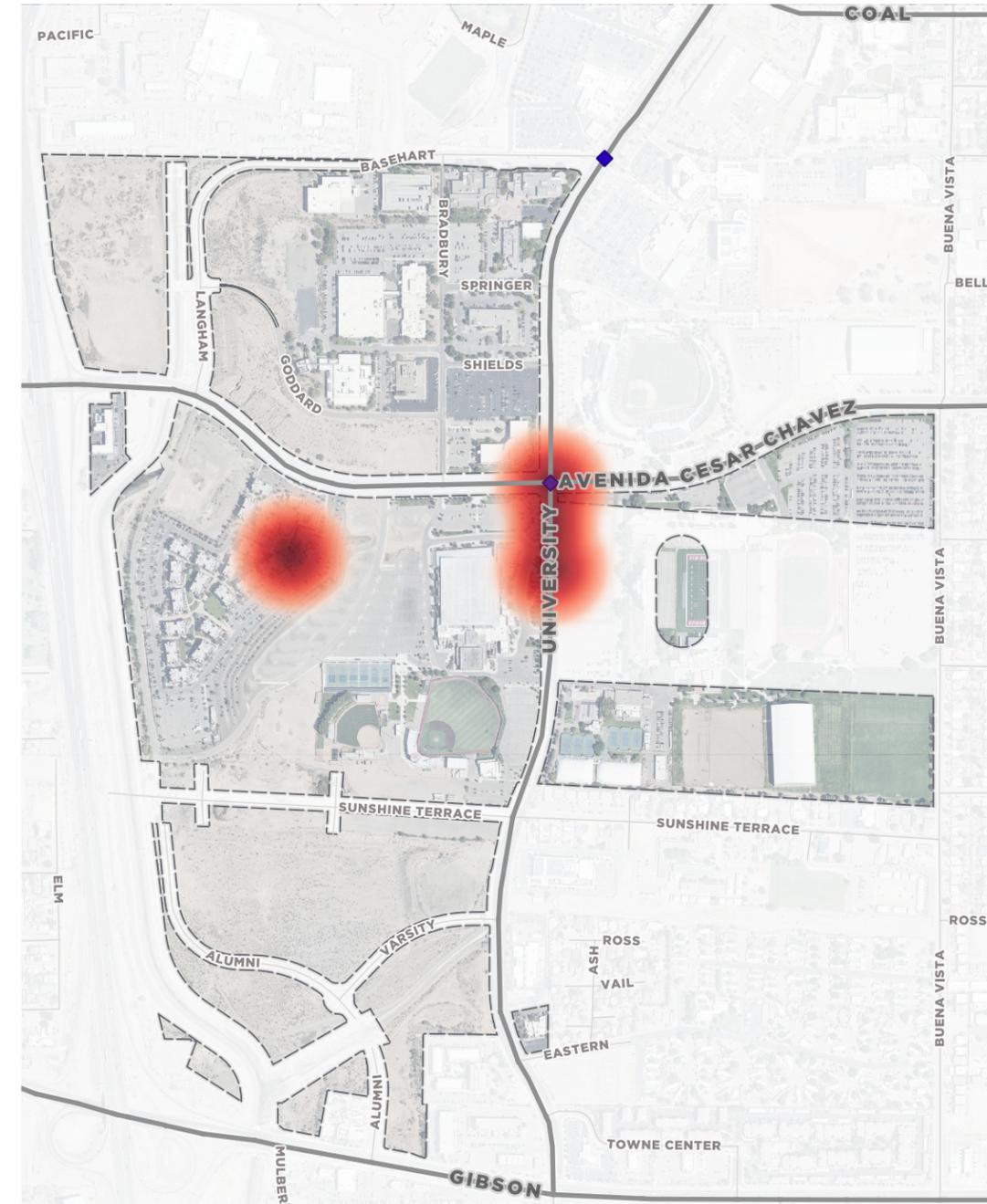
PEDALCYCLIST CRASHES & COMAP CONFLICT AREAS (CENTRAL AND NORTH CAMPUS ENLARGED)



Map 12. CoMap Results and NMDOT Pedalcyclist Crashes (Central Campus)



PEDALCYCLIST CRASHES & COMAP CONFLICT AREAS (SOUTH CAMPUS)



Map 13. CoMap Results and NMDOT Pedalcyclist Crashes (South Campus)





Figure 3. Intersection at Central Ave and Stanford reported both NMDOT pedestrian and pedalcyclist crash incidents

Main Campus Pedestrian Crashes

Between 2019-2023, 46 vehicle crashes involving pedestrians occurred around and on the UNM Main Campus. The number of pedestrians in crashes each year increased since 2019, from nine in 2019 to 13 in 2023. Five of these crashes killed the pedestrian, and 39 left the pedestrian injured. The majority of these crashes occurred on Central Ave, University Blvd, and Lomas Ave – three primary roads that create the perimeter of UNM’s Central and North campus. Additional incidences within the campus occurred on Redondo, Roma, Las Lomas, and Yale Blvd.

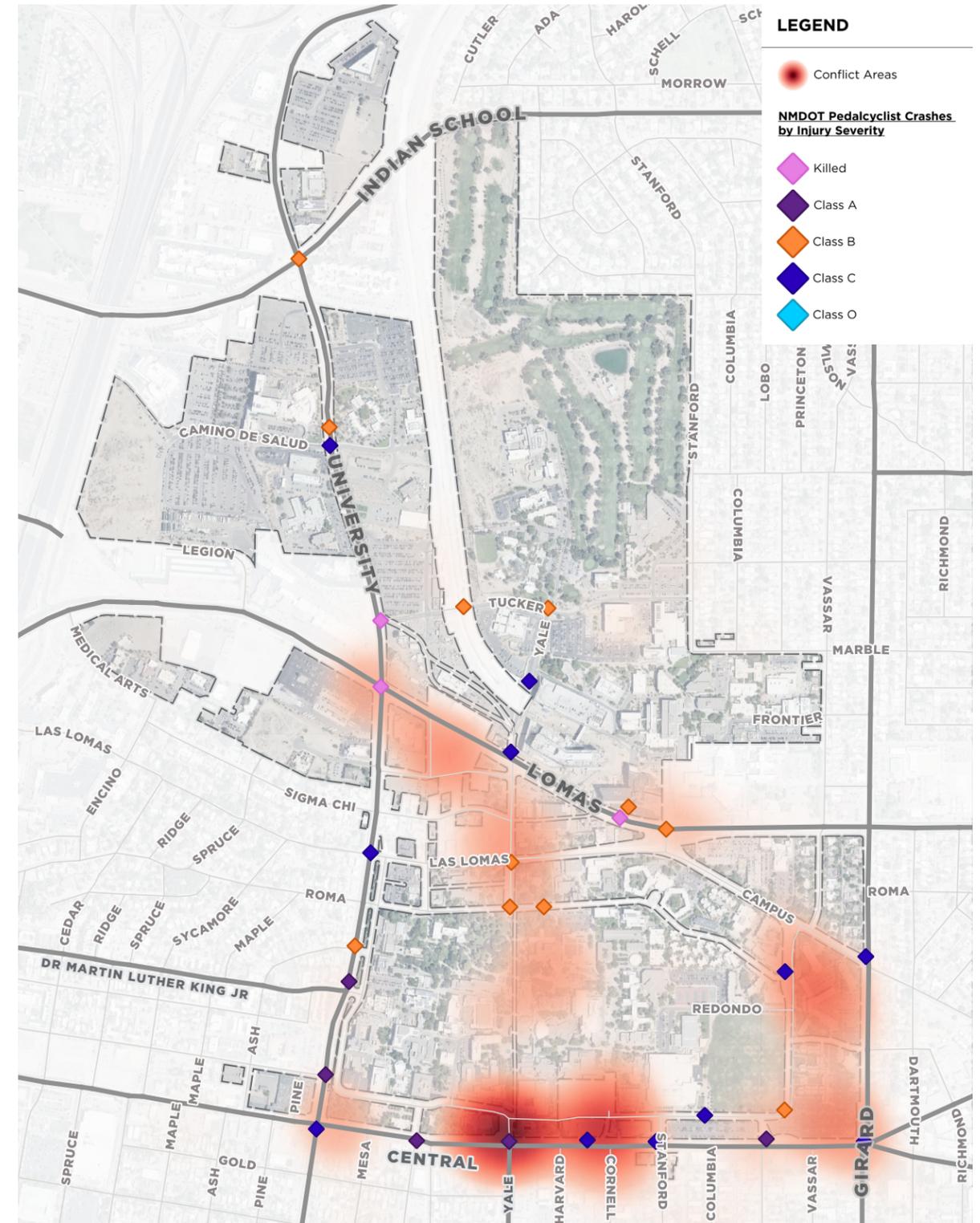
46
Main Campus pedestrian crashes reported

5
South Campus pedestrian crashes reported

South Campus Pedestrian Crashes

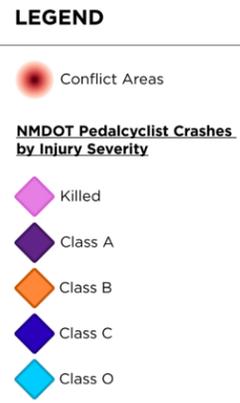
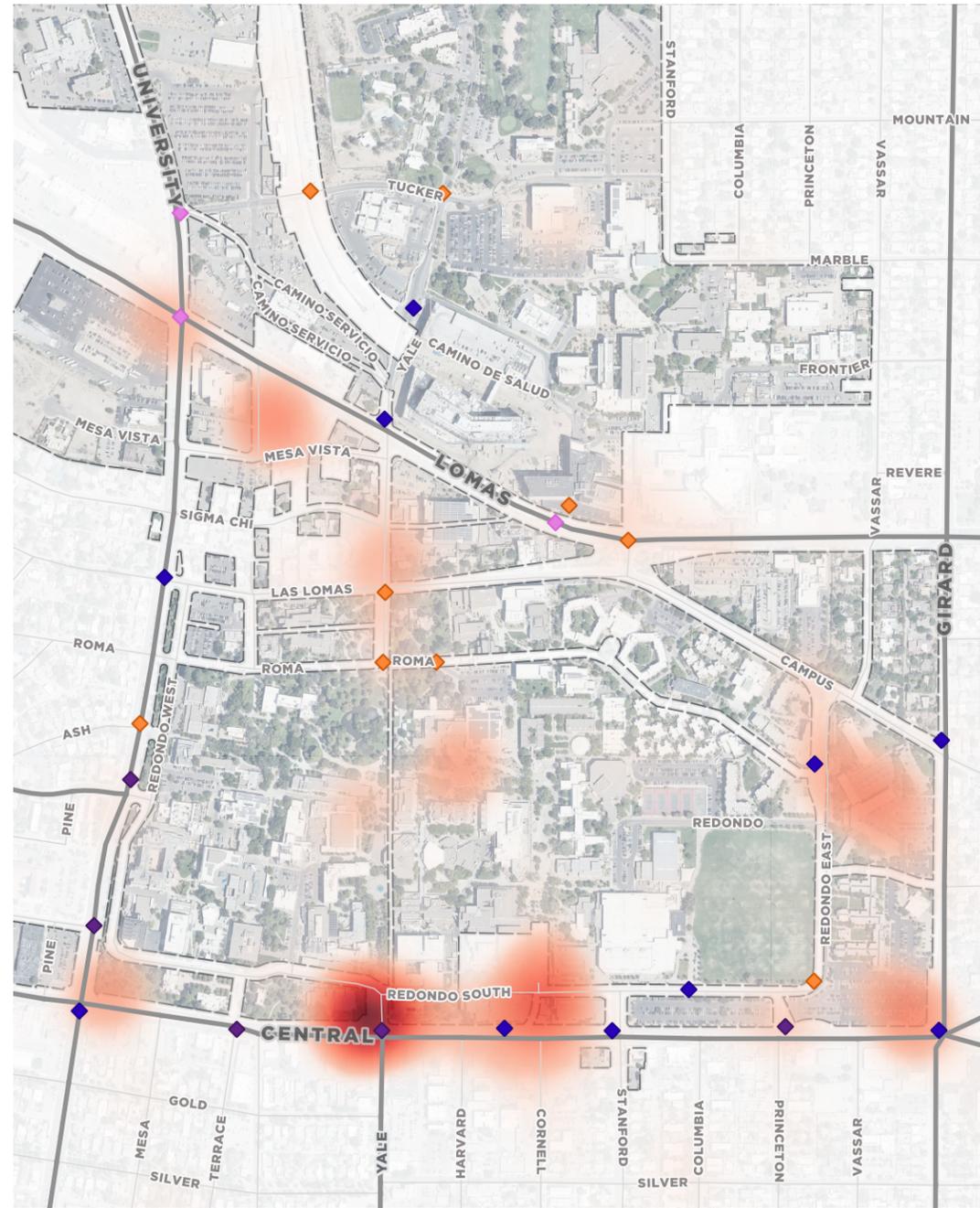
Between 2019-2023, five vehicle crashes involving pedestrians occurred around UNM’s South Campus. One pedestrian was killed, and three were injured. Four of the five pedestrians were hit by a vehicle on Avenida Cesar Chavez Ave.

PEDESTRIAN CRASHES & COMAP CONFLICT AREAS (MAIN CAMPUS)



Map 14. CoMap Results and NMDOT Pedestrian Crashes (Main Campus)

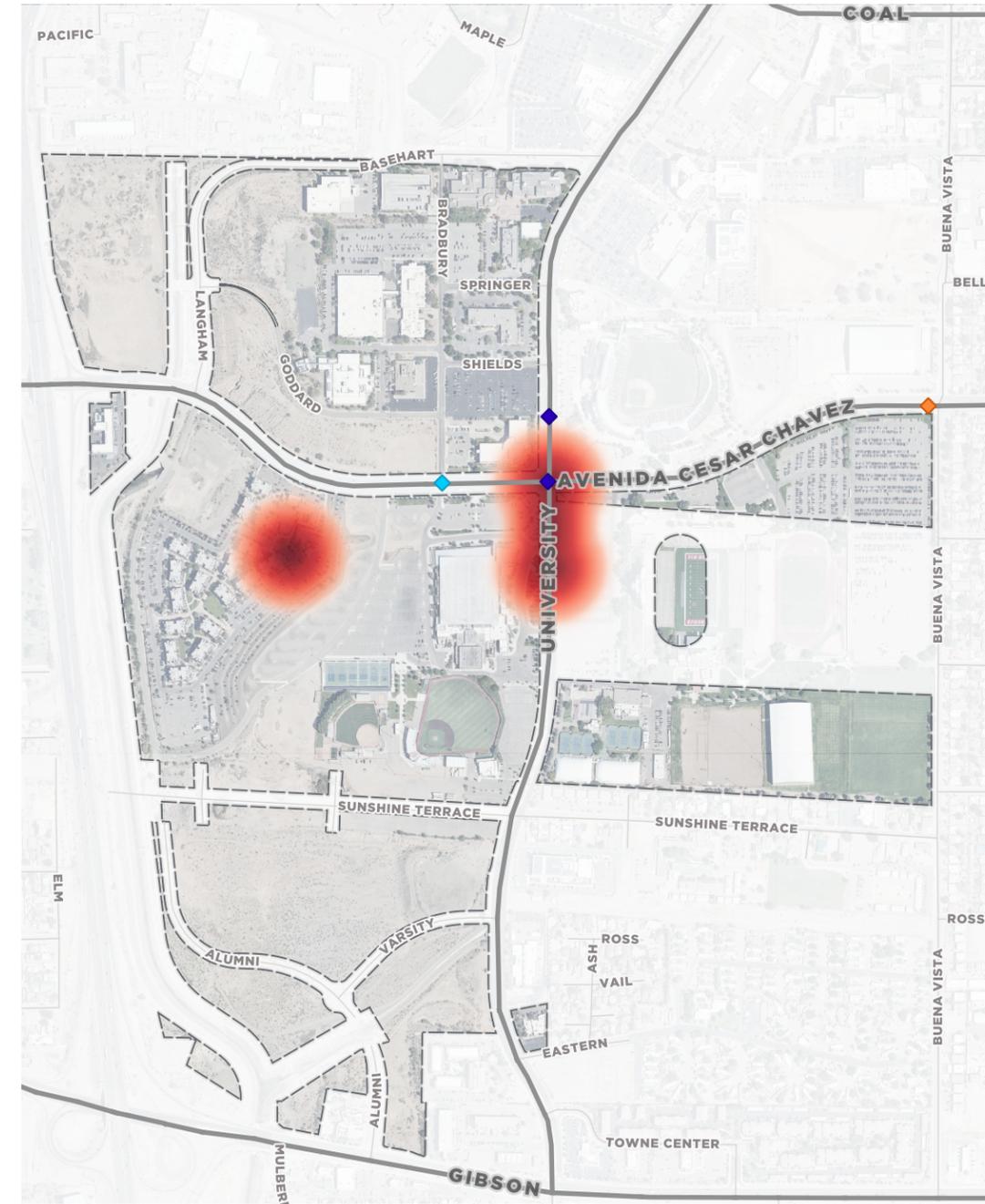
PEDESTRIAN CRASHES & COMAP CONFLICT AREAS
(CENTRAL AND NORTH CAMPUS ENLARGED)



Map 15. CoMap Results and NMDOT Pedestrian Crashes (Central and North Campus)



PEDESTRIAN CRASHES & COMAP CONFLICT AREAS
(SOUTH CAMPUS)



Map 16. CoMap Results and NMDOT Pedestrian Crashes (South Campus)



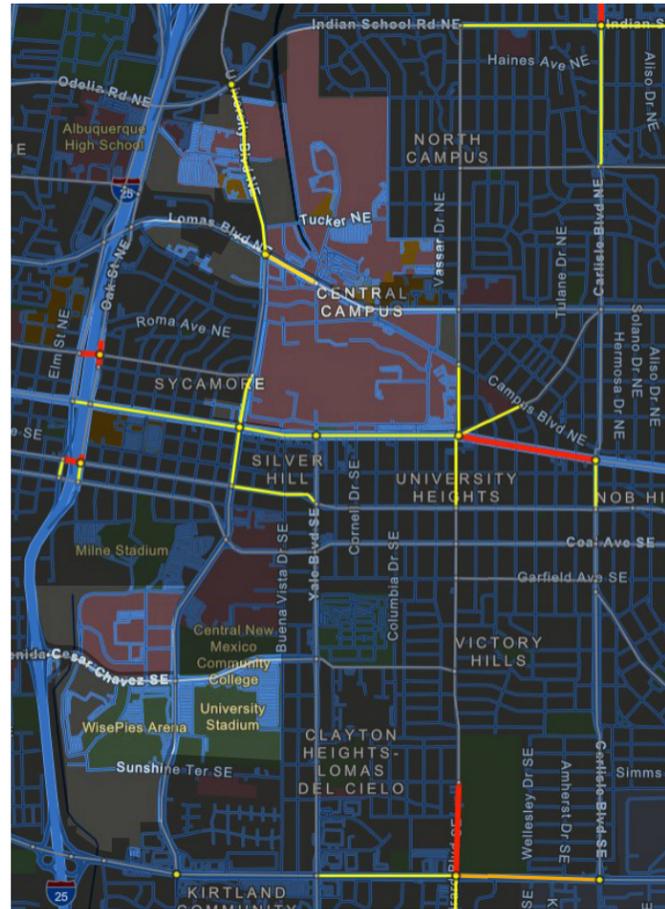
High Fatal and Injury Network (MRMPO)

The High Fatal and Injury Network (HFIN) maps depict the most dangerous corridors and intersections in the region based on the latest available crash data. The HFIN show locations where an above average amount of people have been killed and injured. In the Mid-Region Metropolitan Planning Organization’s 2024 RTSAP, two HFIN maps are presented including for pedestrian crashes and for bicyclist crashes.

These HFIN analysis maps illustrate areas that warrant further investigation based on a high amount of fatal and injury crashes. This type of HFIN evaluation can help inform priority locations for safe mobility improvements. Although useful for high-level planning purposes, additional analysis, in-depth planning, and engineering studies are needed to determine the appropriateness and complexity for each site specific type of safety improvements in relation to existing and future developments.

Pedestrian HFIN

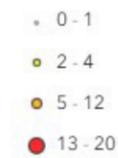
For the Pedestrian HFIN, UNM is most dangerous along Central Ave, Girard Blvd, and at the stretch of Lomas Blvd just east of University Blvd. Along Central Ave, 2-4 pedestrians were involved in crashes at each intersection of the UNM perimeter. And along the stretch of Lomas east of University, the HFIN Pedestrian Score is 1.5-2x above the mean.



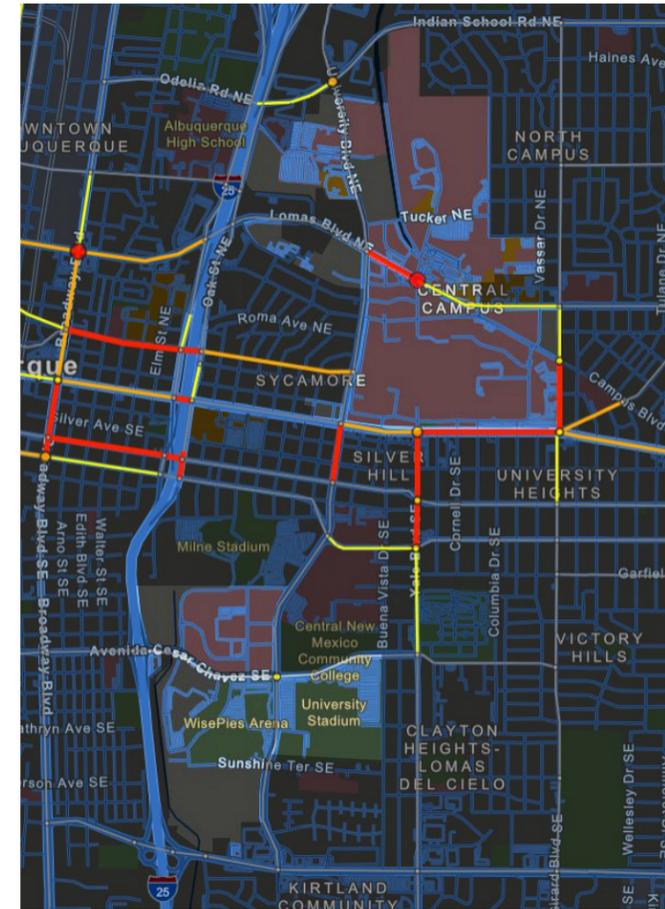
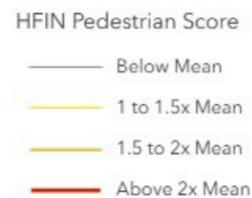
Map 17. HFIN Pedestrian Crashes

Pedestrian Involved Intersection Crashes

Pedestrian Crashes



Pedestrian HFIN Score



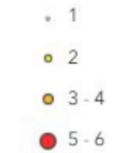
Map 18. HFIN Bicyclist Crashes

Bicyclist HFIN

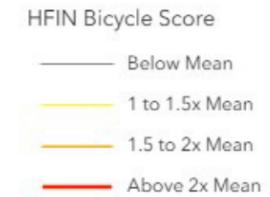
For the Bicyclist HFIN, the most dangerous corridors around Central and North Campus are located on similar roadways as the pedestrian HFIN — along Central Avenue and Lomas Blvd just east of University Blvd. Along Central Avenue, 5-6 bicyclists were involved in crashes at intersections. The stretch of Central Ave along UNM is above 2x the HFIN Bicyclist Score mean. For the stretch of Lomas Blvd just east of University Blvd, 5-6 Cyclists were involved in crashes, and the HFIN Bicyclist Score is 1.5-2x the mean.

Bicyclist Involved Intersection Crashes

Bike Crashes



Bicycle HFIN Score



	Bicycle Incidents	Scooter Incidents	Skateboard Incidents	Golf Cart Incidents
2021			1	
2022		1		
2023	1	1		
2024	1	2		3
TOTALS	2	4	1	3

Table 2. MMV Incidents

UNM MMV Recorded Incidents

MMV Incidents reported to UNM Police Department are shown in the table to the left. The data shows a high number of scooter (4) and golf cart (3) incidents. However, specific details on incident locations is lacking. **It should be noted that many bicycle and pedestrian collisions are never reported to police, so this data represents a subset of the collisions in the UNM area. Additional crash data collection is needed for Main Campus.**

UNM SAFE MOBILITY TASKFORCE CONFLICT AREAS

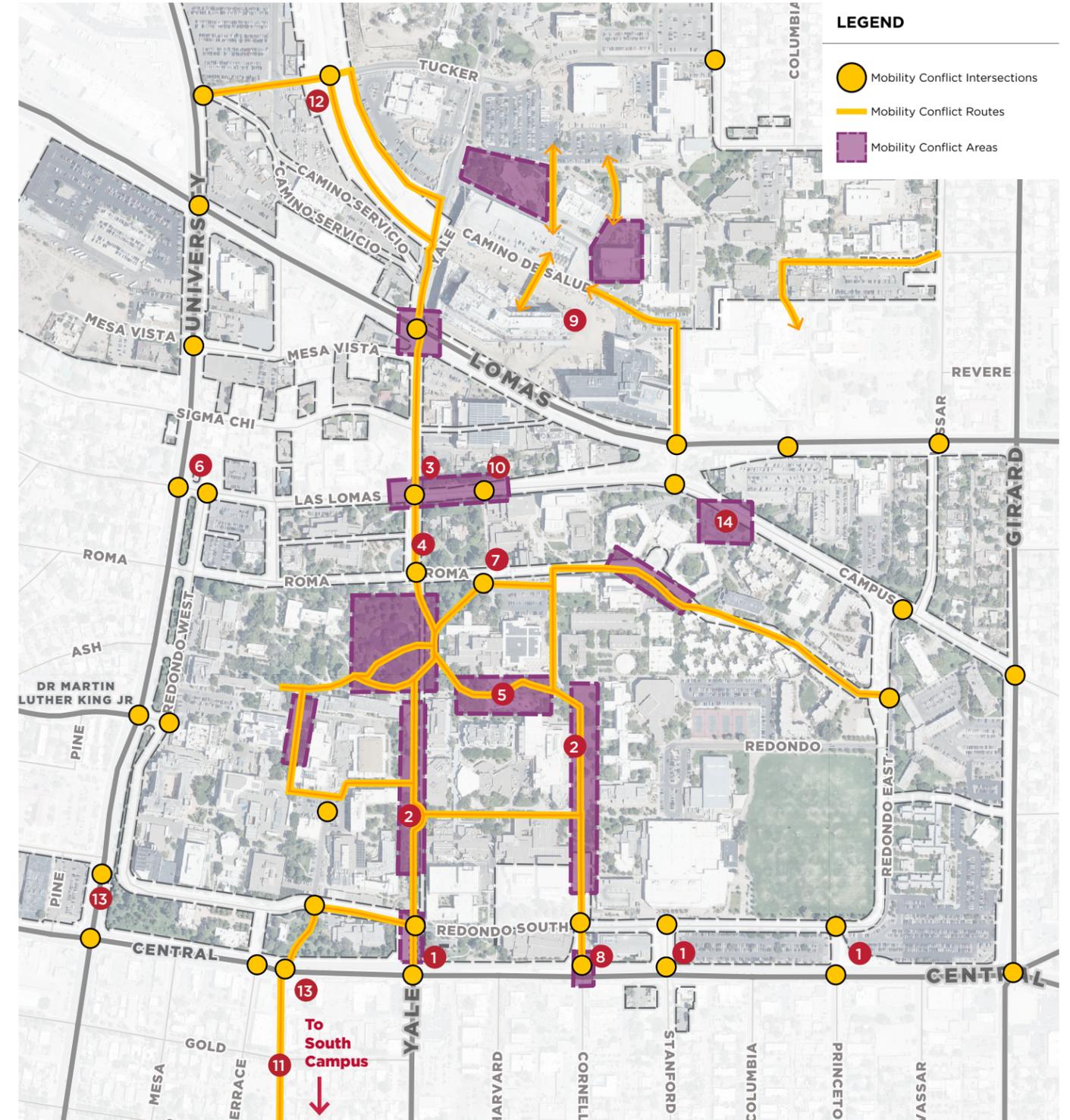
In the early phases of the project, the UNM Safe Mobility Taskforce assisted the consultant team in identifying existing mobility conflict areas and zones on campus. Some campus wide and site specific challenges were noted by the Taskforce and are outlined below. Additional feedback received from the Focus Group meetings are included in Section 5.0 Community Engagement of this Plan.

Campus-Wide Challenges

- > **Pedestrian Safety:** Raised crosswalks are needed to improve safety. Limited right-of-way (ROW) complicates sidewalk expansion. Intersection improvements at campus edges require collaboration with City of ABQ. Existing sidewalks and roads have cracks, potholes, and lifted pavers, posing hazards for pedestrians and micro-mobility vehicle (MMV) users.
- > **Parking and Unauthorized Vehicles:** Insufficient parking lot signage makes it hard to locate available parking. Unauthorized vehicles accessing campus create safety issues; additional bollards and gates may help restrict traffic in key areas.
- > **Conflicts Between Modes:** Issues arise between cars, scooters, bikes, and pedestrians, as well as among different MMV modes. Management strategies are needed to address these conflicts effectively.
- > **ADA Compliance:** Narrow sidewalks and ROW constraints hinder ADA accessibility. Infrastructure improvements should prioritize ADA compliance.

Site-Specific Challenges

- 1. Yale, Stanford, and Princeton Intersections with Central Ave:** Unsafe conditions due to lack of cross-traffic stops.
- 2. Cornell and Yale Malls:** Cracked pavement is hazardous, but maintenance funding is insufficient.
- 3. Las Lomas & Yale Bus Stop:** Pedestrians crossing in front of buses create risks; relocating bus stops away from intersections could improve safety.
- 4. Shuttle Bus Stop at Duck Pond:** Buses stacking up, stopping away from the curb cause safety and accessibility issues.
- 5. Smith Plaza:** Fast-moving mobility devices create safety concerns for all users.
- 6. Las Lomas East of University:** Crosswalk ends in sand, and cars encroach onto sidewalks due to lack of parking stops.
- 7. Roma Between Social Sciences & Zimmerman:** Three different crosswalks at this same location contribute to crossing and yield confusion.
- 8. Cornell and Central:** Frequent vehicle stops and high e-scooter activity cause conflicts between cars, cyclists, and pedestrians. Issues include unexpected car door openings and lack of awareness among users.
- 9. North Campus:** There are many grade changes with few accessible routes. There are long distances of travel without clear and direct routes between key buildings. Recent construction for new developments at the Health Sciences Center campus has created additional mobility conflicts.



Map 19. Mobility Conflict Areas Identified by Taskforce (Central and North Campus)



- 10. Las Lomas East of Yale:** Concern with mobility safety along Las Lomas near on-street parking spaces. Parking limits visibility for pedestrians and MMV users at crosswalk locations. Lack of barrier between the sidewalk and parking spaces allows parked vehicles to encroach sidewalk paths of travel.
- 11. South Campus:** MMV travel between South and Central campus lack safe facility connections. All North-South roadway connectors including Yale Blvd and Buena Vista Dr lack bike infrastructure.
- 12. Tucker and North Diversion Channel:** The intersection of Tucker Ave and the North Diversion Channel Trail is a yield only crossing with minimal signage and painted crosswalks only marked for parallel sidewalk crossing and not cross vehicular traffic crossings. Safe crossing infrastructure is lacking, despite the high MMV traffic intersecting this North Campus location.

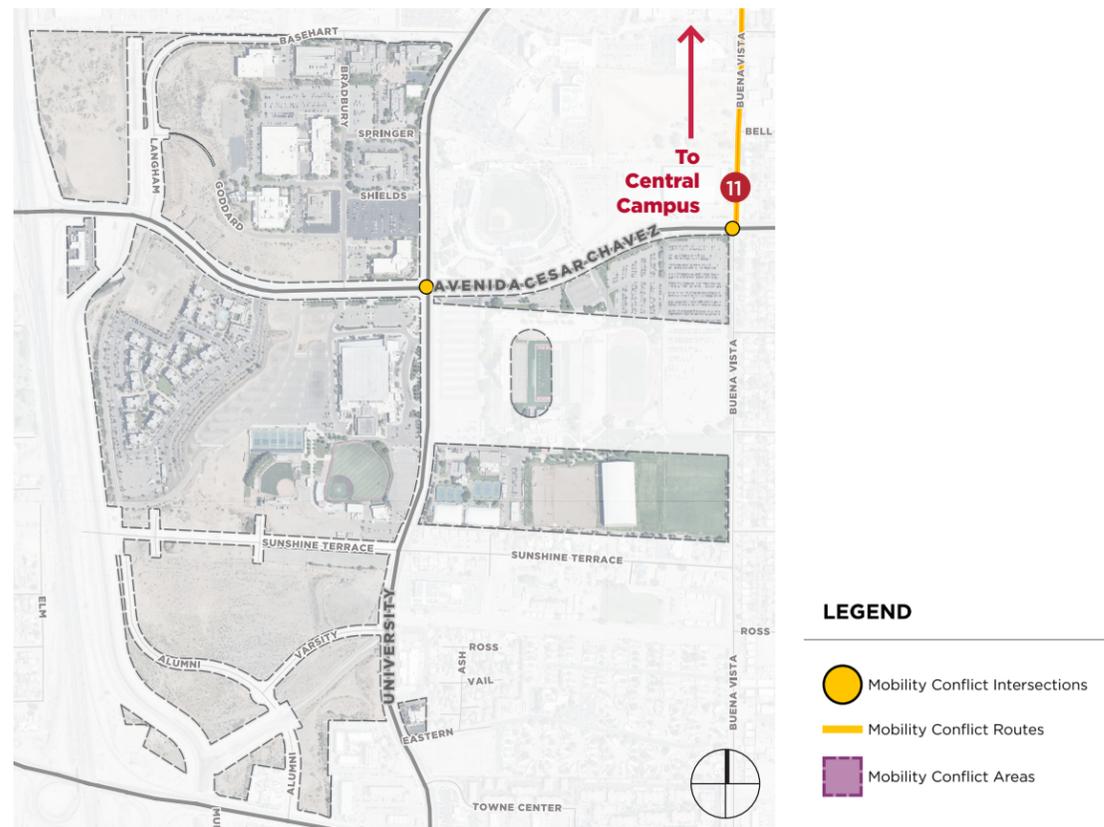
- 13. Midblock Crossings at University Blvd and Buena Vista Dr:** There are several uncontrolled mid-block crossings on the perimeter of Central Campus where active transportation users have little or no accommodation for safe travel. There is frequent mid-block pedestrian crossing along University Blvd near Copper Ave; and Buena Vista Dr and Central Ave despite signage discouraging pedestrian crossing.
- 14. R Lot near Hokona Hall and Campus Blvd:** There are poor crossings and reckless drivers near the R Lot parking; skateboarders have been seen utilizing the as well contributing to some MMV and vehicular conflicts.

Features Assessed

The team recorded and assessed 286 features in the field. On the next page is a map detailing all of the feature locations recorded within each Node, Zone, and Route. The assessors noted surface conditions, walkway experiences and obstructions, MMV storage, current and future mobility hub locations, and more. Refer to the Appendix for detailed reports and maps.

Nodes, Zones, and Routes were utilized to categorize campus malls, streets, paths, intersections, and other infrastructure features. Within these areas, features were recorded and flagged as an amenity or mobility conflict.

Routes indicate internal paths of travel within the campus, including streets, walkways around buildings, and paths around exterior features such as the Duck Pond. Nodes are intersections both internal and external. These record where different modes of travel have crossing paths, such as on-street intersections or a split in a path within the campus. Zones are larger high traffic areas such as Cornell and Yale Malls, Smith Plaza, or the Duck Pond. Zones are defined by high pedestrian and MMV traffic, which are often moving in non-linear paths from multiple directions.

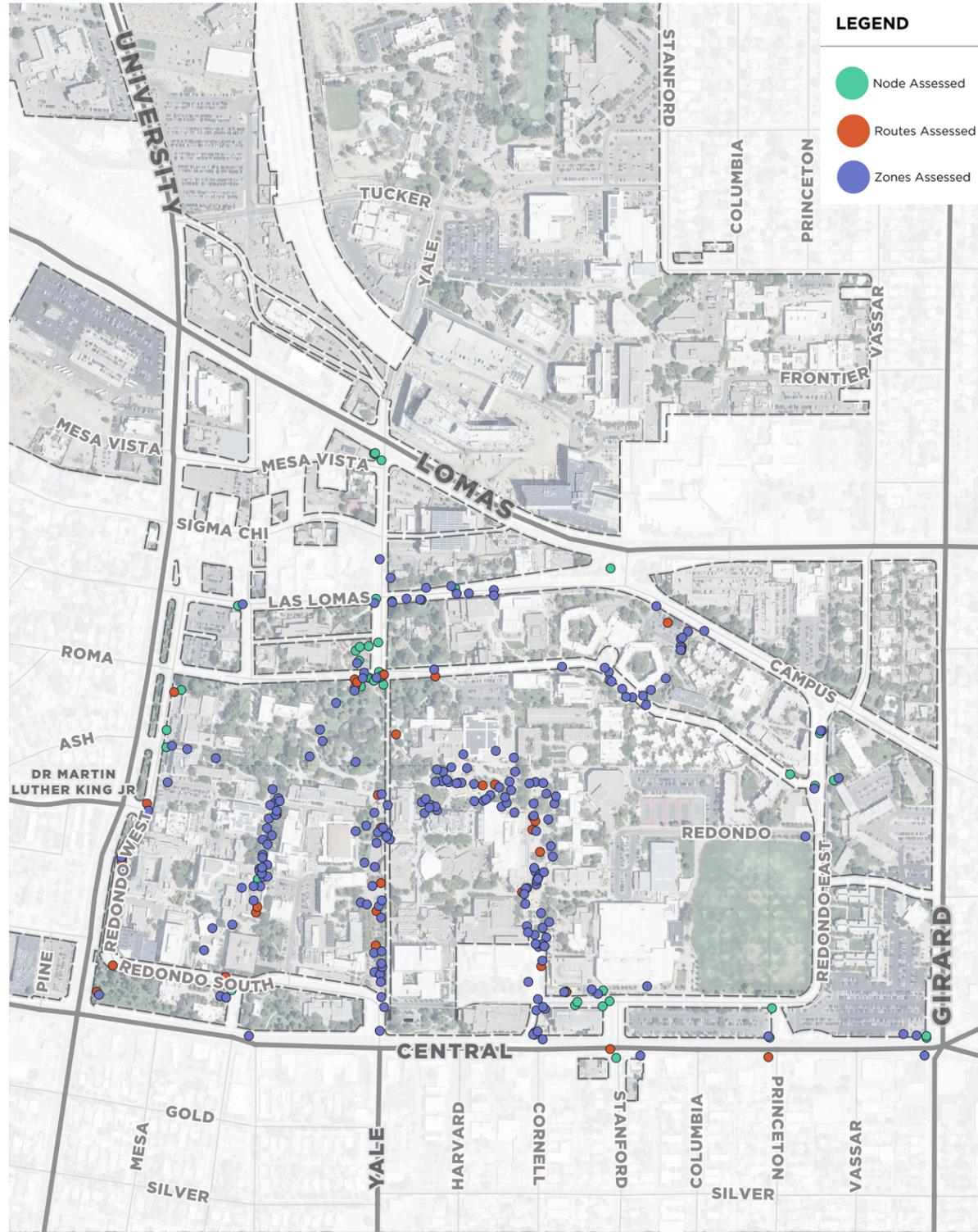


Map 20. Mobility Conflict Areas Identified by Taskforce (South Campus)



Figure 4. Cornell Mall looking south toward Popejoy Hall

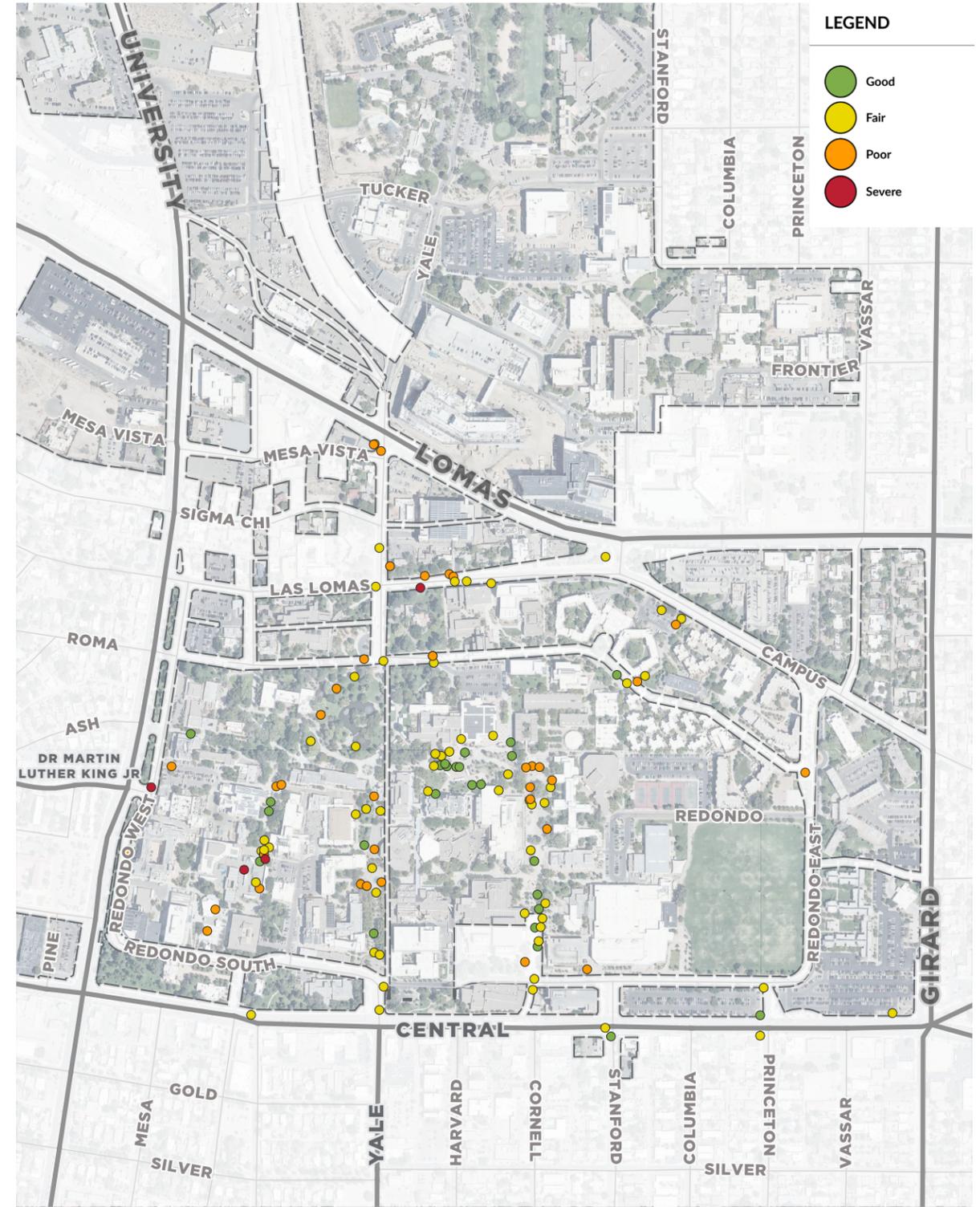
Features Assessed (Nodes, Routes, Zones)



Map 21. Features Assessed



Surface Conditions and Crossing Conditions



Map 22. Surface Conditions and Crossing Conditions



Mobility Conflicts Assessed

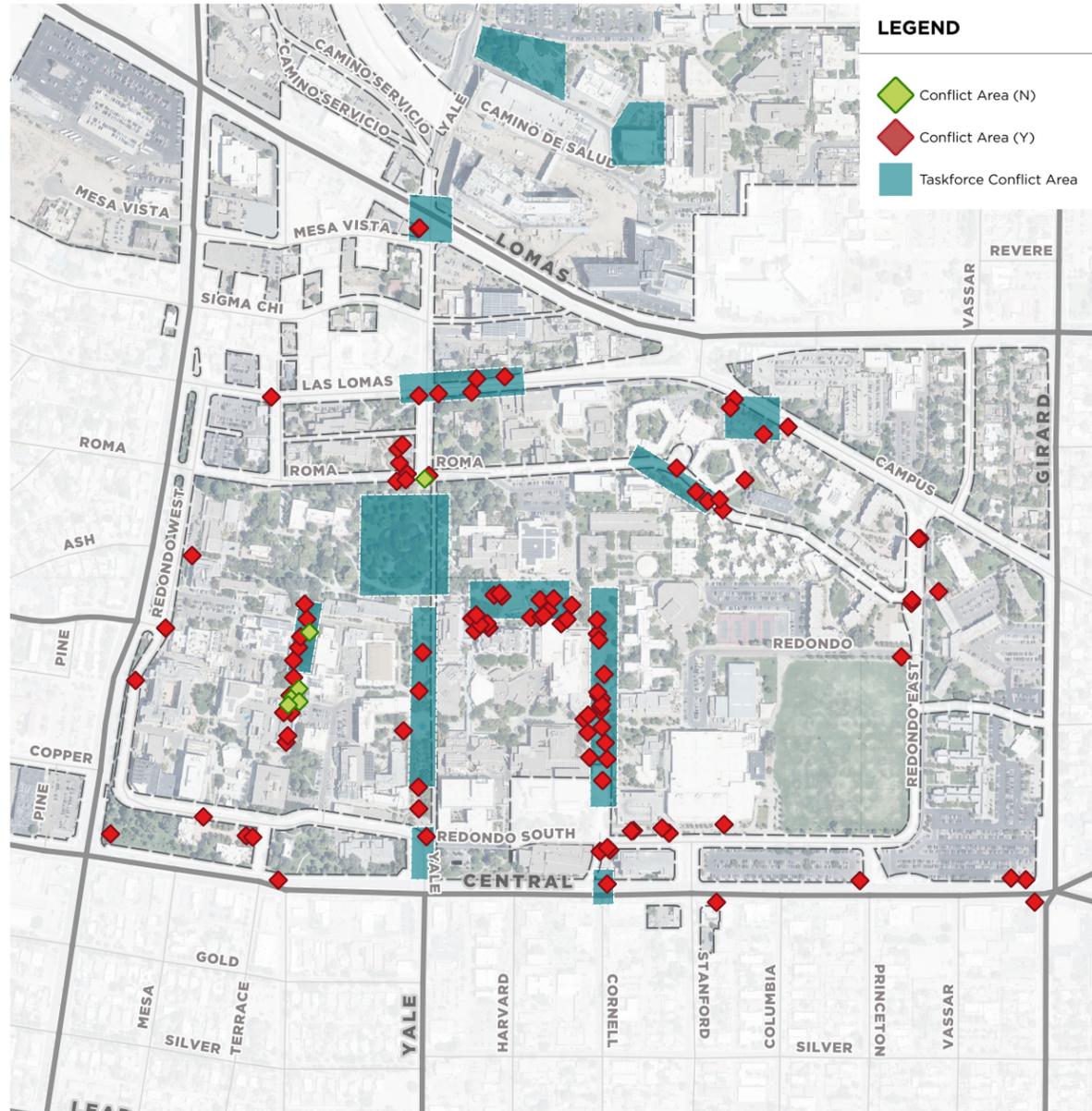
Out of the 286 features assessed in the field, 107 features or areas were flagged with a mobility concern, such as poor surface conditions, conflicts in shared areas and walkways, conflicts with bike parking, dangerous crosswalks, and mobility hub challenges.



107 Features flagged with a mobility concern



89 Features were marked as visible tripping hazards, either for pedestrians or MMVs



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Map 23. Mobility Conflict Areas Assessed



PEDESTRIAN & MICROMOBILITY INFRASTRUCTURE ASSESSMENT

Overview

The Pland team visited the Central Campus on January 15-16, 2025 to assess the existing infrastructure, physical features, and accessibility concerns as it relates to pedestrian and micromobility movements. **The team recorded and assessed 286 features in the field.** The assessment recorded features in three categories: Nodes, Zones, and Routes. Nodes primarily cover intersections and multi-modal crossings. Zones primarily cover campus malls and large gathering spaces such as Smith Plaza. Routes primarily cover paths and informal "cut-through" routes on campus.

Nodes

The assessment recorded 42 node features across campus. The majority of the 42 features assessed in "nodes" included crosswalks, transit stop areas (current and future), wayfinding/signage elements and other physical features that relate to modes of transportation crossing paths. Most conditions recorded indicated low visibility crosswalks and insufficient amenities at shuttle stops.

Crosswalks/Intersections

- > Crosswalks are poorly configured for motorists to notice the crossing, and could benefit from up-to-date intersection best practices.
- > Central Avenue and Lomas Blvd have particularly bad crosswalks (faded paint, broken surfaces), especially for the speed of vehicle traffic.

Crosswalks on the perimeter edges of campus located on CABQ roadway facilities fall short of modern best practices for highly visible and pleasant crossing pedestrian experiences. Several internal crosswalks on UNM facilities including at Las Lomas and Yale and Redondo and Yale lack safe crossing infrastructure. Many intersections have fading striping, leading to a dangerously low-visibility crosswalk. The worst are along Central Avenue and at Lomas Blvd. On Central Ave, paving materials are in poor condition.

Ad-hoc surface treatments have been installed over time and as a result, crossings vary in surface materials and surface paints/markers have faded. While bricks and pavers are a standard method of pedestrian delineation, they must be maintained over time. Many crossings assessed have inconsistent surface treatments, signage, and materials which present as a confusing crosswalk for vehicles and an unclear crossing experience for pedestrians.

Future Mobility Hub Locations

- > Best-practice amenities are absent from the proposed mobility hub locations.
- > Vehicle traffic is congested around the future mobility hub locations.
- > Pedestrian and MMV connections to and from the Mobility Hubs could be improved.

Future mobility hub locations were identified by ICP stakeholders for the Integrated Campus Plan. These future hub locations are mapped in the "Recommendations & Strategies" on page 104. After assessing existing features in these future hub locations, the sites require more safety improvements to reach their full potential, such as improved pedestrian connections to/from the hub, improved space for the shuttle to wait for passengers, improved waiting areas for passengers, and ADA loading/unloading opportunities. Amenities are absent and car traffic is congested around these proposed Mobility Hubs. Car traffic and parking takes up space in these areas that could be used for amenities that improve the flow of traffic and experience of the Mobility Hub. In their current state, these areas do not have enough seating, shade structures, or posted schedules that would be expected of a Mobility Hub.



Figure 5. Crosswalk at Central & Girard in poor condition.



Figure 6. Uneven surfaces conducive to trip hazards.



Figure 7. Crosswalks at Lomas & Yale in poor condition.



Figure 8. Poor crosswalks at Stanford & Campus.



Figure 9. Lack of shade at proposed mobility hub location.



Figure 10. Shuttle signage is aging and lacks posted schedule.

Zones

"Zones" are the open areas where pedestrians and MMVs are interacting with each other, like the campus malls and plazas. Inherently, these zones do not have defined travel direction, causing conflicts as MMVs are traveling in directions that are unpredictable to pedestrians. **The assessment recorded 211 Zones across campus.** The majority of the 211 features identified in "Zones" included bike parking and storage, crossings, seating, wayfinding, and general walkway conditions. Key observations in zones included inadequate bike parking and storage, overall poor surface conditions, inherent mobility conflicts in high-pedestrian areas, and aging MMV amenities.

Conflicts and Opportunities in Open Areas

- > MMVs ride at excessive speeds in wide-open spaces despite the presence of pedestrians.
- > These same spaces provide an opportunity to implement MMV amenities such as delineated lanes and bike valets.

The open areas of campus (plazas, malls, etc.) are the most prevalent locations for pedestrian and MMV conflict. These open areas encourage MMVs and pedestrians to cross in unpredictable and undefined directions, causing speeding MMVs to be unpleasant or even dangerous for pedestrians. However, these open areas create opportunity. They frequently include a single surface treatment, with few amenities. If amenities like trees, benches, or bike parking are present, they are frequently in a linear arrangement. These open spaces are ideal for MMV lane delineation to reduce conflict with pedestrians and enhance the experience for vehicle users.

These types of open spaces create opportunities for implementing infrastructure like bike valet structures, bicycle cages, and delineated MMV travel lanes.

Poor Surface Conditions

- > Surfaces present tripping hazards for MMVs

In open areas, the design and condition of the zone surfaces are not ideal for MMVs. Brick surfaces, surfaces with frequent (and uneven) joints, or surfaces with frequent cracks, all contribute to a negative riding experience for scooters and cyclists.

Pedestrian and MMV Amenities are Aging.

- > Aging amenities that once promoted MMV visibility are fading.

UNM has a lack of amenities that raise awareness of or protect pedestrians and MMVs. Those amenities that do exist on campus are frequently in poor condition. This includes faded crosswalks, faded text in the street, and aging or low visibility signage.

Bike Storage

- > There is a high volume of bike storage racks present on campus, but a shortage of high-quality and secure options such as walk-in bike boxes or bike valet services.

UNM's campus has a high volume of bike racks. Large bike racks are often underutilized due to risk of theft or vandalism, yet the occupied space is sufficient for more secure bike cages or valet service.

There are many cases of bike racks protruding into the walkway area, or are placed in a way that cause conflicts with pedestrians, inviting bikes to maneuver into a tight area that is shared with pedestrians.



Figure 11. Large brick areas are not ideal for MMVs.



Figure 12. Large open areas create mobility conflicts.



Figure 13. Brick pavers and raised concrete edges are hazards.



Figure 14. Deteriorating surface materials.



Figure 15. Surface markings promoting MMV safety is fading.



Figure 16. Large existing bike rack areas.

Routes

“Routes” assessed on campus were mostly the walkways and right of way managed by UNM, such as pathways near the Duck Pond or exterior circulation between buildings. **Of the 33 routes assessed**, the majority of the features were internal crosswalks, sidewalks, and other informal walkways. Overall, the top challenges observed on routes were cracked and uneven surfaces, prevalent along routes trafficked by MMVs. In addition, several desired circulation paths used informally by campus commuters lack safe walkway surface materials and accessibility treatments.

Surface Conditions

- > Bumpy or cracked surface conditions are unpleasant and dangerous for MMVs and pedestrians.
- > Markings that promote pedestrian and MMV safety are aging.

Similar to Zones and Nodes, the surface conditions on walkways are sometimes inadequate for MMV travel. Loose gravel, concrete lips, and brick surfaces are sometimes dangerous for MMVs.

Shared Walkway Conflicts

- > Walkways provide inadequate line of site or space for pedestrians and MMVs to yield.

The shared walkways around campus are generally in good condition. However, in terms of their environment for pedestrian and MMV interaction, some conflicts are present. Pathways narrow to a problematic extent in some high traffic areas, giving pedestrians little room to move away from fast moving MMVs. Alternatively, it gives MMVs little room to yield to pedestrians.

Informal Paths

- > Desired paths and their adjacent street connections are not formalized.

In many locations on campus, desired paths are visible. These desired paths do not have formal pedestrian amenities such as paved surfaces or aprons on curbs. These desired paths demonstrate an opportunity to improve the infrastructure for pedestrians exactly where they want them.

Furthermore, these desired paths frequently connect to major streets that lack crossing infrastructure, such as University Blvd. Where these desired paths meet the streets, it is important to address the lack of a safe crosswalk.



Figure 17. Uneven bricks on routes pose a danger to MMVs.



Figure 18. Poor road conditions on shared streets.



Figure 19. Faded crosswalks on campus.



Figure 20. Informal pedestrian paths near Tight Grove.



Figure 21. Narrow paths with low visibility around corners.



Figure 22. Smith Plaza wide circulation routes.

UNM PROCEDURES & POLICIES REVIEW

Overview

UNM's existing guidelines regarding active transportation demonstrate a commitment to all user groups, and set a foundation for further development of active transportation facilities.

Regents' Policy Manual - Section 8.3: Parking and Vehicles on Campus

<https://policy.unm.edu/regents-policies/section-8/8-3.html>

Adopted Date: 09-12-1996

Amended: 04-09-2003

This policy governs the use of motorized and nonmotorized vehicles on University of New Mexico (UNM) property, including bicycles, skateboards, and rollerblades. It mandates that the President establish parking and vehicular traffic rules for students, employees, and visitors, and prohibits non motorized vehicles in high pedestrian areas. Additionally, nonmotorized vehicles are only allowed on the ground, not on structures like walls or benches. The policy authorizes the President to designate certain areas as "Dismount Areas," including all handicap ramps, where nonmotorized vehicles must be dismounted. Enforcement is managed by the UNM Police and Parking Services, with specific rules and times posted for public awareness.

Administrative Policies and Procedures Manual - Policy 5320: Universal Design

<https://policy.unm.edu/regents-policies/section-8/8-3.html>

Date Originally Issued: 02-20-2019

Revised: 07-11-2024

The University of New Mexico is committed to Universal Design, aiming to create accessible environments for people of all abilities, ages, and backgrounds, exceeding legal accessibility standards. This approach is guided by seven

principles, including equitable use, flexibility, simple and intuitive, perceptible information, tolerance for error, low physical effort, and size and space for approach and use ensuring spaces and services are usable by a diverse range of individuals. The Program and Facility Access Committee, led by the ADA Coordinator, ensures Universal Design is applied across campus facilities and programs, providing recommendations on ADA compliance and prioritizing accessibility updates. Additionally, the policy mandates that new or altered buildings allocate up to 20% of construction costs to improve accessibility. This 20% provision applies to facilities with access to other elements such as parking and storage. Complaints regarding accessibility are handled by the ADA Coordinator, who works to resolve issues in line with the ADA Transition Plan and related policies. The design recommendations outlined in this Plan should adhere to these principles of Universal Design.

Administrative Policies and Procedures Manual - Policy 5150: University Wayfinding System and Sign Standards

<https://policy.unm.edu/university-policies/5000/5150.html>

Date Originally Issued: 07-01-2011

The University of New Mexico's Wayfinding System aims to provide clear, cohesive signage to guide individuals across campus, enhancing accessibility, safety, and the university's visual identity. This system includes various types of signs, such as campus entry monuments, directional signage, building identifiers, and safety notices. Design standards are outlined on the Facilities Management website, and the University Architect and Associate Vice President for Institutional Support Services oversee the planning and approval process. Departments requesting external signs must adhere to these standards, with costs for new or remodeled signs charged to construction accounts, while other requests are billed to the requesting department.

Appeals for denied sign requests can be made to the Associate Vice President for Institutional Support Services. Future wayfinding and signage treatments to address safe MMV should adhere to these standards.

Administrative Policies and Procedures Manual - Policy 2260: Non-Motorized and Small Motorized Vehicles

<https://policy.unm.edu/university-policies/2000/2260.html>

Date Originally Issued: 01-24-2000

Revised: 05-10-2017

The University of New Mexico supports the use of non-motorized and small motorized vehicles as eco-friendly transportation options on campus but enforces strict safety and usage regulations to protect pedestrians and campus property. The policy regulates the use of non-motorized vehicles (bicycles, unicycles, tricycles, skates, in-line skates, rollerblades, roller skates, skateboards, other wheeled boards, and scooters) and small motorized vehicles (motorcycles, mopeds, motorized scooters, golf carts, ATVs, and motorized bicycles and skateboards) on campus. All users including students, faculty, staff, and visitors must follow this policy at all times, yielding to pedestrians, using due caution, and exercising concern for the safety of self and others. Prohibited activities include stunts, excessive speed, riding on ramps or indoors, and improper parking. Hoverboards are banned due to safety risks.

Enforcement is handled by the UNM Police Department and Parking and Transportation Services with violations potentially resulting in disciplinary action, arrest, or vehicle impoundment. Bicycle registration is encouraged, and special rules apply to certain small motorized vehicles (golf carts and ATVs) used by university departments.

Bicycle Registration

<https://hr.unm.edu/wellness/bicycling-campus>

Users are encouraged to register their bicycles for free of charge with the UNM Police Department. Registration helps the Police Department locate and identify stolen bicycles.

<https://police.unm.edu/bicycle-security.html>

The Police Department outlines additional security measures to prevent bike thefts on campus including storing bikes in well-lit locations on dedicated bike racks, using high-quality locks, regular monitoring, and reporting suspicious behavior.

CITY OF ALBUQUERQUE AND STATE POLICIES REVIEW

Overview

The City of Albuquerque's and New Mexico Department of Transportation's traffic codes for bicycles promote safety for the cyclist and for pedestrians. Regulations includes where travel is prohibited, how bicycles should behave on the road, and what equipment is required for safe operation.

Albuquerque Traffic Code Concerning Bicycles (Chapter 8, Traffic Code Part 3: Bicycles)

<https://onbase.cabq.gov/publicaccess/api/Document/12053744/#:-:text=No%20person%20shall%20ride%20or%20bicycle%20traffic%20is%20so%20designated>

Amended: 10-17-2008

Chapter 8 Part 3 of the Albuquerque City Code regulates bicycle operation on all streets and paths. The code states that bicycles have the same rights and required traffic obedience as automobiles. Biking on the sidewalk is prohibited when there is adequate right-lane or accessible bike-lane in the direction of travel. When riding on a sidewalk, bicyclists are subject to laws that apply to pedestrians, and must yield to pedestrians. If parking a bike on a sidewalk, the parking must not impede pedestrian movement. Hand signals are required before making turns. Bike lights and red rear reflectors are required prior to sunrise or after sunset. Brakes are also required.

New Mexico State Statutes and Motor Vehicle Codes

<https://www.mvd.newmexico.gov/chapter-18-other-vehicles/>

Adopted: 01/10/2014

Revised: November 30, 2017

Chapter 18 of the NMDOT Motor Vehicle Code and Vehicle Procedure Manual outlines the classification, operational rules, and registration requirements for various non-traditional vehicles in New Mexico. Electric personal assistive mobility devices (termed as "Segways" for other self-balancing devices with electric propulsion) are permitted for travel on sidewalks, roadways or bicycle paths with the rights and duties of a pedestrian. Segways shall avoid pedestrian collisions and yield to right of way pedestrians. Segways do not require registration but must meet specific equipment standards.

Bicycles are subject to standard traffic laws when riding on roadways, must be properly equipped for night use, and are exempt from titling and registration. Bicycles traveling on roadways shall ride near the right side of the roadway, and exercise care when passing vehicles. On roadways, bicycles shall not ride more than two abreast except on paths or roadways set aside for bicycle use. Motorized bicycles are treated like non-motorized bicycles and are exempt from titling and registration.

Child Helmet Safety Act (2007)

<https://www.nmlegis.gov/sessions/07%20Regular/bills/senate/SB0397.pdf>

All minors are required to wear a well-fitted helmet when operating a bicycle, skates, scooter, or skateboard. Violators are subject to a ten-dollar civil penalty.

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OVERVIEW

Many universities, colleges, and urban areas are implementing infrastructures and policies to support safe, active transportation. Micromobility improvements at varying scales have been successfully implemented on campuses around the country. This chapter contains some of those national best practices for safe micromobility infrastructure and policies. These best practices have also provided a foundation for the recommendations laid out in Section 6.0 of this Safe Mobility Action Plan.

04

NATIONAL BEST PRACTICES



PATHWAY DEFINITION

Delineated pathways are essential for the safety and comfort of multiple users. By providing MMVs with their own travel lane, there is less conflict with pedestrians. Typically, when the path is located on a street, MMVs are protected from larger vehicles.

Best Practices for Path Definition

Visual/Tactile Cues

- > Bright, contrasting paint
- > Surface treatments, different pavement textures and materials
- > Tactile warning strips for the visually impaired
- > Directional signage
- > On-path icons and symbols

Path Delineation (On-Path)

Elements included:

- Separate pedestrian/wheeled lanes (via color differentiation, on-path icons)
- Tactile warning strips
- Directional arrows

Relative cost: \$

Relative construction complexity: AA

Implementation considerations:

- Sufficient right-of-ROW required

Path Delineation (On-Street)

Elements included:

- Separate pedestrian/wheeled lanes (on-street/off-street, on-path icons)
- Buffer zone (between bike lanes and vehicle traffic, via pavement treatment and trees)
- Directional arrows, signage

Relative cost: \$\$\$

Relative construction complexity: AA

Implementation considerations:

- Sufficient right-of-ROW for on-street bike lane required



Figure 23. Path Delineation with on-path icons and symbols



Figure 24. Path Delineation on-street



Figure 25. Protected Bike Lane



Figure 26. Texas A&M High Visibility Crosswalk



Figure 27. Lakefront Trail Chicago, with pedestrian and MMV delineation.

Physical Separation

- > Landscaping/planters
- > Bollards
- > Curbs
- > Buffer zones to prevent accidental interaction between pedestrians and MMVs
- > Reflective materials

Protected Bike Lane

Elements included:

- Physical separation (planters, bollards)
- On-path icons, directional arrows

Relative cost: \$\$

Relative construction complexity: AA

Implementation considerations:

- Sufficient right-of-ROW for on-street bike lane required
- Selection of appropriate plant material that does not obstruct sight lines
- Selection of bollards with night-visibility features (lights, reflective material, etc.)
- Bollards made of heavy-duty plastic or flexible rubber less likely to be a hazard to cyclists in a crash
- Removable bollards for emergency vehicles and maintenance access

High Visibility Crosswalk

Elements included:

- Reflective material (glow-in-the-dark paint)

Relative cost: \$

Relative construction complexity: A

Implementation considerations:

- Highly visible both day and night

Painted Bike Lanes

Elements included:

- Buffer zone
- Separated pedestrian & bike lanes (paint)
- On-path icons, directional arrows

Relative cost: \$

Relative construction complexity: A

Implementation considerations:

- Easy implementation with wide right-of-way (ROW)

Purdue University

Purdue’s 2020 sustainability masterplan sought to increase bicycle infrastructure by 100% in FY25. The University’s focus was the positive impact of health benefits, and the reduction of air pollution for the community. By 2018, Purdue had constructed more than 20,000 linear feet of separated bicycle paths through campus. Their goal of increasing ridership by 100% was achieved. Ten-foot-wide bicycle paths around campus separate pedestrians and personal devices. The paths wind around campus, connecting educational buildings to dorms while separating cyclists from pedestrians through major plazas. The paths become simple delineated lanes with paint in the lighter traffic areas of campus, like where cyclists cut behind buildings through service vehicle traffic.

This delineation, through lines, landscaping, and surface treatment, all create a sense of separation. The primary paths are colored with tasteful pavers, buffered with landscaped medians, and frequently contain bicycle parking next to the trail.

- > Campus includes a winding network of 10’ wide bike paths, cycle tracks, and multi use paths.
- > The speed limit for cyclists is 15mph
- > Bicycles are not permitted to ride on sidewalks.

The University of Arizona (UofA)

The University of Arizona features simple active transportation paths. They include a bi-directional bicycle facility on a smooth asphalt surface, alongside a different treatment delineated for pedestrians. This change in material type and color communicates clear paths for different modes, and encourages MMVs to stay in their lane with a better surface for riding.



Figure 28. Purdue University



Figure 29. Purdue University



Figure 30. Arizona State University



Figure 31. Colorado State University



Figure 32. University of Arkansas



Figure 33. University of Pittsburgh

Colorado State University (CSU)

CSU separates pedestrians and cyclists in high-traffic areas through separated paths and bicycle roundabouts. The roundabouts are created with minimal, low impact infrastructure, constructed with painted striping and simple plastic delineators. The bicycle paths are separated from the sidewalk by a narrow landscaped median.

University of Arkansas

The University of Arkansas’ “Discovery Trail” is a short, painted bicycle facility. Tucked away between the backsides of two academic buildings, this facility elevates the visibility of what would otherwise be a hidden bicycle cut-through. This demonstrates how informal, preferred routes that cyclists may take between buildings can be formalized and improved.

University of Pittsburgh

Bigelow Boulevard’s complete street reconstruction is located in the civic center of University of Pittsburgh. With a high volume of pedestrian, bicycle, and transit traffic, this high-quality separated bicycle facility protects users from vehicular traffic. The bike lane typically would be considered an “on-street” facility, but through the high impact of landscaped medians and surface material changes, the lane feels more like an extension of the sidewalk and plaza space than the street.



Figure 34. University of Pittsburgh

MMV STORAGE

The large increase of various types of micromobility vehicles (MMVs) on college campuses makes their orderly storage more vital than ever. Likewise, decisions about the type of storage solution(s) to utilize have also evolved well beyond the selection of basic bicycle racks. The greatest success in accommodating MMVs in an orderly way comes from providing a complement of storage solutions that meet a variety of objectives and user needs. These often include rack, locker, shelter/cage/room, and valet options.

Considerations for MMV Storage

Types of MMVs to be accommodated

- > Single-vehicle-type storage (e.g. bicycle only) vs. multi-vehicle storage (e.g. bicycles and scooters)

Cost

- > Price points can range from a few hundred dollars for a basic bike rack to several thousand dollars for more sophisticated bike racks, lockers, cages, and solutions for other devices (e.g., e-scooters, e-bikes, etc.)

Available space

- > Square footage ground space
- > Bike storage space designed into parking garage (or other facility)
- > Utilizing double-level racks to increase storage capacity with limited space

Primary Storage Objective

- > Is an enclosed solution desired because protection from the elements is a primary concern?
- > Is a higher level of security a primary concern?

Desired/Needed Capacity

- > Identify means of quantifying demand (e.g. registration programs, on-campus manual MMV counts, surveys, etc.)

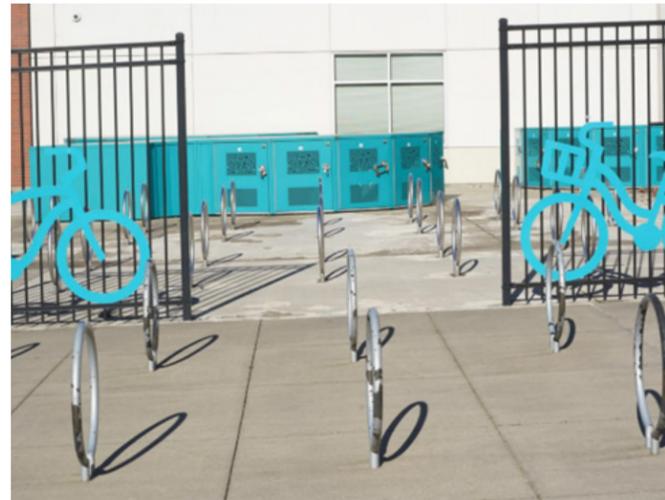


Figure 35. Bike lockers at Portland Community College SE



Figure 36. Dero Brand Scooter Rack

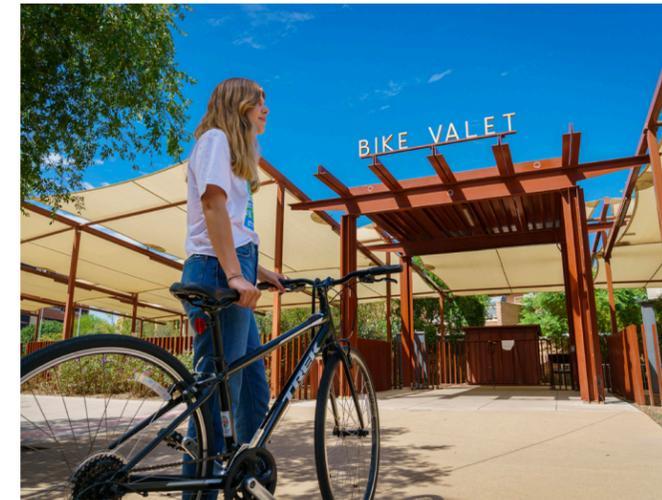


Figure 37. Arizona State University Bike Valet



Figure 38. Arizona State University Bicycle Storage

Desired Security Level

- > Solutions such as lockers and cages/shelters generally offer a higher level of security than basic bicycle racks. Powered smart racks (example: Bikeeep) also offer higher security.

Labor Intensity of Storage Solution

- > Self-serve storage solutions (basic rack) vs. solutions that require staffing or program administration (e.g., valet service, registration/purchase to access lockers, shelters, etc.)

Storage vs. storage plus charging

- > Storage solutions for electric devices (e.g., bikes, scooters) can be storage only, or also include charging capability

Considerations for Site Selection and Installation of MMV storage

Proximity to high student traffic areas

- > Near student housing, heavily used academic buildings, student union/center, etc.

Power/internet availability

- > Must be accessible nearby for powered/smart racks and/or racks that provide charging

Opportunities to integrate MMV storage into a mobility hub

- > Co-location of MMV storage with parking garages, transit stops/stations, bike path entrances, etc.

Safety

- > Adequate lighting and visibility (for both safety and theft deterrence)

Accessibility

- > Adequate pedestrian and bike connectivity
- > Avoid isolated, difficult to access areas

Arizona State University
Catalog of Bicycle Rack Types

Type of Rack	Example	Benefits	Downsides	Approved for use on campus?*
Inverted U Rack		Simple and inexpensive	Open-air bike racks are not preferred for users who are concerned about theft.	Still on campus, no longer approved for new installations
Wave/Ribbon Rack		Simple and inexpensive	Requires more room than other inexpensive options.	No
Bike Dock		Secure, easy to lock frame and wheel		Yes
Grid (Combo) Rack		Simple and inexpensive	Can bend wheels	Only for bike valet use
"Wheel Bender" Rack		Simple and inexpensive	Can bend wheels	No
Vertical Rack		Most space efficient design	Difficult to load and unload bicycle.	Yes

Table 3. Bicycle Rack Catalogue (*Based on ASU's policies)

Bicycle and Scooter Valet

Arizona State University offers three bicycle and scooter valet locations, that can each accommodate up to two hundred bicycles. They are free to use, and staffed with attendants. The valet attendants issue users a claim tag for their bicycle, which is used to retrieve your bicycle. The facilities are large, well manicured buildings, whose style and landscaping fit beautifully into the surroundings.

Bicycle and Scooter Cages

Arizona State University's Parking and Transit Services constructed six bicycle and scooter cages across campus. Each of the six cages provide space for sixty four bicycles. These cages address the issues of bike theft, lack of bicycle parking, and lack of quality bicycle parking that protects bicycles from the elements.

The bicycle cages are free to use, and require a student ID for keycard access. Access is permitted to students when you register your bicycle with the Parking and Transit Services department.



Figure 39. University of Arizona Bicycle Valet



Figure 40. University of Arizona Bicycle Storage

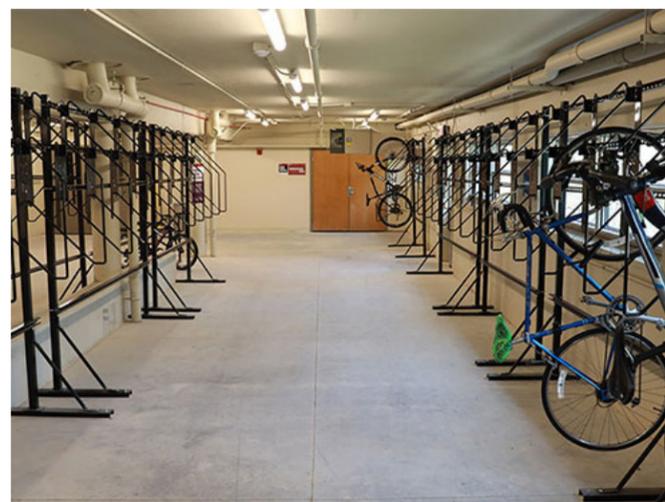


Figure 41. Indiana University Bike Storage

University of Arizona (UofA)
Bicycle Valet

University of Arizona offers two bicycle valet locations, each with capacity to hold 150 bicycles. The valet hours are from 7:45AM to 6PM, Monday through Friday. Registering your bicycle is required to use the facility. When dropping your bicycle off with a bicycle valet attendant, you receive a brass tag as your claim ticket. If you lose that brass tag, you will be fined a ten dollar replacement fee. And if your bicycle is not picked up by 6pm, it is moved to a "secure location" and could be charged an overnight fee. In the year after launching the UoA bike valet, they report a 75% increase in usage (from 6,451 bikes parked, to 11,282 the next year).

Bicycle Lockers and Enclosures

Bicycle lockers and enclosures are scattered around the University of Arizona campus. Bicycle lockers are single-occupancy boxes that cost \$100/year to reserve. They can only be opened with a physical key. There are twenty three bicycle lockers across campus. Bicycle enclosures are secure rooms that are shared with other renters, and are opened using a keycode. They cost \$35/year for a space in one of the enclosures. There are five enclosures across campus.

Indiana University

There are two bike locker locations on the Indiana University campus. The locker fee is \$100 for the academic year, and \$50 for lost locker keys.

The Ballantine Bike Hub provides indoor space for over 100 bicycles and includes two bicycle repair stations. The facility is accessible to anyone with a student ID, so locking the bicycle inside of the room is encouraged.

Valet Comparison Table

University	Spaces	Hours	Registration Required	No. of Locations
University of Arizona	150	7:45am - 6pm Monday - Friday	Yes	2
Arizona State University	200	7:30am - 6pm Monday - Friday	No	3

Table 4. Valet Comparison

CROSSWALK TREATMENT

Crosswalk treatments and the clear delineation of pedestrian and MMV paths play a critical role in the proper usage of the facilities and the resultant safety of the users. Crosswalk treatments on the city streets surrounding and transecting the campus will be subject to the design regulations in the Manual on Uniform Traffic Control Devices (MUTCD). Beyond complying with minimum MUTCD standards, the University is encouraged to look to the design guides published by the National Association of City Transportation Officials (NACTO). Considered the "gold standard" in urban street design, NACTO's design guides represent best practices for multi-modal spaces.

Best practices:

- > High-visibility with maximum contrast
- > Incorporation of vertical elements such as trees, landscaping/planters, and signage
- > Further increases crosswalk visibility
- > Alternating cement colors/textures
- > Slight Elevation change
- > Clear stop lines at least eight feet back from crosswalk.
- > As wide as or wider than the walkway it connects to, aligned as closely as possible to the pedestrian through-zone.

Crosswalk Treatments

Elements included:

- High visibility (paint, signage)
- Elevation change
- Colored/textured cement
- Curb extension

Relative cost: \$\$

Relative construction complexity: A

Implementation considerations:

- Visibility of elevation change (essentially functions like a speed bump)
- Accessibility for large vehicles
- Snow removal
- Curb extensions and raised crosswalks can have drainage impacts
- Could be implemented without the elevation change and retain most of the safety advantages



Figure 42. Best Practices Crosswalk Example - Raised Crosswalk



Figure 43. Bulbout Example



Figure 44. Pedestrian Refuge Island Example

Curb Extensions/Bulb Outs

Decreases the total crossing distance for pedestrians.

Elements included:

- Curb extension
- Brick pavers in crosswalk

Relative cost: \$\$

Relative construction complexity: AAA

Implementation considerations:

- Ensuring sufficient turning radius for large vehicles
- May necessitate modifications to drainage and/or utilities
- Brick pavers generally not recommended for crosswalks - low visibility at night and in the rain, low contrast with road surface, may be slippery when wet, may come loose and pose a hazard/uneven surface

Pedestrian Refuge Island

For large crossings, a pedestrian refuge island gives the pedestrian safe harbor if more than one signal cycle is needed to get across the street.

Pedestrian Refuge

Elements included:

- Pedestrian refuge island
- Tactile warning strips (on island)
- Pedestrian crossing signage



Figure 45. Hawk Signal at Case Western Reserve University



Figure 46. University of Pittsburgh Aerial



Figure 47. University of Pittsburgh Highly Visible Crosswalk

- High visibility plastic delineators

Relative cost: \$\$

Relative construction complexity: AA

Implementation considerations:

- Refuge island cost is dependent on size, choice of materials, incorporation of landscaping, etc.
- Can also have a traffic calming effect

High Intensity Activated Crosswalk (HAWK)

Also known as Pedestrian Hybrid Beacons. Designed to allow pedestrians to safely cross busy streets, often at a mid-block location. Signal to stop traffic is activated when a pedestrian pushes a button.

Elements included:

- HAWK signal
- Wide crosswalk apron
- Pedestrian crossing signage

Relative cost: \$\$\$

Relative construction complexity: AAA

Implementation considerations:

- Installation of HAWK signal requires a warrant (i.e., installation must be justified by meeting a specific set of traffic conditions and pedestrian volume criteria outlined in MUTCD)
- HAWK signals are relatively high cost, but elicit very high motorist compliance

University of Pittsburgh

Bigelow Boulevard's complete street reconstruction is in the civic center of University of Pittsburgh. The reconstruction includes a large, elevated crosswalk that connects the Student Union to the Cathedral of Learning (two of the largest and most frequented buildings on campus). A mid-block crosswalk with such high pedestrian traffic calls for highly protective features. This crosswalk is detailed with highly visible materials, including a change in material from asphalt to brick, and the bricks vary in color and pattern.

Large, elevated, concrete planters with thick edges encourage vehicles to slow down as they pass through the crosswalk. Along Bigelow Boulevard, these planters continue to bump out at intersections- creating a recessed space for shuttle drop offs, while enhancing visibility of pedestrians and protecting the multi-use path.

Elements included:

- Alternating pavement treatments
- Planters/landscaping
- High visibility pedestrian crossing signage

Relative cost: \$\$

Relative construction complexity: AA

Implementation considerations:

- Selection of appropriate planters, plant material that does not obstruct sight lines
- Selection of appropriate pavement treatments for adequate contrast, visibility

City of Raleigh, North Carolina

At Lake Johnson Park in Raleigh, North Carolina, a popular mid-block crosswalk (from the parking lot to trail head) was upgraded to a Rectangular Rapid Flashing Beacon (RRFB). This set of warning lights next to the crosswalk are activated when a pedestrian presses a button. RRFBs are become a popular, low impact intervention for increasing pedestrian visibility. They are particularly popular for mid block crosswalks.

City of Orlando, Florida

Orange Blossom Trail is a road in Orlando, Florida that is notorious for deadly crashes involving pedestrians. In response to this problem, the Florida Department of Transportation installed bright pavement markers, clear stop lines far from the crosswalk, elevated the crosswalk, installed increased overhead lighting, installed HAWK signals, and added tactile pavement in the approach to the crosswalk. On top of those improvements to the crosswalk itself, a fence was installed in the median of the road to discourage mid-block jaywalking.



Figure 48. Rectangular Rapid Flashing Beacons in Raleigh, NC



Figure 49. Midblock Crosswalk in Orlando Florida

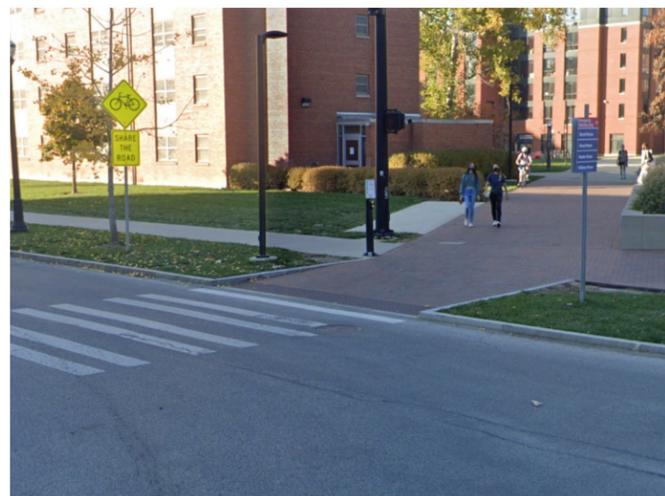


Figure 50. Wide Crosswalk at Ohio State University



Figure 51. HAWK Signal at Case Western Reserve University

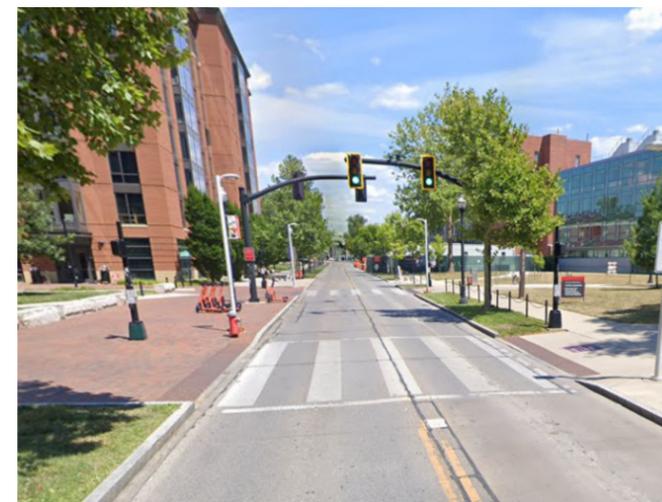


Figure 52. Mobility Hub at Ohio State University

Mid-block Crosswalk:

Elements included:

- High visibility advanced pavement warnings (paint)
- Adequately spaced stop bars (paint)
- HAWK signal
- Overhead lighting

Relative cost: \$\$\$\$

Relative construction complexity: AAA

Implementation considerations:

- Installation of HAWK signal requires a warrant (i.e., installation must be justified by meeting a specific set of traffic conditions and pedestrian volume criteria outlined in MUTCD)
- HAWK signals are relatively high cost, but elicit very high motorist compliance

Ohio State University

Ohio State University installed wide crosswalks with simple zebra striping, between two major academic halls. This intervention features wide, visible aprons on either side of the street.

Case Western Reserve University

CWRU has also installed wide crosswalks with HAWK signals between two prominent buildings on campus, on a notoriously wide main street. The HAWK signal supports a stretch of a greenway that connects the University center to their performing arts center.

MOBILITY HUB

Ohio State University

Ohio State University does not explicitly integrate mobility hubs but ensures that multimodal options support each other in thoughtful ways. For instance, a mid-block crosswalk is located near Koffolt Lab. A large transit shelter is adjacent to the crosswalk, connecting it to either side of the street. A large, well-manicured plaza provides space for scooters and bicycles to park. The John Herrick Transit Hub is located next to a high-volume parking garage, allowing students to park in one place and take shuttles to other locations around campus. The shelter includes indoor and outdoor waiting areas.

University of Pittsburgh

The University of Pittsburgh also subtly created mobility hubs, integrated into their complete street designs. The on-street protected bike facility rises up onto the plaza, allowing students to dismount and head to their destination without needing to interface with vehicular traffic.

The hub includes a highly visible transit stop and drop-off area. The transit area is recessed from vehicular traffic, creating a lower-conflict area between transit and traffic. Furthermore, the transit area has highly visible brick patterns and a surface material change, creating a deeper encouragement for vehicles to stay out of that area.

University of Utah

The University of Utah is connected to the TRAX commuter rail system. At stops near campus, mobility hubs have been created. Personal bike and e-bike parking is provided, connected to the train system and nearby bus route, allowing users to have a variety of options in how they get to the final destination and store their bike during the day.

Carbondale, Colorado

Along a new, popular bus rapid transit route in Carbondale, Colorado, extensive stop improvements have created a mobility hub of options for users. In this case, cars, regional buses, bicycles, and pedestrians are seamlessly integrated into one



Figure 53. Mobility Hub at the University of Pittsburgh



Figure 54. Mobility hub at the University of Utah



Figure 55. Mobility Hub in Carbondale, Colorado



Figure 56. Mobility Hub in Stuttgart, Germany

stop for efficient mode-to mode transitions. A high-quality bus stop is accompanied by a park-n-ride bus stop, which includes parked cars. This is particularly useful for bicyclists who may be riding to the BRT stop, but do not want to take their bike on the bus to their final destination.

From Europe:

A variety of mobility hubs are present or planned across major European cities.

Dublin, Ireland

Large mobility hubs are delineated to create space for rentable, dockless bicycles from private companies, as well as docked bicycles and bike racks. These are found next to prominent destinations and transit centers.

Stuttgart, Germany

In Stuttgart, Germany, mobility hubs for micromobility are placed alongside light rail and BRT stations. They include dockless bicycles for rent, electric cargo scooters, and traditional scooters from private rental companies. They are given a painted, delineated area on the curb, plus patterned pavers in the asphalt adjacent to the mobility to increase the visibility of users who may be entering or leaving the hub.

- > Key takeaway: add visibility for users entering or leaving the hub.

Warsaw, Poland

In Warsaw, mobility hubs are delineated for cargo bikes, ebikes, and scooters from private companies. These are simple painted delineation on top of the existing surface treatment.

SIGNAGE STRATEGIES

The primary goal of a safety-focused signage strategy is to create clear separation between vehicles and different modes of active transportation, as well as among the various active modes themselves. Effective signage and visual markings help reduce conflicts and provide clear guidance, allowing everyone to understand where they are expected and permitted.

Key Takeaways

When various modes of transportation share the same space, the risk of conflict increases. Separating modes allows each user type to have its designated area, which reduces the chance of collisions.

Best practices for separating transportation modes:

Colored pavement markings and signage to separate pedestrians, bicycles, and other MMVs

<p>Elements included:</p> <ul style="list-style-type: none"> • Color differentiation • On-path icons • Directional arrows <p>Relative cost: \$</p> <p>Relative construction complexity: A</p> <p>Implementation considerations:</p> <ul style="list-style-type: none"> • Visibility/contrast of paint selection • Sufficient right-of-way (ROW)
--



Figure 57. Colored Path Signage



Figure 58. Colored Path Signage



Figure 59. Signage Example



Figure 60. Signage Example



Figure 61. Zig Zag Treatment



Figure 62. Bumpy Dot Treatment

Basic Path Signage

<p>Elements included:</p> <ul style="list-style-type: none"> • Path signage (monument, pole-mounted) <p>Relative cost: \$</p> <p>Relative construction complexity: A</p> <p>Implementation considerations:</p> <ul style="list-style-type: none"> • Readability (color, size, font, sign type) • Placement (no collision hazard, not blocking sightlines)
--

Colored or treated conflict zones.

- > Even with modal separation, there will be areas where modes must intersect

Applying high-visibility signage, colored paint, markings, or pavement treatments in these conflict zones raises awareness that multiple modes share the space.

<p>Elements included:</p> <ul style="list-style-type: none"> • High visibility paint, attention-grabbing patterns <p>Relative cost: \$ to \$\$</p> <p>Relative construction complexity: A to AA</p> <p>Implementation considerations:</p> <ul style="list-style-type: none"> • Identification of appropriate areas for usage • Cost and construction complexity dependent on implementation method (e.g., paint vs. specialized pavement or pavement treatments)

Pedestrian Priority Zones

- > Pedestrian Priority Zones are areas that are of highest concern for pedestrian safety, primarily due to conflicts among multiple modes.
- > Zones should feature signage for designated dismount zones for bicyclists and other MMVs.

Restrictions on motor vehicles at certain times, e.g., class change times

- > Example: University of Florida restricts vehicle traffic in certain areas M-F, 8:30am-4:30pm.

Vehicle Restriction Signage:

Elements included:

- Flashing (time-based) beacon
- Gateway island with solar-powered pole, bollards
- Pole-mounted signage
- Supplemental web-based educational information

Relative cost: \$\$\$

Relative construction complexity: AA

Implementation considerations:

- Gateway signage, pole, beacon needed at each entrance to the established restriction zone

Temporary pop-up signage to raise awareness of and reinforce modal separation

Temporary Pop-Up:

Elements included:

- Temporary signage, traffic cones

Relative cost: \$

Relative construction complexity: None

Implementation considerations:

- May require close monitoring during deployment to ensure elements remain configured as desired



Figure 63. Walk your wheels signage

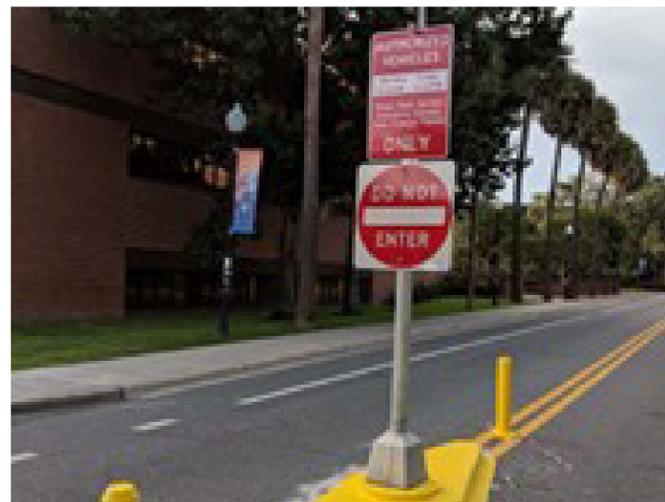


Figure 64. Vehicle restriction signage



Figure 65. Temporary pop-up



Figure 66. Policy Examples



Figure 67. Policy Example



Figure 68. Scooter Charging Station

CHARGING STRATEGIES

With the proliferation of electric personal micromobility devices (e.g. scooters, bikes, hoverboards, etc.) comes the fire hazard associated with lithium-ion (Li-ion) batteries used to power these devices. Damaged or faulty Li-ion batteries can overheat, leading to smoke, fire, toxic off-gassing, or explosion. Fires caused by Li-ion batteries are especially dangerous because they are hotter, faster, and more aggressive than other fires. Therefore, it is incumbent upon university administration to decide whether to allow students to charge their devices in university buildings and, if not, whether to provide an alternative charging solution. A policy will soon be issued by the University that prevents indoors charging of Li-ion batteries.

Charging Electric Devices on College Campuses:

Current Landscape

- > A scan of the nationwide university landscape reveals that most institutions prohibit electric micromobility devices from being taken inside any university building, including dorm rooms and other residential housing
- > There are a number of reasons why an electric micromobility device may catch fire:
 - > Damaged battery (from mechanical shock due to bump, drop, or fall during use; water intrusion; or vibration).
 - > Counterfeit battery.
 - > Low-quality and/or aftermarket (i.e., non-device manufacturer) battery.
 - > Use of an incompatible charger.
 - > Improper storage (e.g., near a heat source, in direct sunlight, or in an area that is too hot).
 - > Students, with their limited financial

means, are especially susceptible to the temptation to purchase low quality, aftermarket, or counterfeit batteries because of their generally lower cost.

- > The University of California at Los Angeles (UCLA) is a notable exception to the e-scooter indoor use and charging prohibition on most college campuses
 - > Charging of e-scooters in dorm rooms is allowed, provided users take several precautions such as only purchasing scooters with a UL safety certification, using charging equipment that came with the scooter, not charging the device unattended and/or overnight, and turning off the device while it is charging.
 - > There is no indication, however, that UCLA takes any enforcement measures to ensure that these safety steps are complied with by students who wish to charge an electric scooter in their university housing.

Potential fire hazard mitigation strategies/considerations:

- > Requiring a UL-certified device (Underwriters Laboratories safety standards) (to be verified via a device registration program), and/or requiring the use of a fire-resistant battery charging bag.
- > Enforcement of such requirements would likely be difficult and necessitate effective enforcement mechanisms (and management of these mechanisms), and would not guarantee the complete elimination of the fire risk.
- > Discourage students from bringing personal electric devices to campus; instead, partner with commercial scooter company(ies) to provide/manage electric scooter availability on campus.
- > Follow the lead of the majority of higher ed institutions nationwide in prohibiting electric MMVs from being taken inside campus buildings, to include prohibiting the indoor charging of MMV batteries.

Providing an outdoor charging solution on campus:

- > As discussed in the MMV Storage section, some storage solutions for electric MMVs also provide charging capability.
- > Still a potential fire risk if student is using a low quality or faulty battery, but reduced by not being indoors.

POLICIES

Universities put in place a wide range of policies meant to address various aspects of pedestrian and MMV safety. These policies allow institutions to be proactive rather than reactive when it comes to safety issues; ensure clear, consistent rules for the campus community; and serve as educational tools for a student body that experiences regular turnover. Overall, there is great emphasis on bikes and other MMVs being subject to the same rules and responsibilities of the road as other vehicles/drivers.

Key Takeaways

Common themes emerge when reviewing examples of these policies nationwide. These include:

Registration programs

- > Programs that require (or, in some cases, highly encourage) members of the campus community to register their MMVs.
- > Allows for ownership tracking, returning vehicles to owner in the event of theft, and can be used to manage access to bike-related programs/amenities such as lockers, cages, valet service, etc.
- > Mandatory registration may include additional requirements for device eligibility, such as UL (Underwriters Laboratories) safety standards certification.
- > Some registration programs are free, some charge a nominal amount (e.g. \$10 one-time fee)

MMV parking

- > Bicycles and other MMVs must be parked at a bike rack or other appropriate facility (cage, locker, etc.). Parking anywhere else subjects the bicycle/device sanctions leading up to, and including impoundment.
- > Geofencing can be used to establish and enforce allowable/prohibited use zones on campuses with commercial scooter contracts.

Designated/Prohibited use zones

- > The establishment of specific areas where bicycle/MMV use is either allowed or expressly prohibited.
- > Communicated by maps, signage, path delineation, etc.
- > On campuses with commercial scooters, geofencing can be used to establish and enforce allowable/prohibited use zones.
- > Sidewalk riding is typically prohibited (in some cases by state law or local ordinance).

Speed limits

- > In some cases, policy includes specific speed limits, e.g., 5 mph on paths, 15 mph on streets.
- > In other cases riders are simply directed to maintain a speed that is “reasonable for the conditions.”

Helmet use

- > In most cases, helmets are strongly encouraged, but not mandated (unless by law).

Other safety equipment/practices

- > No usage of headphones/earbuds while bicycling/riding MMVs.
- > Front/rear lights on bike/device when riding at night.
- > No more than one person on a device

Arizona State University

ASU walk only zones are enforced from 8am-5pm on weekdays. During walk-only times, MMV is prohibited in the zones (except for mobility devices used to aid disabilities). Violations of the walk only zones are enforced by Zone Ambassadors and Campus Mall Enforcement positions. Violations typically result in a required bicycle safety class.

Indiana University

Indiana University enforces strict rules regarding improper micromobility device storage. The Office of Parking Operations assess a \$20 fine for each of the following violations:

- > Impeding pedestrian traffic, including access for people with disabilities.
- > Parking in administrative or classroom buildings (unless otherwise designated), and residence hall stairwells or hallways.
- > Parking or fastening bikes to bus shelters, bushes, trees or plants, accessible ramps, electrical fixtures fences, handrails, light poles, telephone poles, public seating, signs, pipes (e.g., water, steam, gas), or trash cans; or
- > Occupying more than one bike space (in bike hubs or racks).

Policies Comparison Table

	UNC Greensboro	UC Berkeley	San Jose State University	UCLA	Texas A&M
Registration with University (Operator)	Micromobility services must be permitted by City of Greensboro and licensed by University.	Bike and scooter share providers must be approved by the University to have dock stations on campus.	Not allowed on campus.	"Shared rental e-scooters and e-bikes from approved vendors can ride through campus roads and park in appropriate areas. Unapproved vendors can ride through campus roads but will be impounded if parked on campus."	
Registration with University (Student)		Personally owned e-scooters and e-bikes are allowed on campus. No mention of registration, but they are not allowed in campus dismount zones.		Personally owned e-scooters and e-bikes are allowed on campus. No mention of registration.	Device registration with University Transportation Services is mandatory.
Helmet Use		Legally required for riders under 18, encouraged for all others. Legally required for motorized scooters.	Encouraged.	Legally required.	Encouraged but not mandatory.
Use Zone	Designated operating areas determined by MTD Review Board. Not allowed on sidewalks, with an exception for "user-owned MTDs which are NOT bicycles or micromobility vehicles."	Users may ride on all paths and roads on campus than designated dismount zones. Off campus, users must ride on streets or in bike lanes. Scooters are not allowed on city sidewalks.	It is illegal to ride a scooter on the sidewalk in San Jose. E-scooters may not be ridden on campus at SJSU and all of e-scooter companies use a geofence to remotely shut scooters down when they enter the university.	Only allowed in the street. Not allowed on sidewalks or crosswalks. Must be walked in designated dismount zones.	"Prohibited from being operated in parking garages, or in any areas where they are restricted by regulation or signs."
Parking	Micromobility service-owned vehicles must be parked in service's parking zones. Personally owned MTD's cannot be parked in Micromobility Service parking zones.	Designated bike and scooter parking racks, University-provided bike cages.	Can be used to travel to campus, but must be left at established drop off zones located on the campus perimeter or in bicycle enclosures.	Must be parked in designated locations - bike racks and scooter lots.	All devices must be parked in designated bike rack areas and locked to a university bike rack when not in use.
Map			Dismount Zone Map	Shared Mobility Parking Areas	https://arc.ts.tamu.edu/portal/apps/webappviewer
Allowed in Buildings?	Prohibited, except for in specially designated areas.	Prohibited in all buildings on campus.	"Personally owned electric scooters, skate boards, and bikes may not be carried inside academic buildings. This is a fire code violation."		Prohibited unless written permission is given from Facilities Management.

	UNC Greensboro	UC Berkeley	San Jose State University	UCLA	Texas A&M
Speed Limit		15 mph			Users should not "exceed a speed that is reasonable and prudent."
Charging	Prohibited, except for in specially designated areas.			Recommendations online for safe charging practices "at home or in your dorm room."	
Enforcement & Disciplinary Actions	Policy violations may result in termination of suspension of permission to use MTD's on University Property. Parking violations subject to ticketing, removal, or relocation.		Subject to impoundment if left unattended.	Subject to impoundment if locked to an ADA ramp or pathway.	"Impounding or booting a device may be necessary to enforce regulations or to address improperly parked devices."
Other	Has a Micromobility Transportation Device Review Board, which is responsible for "making determinations regarding 1) requested exceptions to this policy, 2) allowable parking zones on University Property for MTD's owned by a Micromobility Service, 3) and establishment of slow-ride or no-ride areas for MTD's."	California Vehicle Code (CVC) 21235 mandates that all scooter riders in California must wear a properly fitted bicycle helmet, have a valid driver's license, ride on the road and remain off sidewalks, and may not park scooters on a sidewalk in a position that blocks pedestrian paths.	California Vehicle Code (CVC) 21235 mandates that all scooter riders in California must wear a properly fitted bicycle helmet, have a valid driver's license, ride on the road and remain off sidewalks, and may not park scooters on a sidewalk in a position that blocks pedestrian paths.	California Vehicle Code (CVC) 21235 mandates that all scooter riders in California must wear a properly fitted bicycle helmet, have a valid driver's license, ride on the road and remain off sidewalks, and may not park scooters on a sidewalk in a position that blocks pedestrian paths.	Micromobility devices equipped with an electric motor exceeding 750 watts, or 1 HP are prohibited

Table 5. Policy Comparisons
Policy Enforcement

Enforcement of these policies varies across the different Universities, depending on department capacities. In some instances, violations and tickets are given out by campus police departments. In other cases, that duty is given to campus ambassadors who are typically student workers. As UNM pursues future implementation of policies related to MMV and pedestrian safety, enforcement strategies should be explored and department capacities considered to address enforcement.

OVERVIEW

This plan has been informed by community input and will continue to be shaped by the community by including stakeholders in every stage of the planning, design, implementation, and management stages of the project. This includes feedback from previous plans, especially the ICP, and new feedback collection targeted towards MMV users, pedestrians and commuters.

The team released an online survey, held a public outreach event at three locations, and engaged UNM stakeholders in many internal meetings. The internal focus groups were the initial engagement. Three focus groups held in December 2024 with campus administrators provided key feedback that helped focus broader public engagement.

The online survey received **438** responses. UNM community members received the survey by way of campus-wide emails, physical flyers posted around campus, and direct engagement from the day of engagement.

During the day of engagement, the planning team was stationed at three places around campus- Redondo Drive and Yale, Cornell Mall near the Student Union Building (SUB), and on North Campus. This included a pop up display of how MMVs and pedestrians could be delineated on campus. Feedback from all engagement efforts is outlined in the following pages.

05

ENGAGEMENT & COLLABORATION

FOCUS GROUP SUMMARY & SURVEY RESULTS

Three focus groups were hosted in early December of 2024. The two-dozen participants were comprised of, or were made up of department heads and administrators from across the University. Their initial feedback on safe mobility across campus helped direct the plan efforts in accurate analysis and recommendations.

Focus Group Summaries

Campus-Wide Challenges

As shown and mapped in the previous "Site Analysis" on page 28, many active transportation challenges identified at UNM occur campus-wide. Key conflict topics flagged include limited right of way for pedestrians, poor crosswalk conditions, unauthorized parking, conflict between pedestrians and MMVs, and poor ADA compliance.

Site-Specific Challenges

Many site-specific challenges were identified during the focus groups. Below is a list of key conflicts identified. For more details of each conflict, refer to the "Site Analysis" on page 28.

- > Unsafe crossing conditions around the campus perimeters.
- > Poor and hazardous pavement conditions are found throughout high-traffic facilities.
- > Bus shelters, shuttle stops, and future mobility hub locations are conflict areas.
- > Areas with high conflict between pedestrians and MMVs include large gathering spaces such as Smith Plaza and Cornell and Yale Malls.
- > Crosswalks and other existing pedestrian amenities at existing roadways lack safe mobility infrastructure.

Micro-Mobility Parking and Storage

- > Existing bike parking is insufficient for safely securing bikes. The bike locker program and proposed bike cages lack adequate capacity for the student population.
- > E-scooter storage and charging remain unresolved issues. Fire risks from charging devices in buildings, especially dorms, necessitate new policies and infrastructure.
- > Indoor storage options are being considered for redeveloped buildings but remain inadequate for current needs.

Skateboarding Considerations

- > Skateboarding in parking garages and other campus areas creates safety issues. Rumble strips in parking structures have been suggested as a deterrent.
- > Skateboarding is recognized as both a "rebel sport" and a legitimate transit mode, requiring balanced regulation.

Maintenance Vehicles

- > Limited service parking and access forces maintenance vehicles to drive through pedestrian-heavy areas, causing conflicts. Designated parking and improved awareness of pedestrian schedules could reduce issues.

On-Campus Resident Mobility Issues

- > Resident parking at campus edges and remote lots forces students to rely on MMVs for late-night transit, emphasizing the need for safe routes and improved transit options.
- > Current policies prohibit e-scooters in dorms, highlighting challenges in charging, storage, and safety.
- > Lack of secure bicycle storage.

Anticipated Future Development and Traffic

- > New development at University and Lomas and hospital expansion on North Campus will impact mobility and traffic patterns, requiring proactive planning.

MMV Charging

- > Charging micro-mobility devices poses fire risks. Safe charging policies and infrastructure, such as fire-resistant bags and designated charging areas, are essential.

Education and Communication

- > Improved staff training on mobility management, including vehicle drop-offs (bus drivers) and driving in pedestrian-heavy areas (service vehicles), is needed.
- > Safety education for community members and clear signage could reduce accidents. Incorporating a safety workshop during September's Safety Week could address key concerns.
- > Revolving campus population means education and communication have to be routine.

Mobility Needs and Desired Connections

- > Improved intersections and safer crossings, such as mid-block crosswalks and HAWK signals, are critical. Specific areas like Buena Vista and Central require better connectivity to South Campus and surrounding resources.
- > Illegal crossings near the Computing Building and along Central highlight the need for designated, safer connections. Enhancing the pedestrian experience along Central would benefit campus users.

Regulation and Enforcement

- > Discussions emphasized a preference for infrastructure improvements—such as visual cues, permanent markings, and signage—to encourage safe behavior over policing and enforcement.
- > The focus was on reducing conflicts by separating modes of transportation where feasible and implementing educational campaigns and incentives, such as distributing free gear to MMV users.

- > The campus faces unique challenges due to its frequent turn-over of new students and the presence of campus visitors, and current signage is insufficient, lacking clear delineation for different modes of transportation. While there is some signage for bikes and speed limits, it does not effectively guide users.
- > More visual cues, including permanent markings and clear signage, are needed to help users understand safe pathways and designated areas for various modes of transportation.
- > Non-compliance with basic rules is common. Addressing this issue requires better signage, visual cues, and infrastructure that promotes safe behavior, such as dismount zones.
- > Speed limits are challenging to enforce because many devices do not display speed, making it difficult for users to monitor and comply.
- > Incentives, like distributing charging bags, could encourage compliance by adopting a "carrot rather than stick" approach.
- > While improved signage and markings may reduce some rule-breaking, additional efforts—such as social norming campaigns—could foster a culture of compliance. Gaining buy-in from the student population will be essential for long-term success.

Project Implementation

- > Colorado State University and Arizona State University were highlighted as peers excelling in MMV support and infrastructure.
- > Colorado State University has implemented highly intuitive infrastructure, even in areas with limited space.
- > Arizona State University has strong programs related to e-scooters and MMVs. However, considerations around charging safety, such as the risk of scooters catching fire, need to be addressed.

Pilot Survey

After the focus groups, a survey was distributed to the Safe Mobility Taskforce, and continued to spread throughout internal UNM channels. The purpose of this survey was to get an early sense of the conflicts and opportunities regarding MMVs and pedestrians on campus, and to make our further community engagement as effective and on-point as possible.

Major Mobility Challenges

- > Key challenges include insufficient parking, pedestrian-vehicle conflicts, physical barriers, and limited transit options.
- > Narrow sidewalks and navigational difficulties were frequently noted.
- > Skateboarding and micro mobility conflicts create bottlenecks and safety concerns.

Conflict Zones and Specific Locations

- > Commonly mentioned areas include Cornell Mall, Smith Plaza, and the west legs of Redondo.
- > Crossing Central Avenue, particularly near Buena Vista, is a significant issue for connectivity to South Campus.
- > The Lomas Corridor and areas around the Computing Building are hotspots for mid-block crossings across University to the P Lot.

Infrastructure and Accessibility

- > Narrow sidewalks, insufficient bike infrastructure, and inadequate crossing solutions were frequently cited.
- > Infrastructure gaps, such as mid-block crosswalks and HAWK signals, were identified as opportunities for improvement.
- > Limited connectivity between parking areas, main campus, and off-campus destinations was a recurring concern.

Mobility Solutions and Safety

- > Signage, visual cues, and permanent markings were identified as preferred methods to guide behavior rather than relying on enforcement.
- > Conflicts between faster micromobility devices, cars, and pedestrians remain prevalent, particularly in Smith Plaza and parking structures.

Micromobility Devices and Policies

- > Concerns were raised about managing and safely charging e-scooters and e-bikes due to fire risks and lack of proper infrastructure.
- > Respondents emphasized the need for intuitive design and separated pathways to minimize conflicts.
- > Suggestions included dismount zones, speed regulation, and educational campaigns to promote safe usage.

Interim Solutions

- > Proposed solutions include painting dedicated lanes for pedestrians and micromobility users, repaving major pathways, and establishing clear rules and signage.
- > Encouraging compliance through incentives, such as gear distribution, was suggested as an alternative to enforcement-heavy approaches.

Primary Safety Concerns

- > Collisions between pedestrians and micromobility users, particularly in high-traffic areas, are a top concern.
- > Lack of awareness and compliance with safety rules exacerbates these issues.

Additional Support Needs

- > Specific user groups, such as disabled veterans and visitors, were highlighted as needing more accommodations for safe access.

Other Concerns

- > The lack of secure parking and storage for micro mobility devices, including bikes and e-scooters, remains a critical issue.
- > Respondents expressed a desire for improved coordination between campus entities and better planning for long-term mobility strategies.



Campus Community Engagement
Mobility Day of Action Summary

UNM Campus Capital & Space Planning (CCSP) staff, student volunteers, and consultants, Pland Collaborative, engaged students, faculty, staff, and campus visitors on safe mobility concerns in a Day of Action event held on Tuesday, March 4, 2025. The Mobility Day of Action took place at three locations across Central and North campus, including at Redondo Drive & Yale Blvd., Cornell Mall, and near Fitz Hall. The feedback gathered about active transportation helped shape the Safe Mobility Action Plan's priorities.

Two of the outreach locations featured a pop-up mobility lane for active micromobility transportation, giving users a firsthand experience to safely ride along a dedicated lane while avoiding conflicts with pedestrians. A recap of each pop-up location is outlined below.

Redondo Location:

The Redondo Location received lots of walking traffic from students getting off of the shuttle. Many students were rushing off of the shuttle, and remained on foot to get to class.

This location also included the chaos of intersections on the perimeter of campus, as there is high micromobility activity intersecting with rush hour traffic. This area would be a prime location for an updated mobility hub and associated amenities.

Students were busy rushing to class, leading to some challenges interacting with students, but generated productive observations nonetheless.

Key Takeaways

- > Access to rentable MMVs near shuttle stops could aid students rushing to their final destination.



North Campus Location:

The North Campus location utilized a backdrop of a bike rack full of bikes. The project team was able to interact with students, especially those in the medical program. The pop-up mobility lane was enthusiastically received by from the UNM community and internal Sustainability team.

Similar to the Redondo location, students were in a rush to move through the area but the team was able to engage a variety of commuters.

Key Takeaways

- > Lomas and Yale intersection crossing is dangerous.

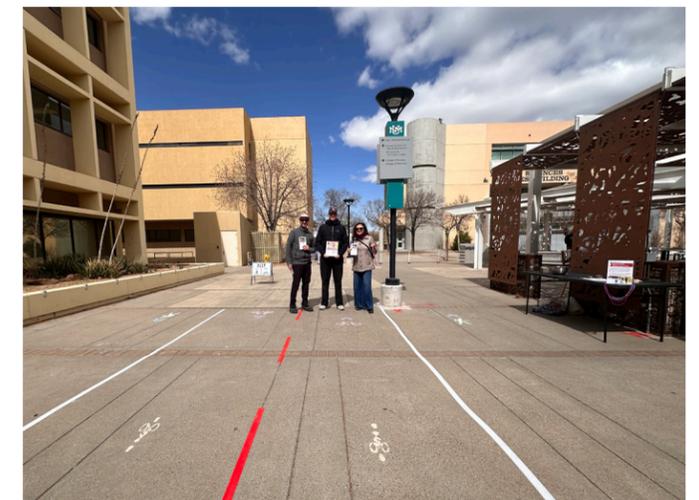
SUB Location:

There was a lot of student engagement and enthusiasm for the pop-up mobility lane. Vertical separation between MMVs and pedestrians were supported by both types of users, even those just walking by and appreciating the popped-up greenery.

Key Takeaways

- > Consider E-W crossings on designated mobility lanes
- > Most people engaging at the table were micromobility device users

Overall, the public outreach received positive feedback with many pedestrians and MMV users mentioning they had already completed the project online survey. Interactions were generally enthusiastic and engaging, although connecting with individuals on mobility devices proved challenging. The event successfully educated the UNM community on the Safe Mobility Action Plan and how it will provide recommendations to address MMV conflicts.



Campus-Wide Survey Results

The project team sought survey input from the UNM community to better understand the mobility challenges and opportunities these users face everyday. An online survey was released in early February 2025 through late March 2025 to the public and revealed user experiences and insights. The survey was circulated in the President's Weekly Newsletter, shared in handout flyers during the Mobility Day of Action, and emailed to UNM stakeholder listservs. Several flyers were also posted at public locations and communal bulletin boards across campus.

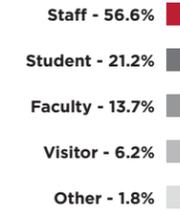
The survey feedback gathered helped identify key micromobility and pedestrian issues, priorities for reducing conflicts in shared spaces, and informed the recommendations in this plan to implement practical safety measures. A few insights from the survey results are highlighted below and the full results are shared on the following pages.

- > 438 Responses total
- > Respondents were primarily Staff, with the next most populous group being Students followed by Faculty.
- > The most popular form of travel on campus is walking, followed by driving, then biking.
- > Bikes and e-bikes are the most used micromobility device.
- > Many respondents reported not using micromobility devices to get around campus at all.
- > Dangerous interactions between cars and pedestrians are the biggest mobility challenge faced on campus.
- > Crosswalks, intersections, and roadways are the biggest "conflict zones."



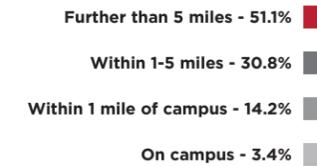
- > The biggest challenges people face on their campus commutes are a lack of safe roadway crossings and a lack of designated active transportation paths/routes.
- > Dedicated active transportation paths/routes should be prioritized.
- > Central Campus to North Campus would benefit most from improved connectivity.
- > To encourage safe and respectful use of mobility options, the improvements should prioritize creating and improving active transportation pathways, designated paths for specific mobility types, and better signage/wayfinding.

1.1 - What is your primary role on campus?



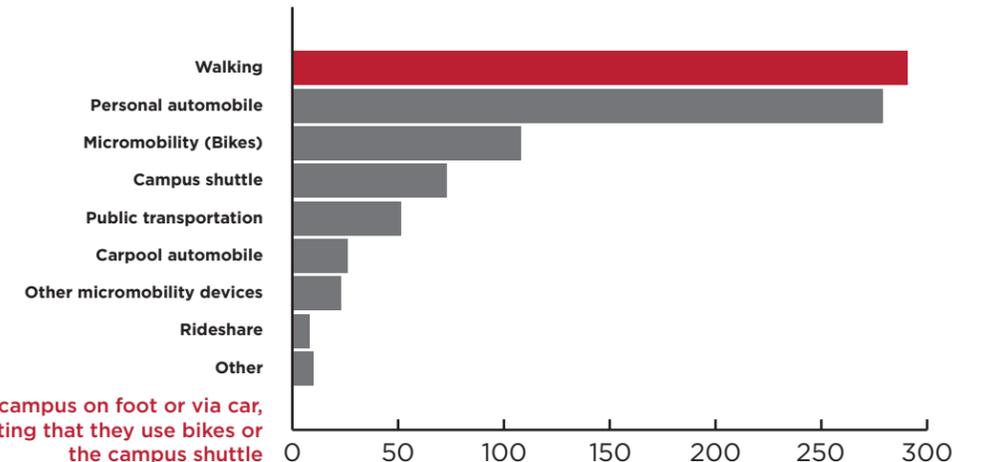
* Respondents were primarily Staff, with the next most populous group being Students followed by Faculty

1.2 - Where do you live?



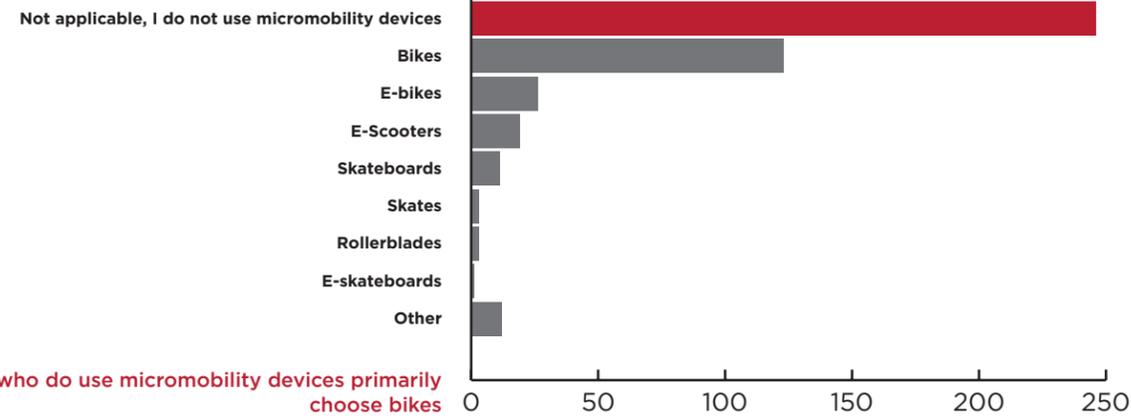
* The majority of respondents live further than 5 miles away, with the next most populous group consisting of those who live 1-5 miles away

1.3 - How do you typically travel to and around campus?



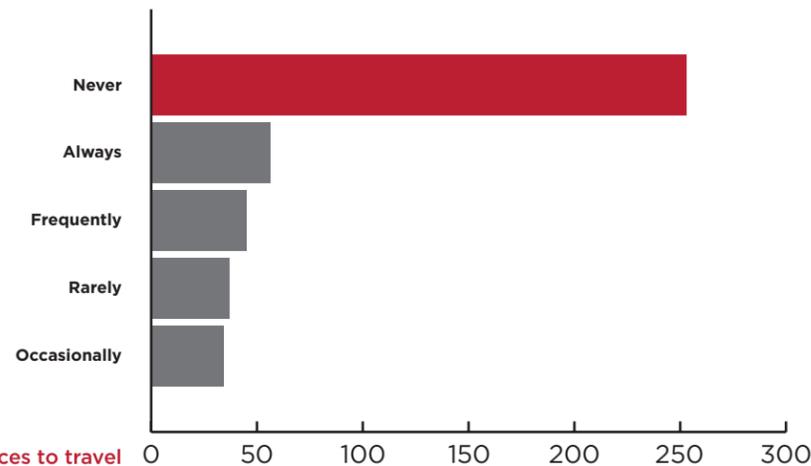
* Most respondents travel to or around campus on foot or via car, with the next most populous group stating that they use bikes or the campus shuttle

1.4 - If you use micromobility devices to get to or around campus, which ones do you primarily use?



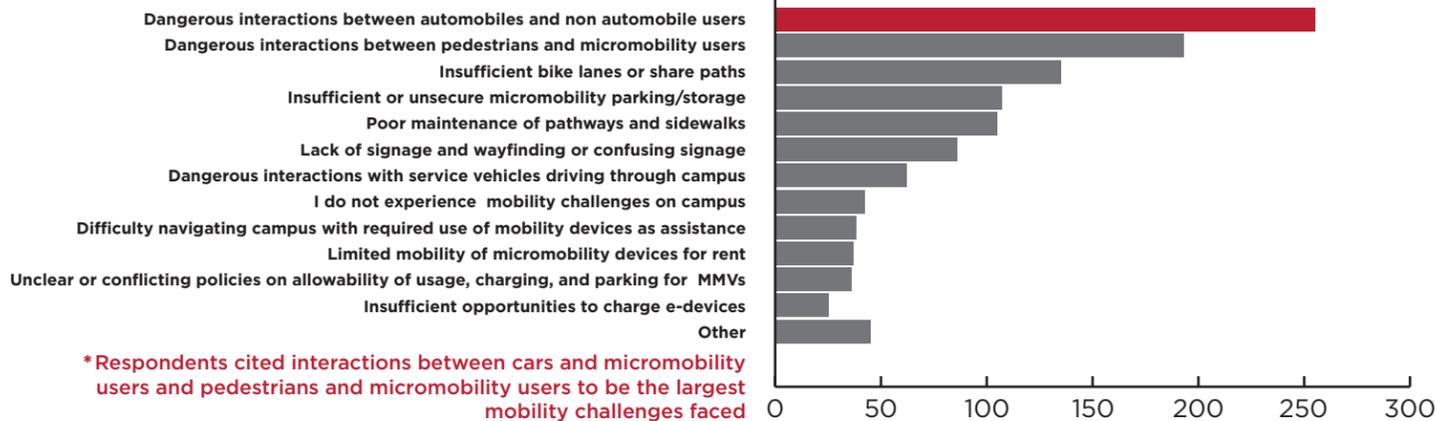
* Respondents who do use micromobility devices primarily choose bikes

1.5 - How often do you use micromobility devices to get to or around campus?



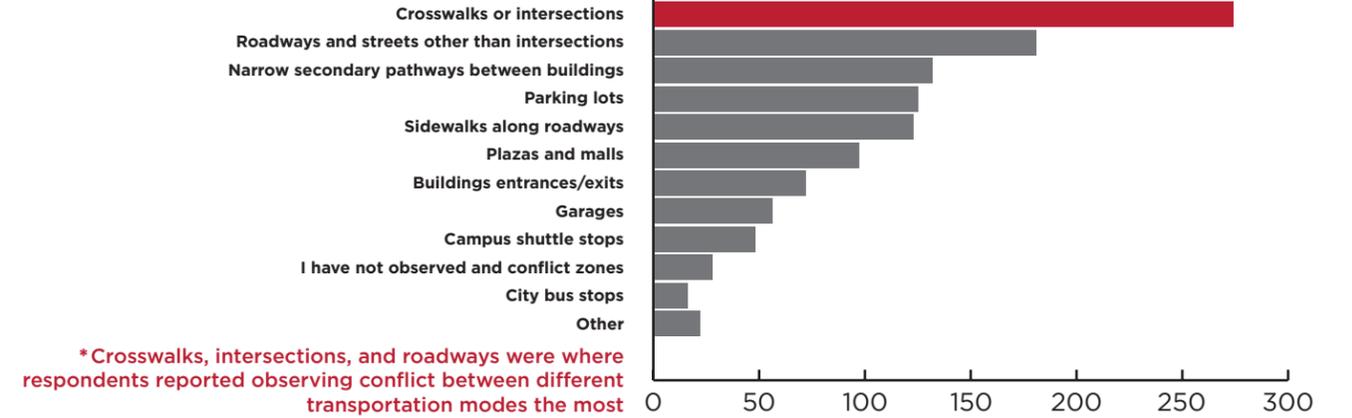
* Most people do not use micromobility devices to travel

2.1 - What are the major mobility challenges you face while on campus?



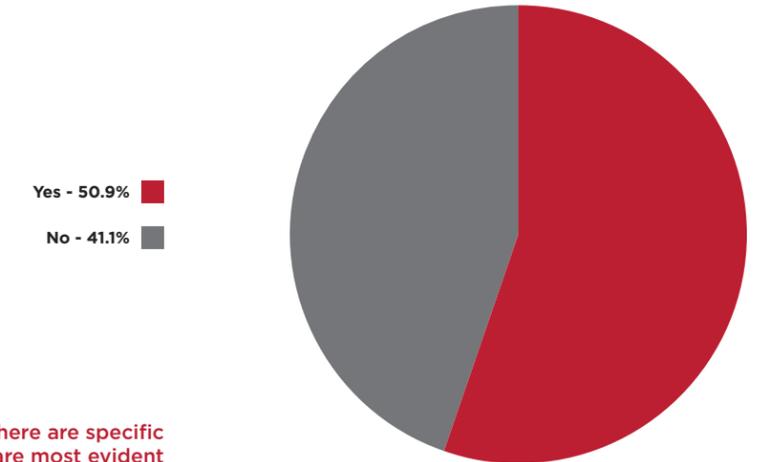
* Respondents cited interactions between cars and micromobility users and pedestrians and micromobility users to be the largest mobility challenges faced

2.2 - Where on campus do you observe "conflict zones" between different active transportation modes?



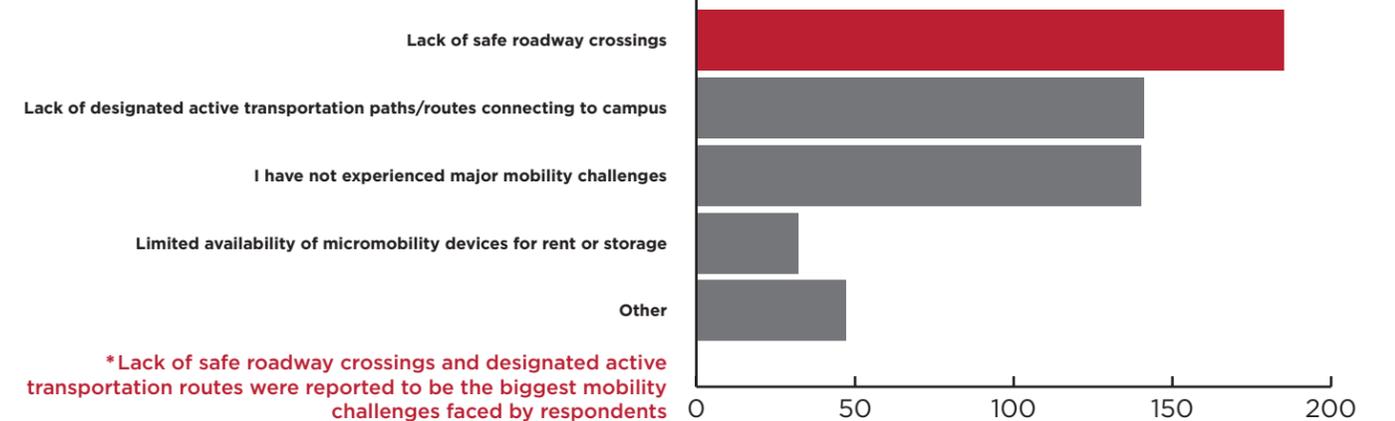
* Crosswalks, intersections, and roadways were where respondents reported observing conflict between different transportation modes the most

2.3 - Are there specific locations on campus where mobility challenges are most evident?



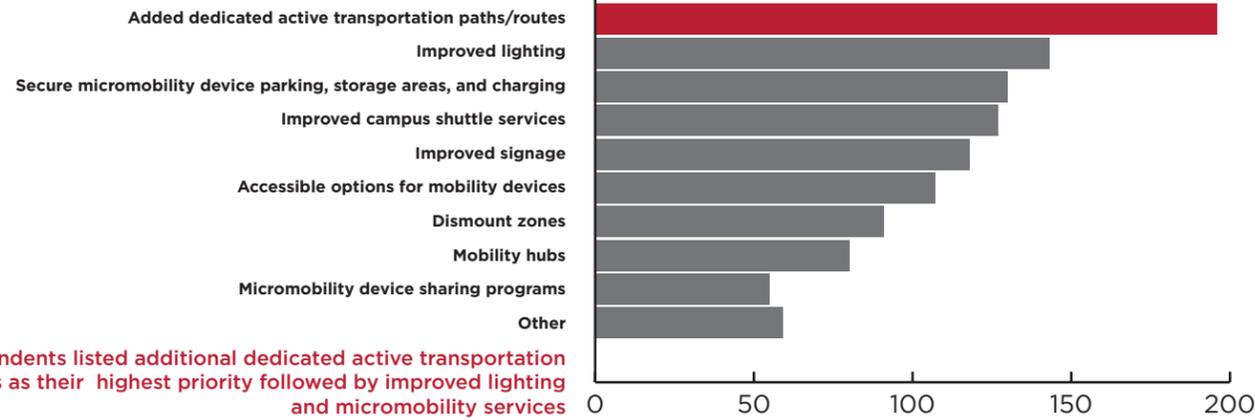
* Slightly more respondents answered that there are specific locations on campus where mobility challenges are most evident

2.4a - What are your major mobility challenges in getting to campus?



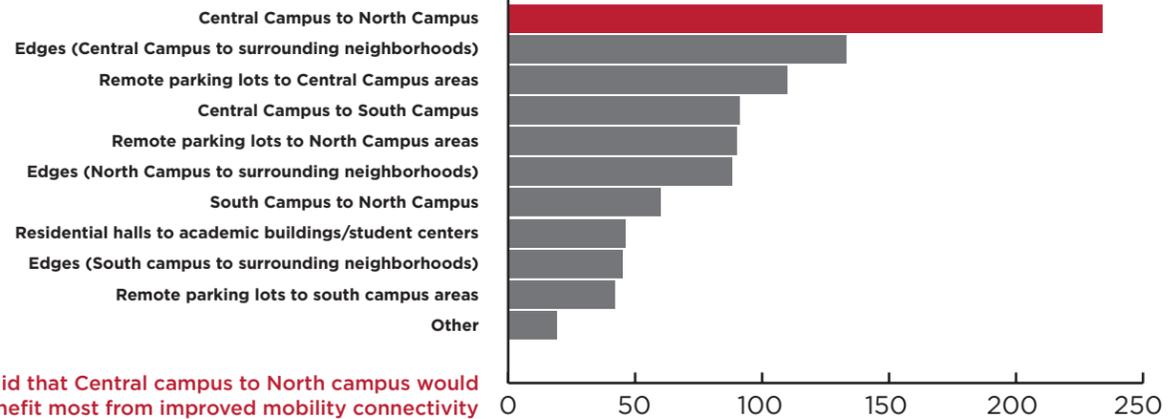
* Lack of safe roadway crossings and designated active transportation routes were reported to be the biggest mobility challenges faced by respondents

3.1 - What mobility solutions should be prioritized/ supported?



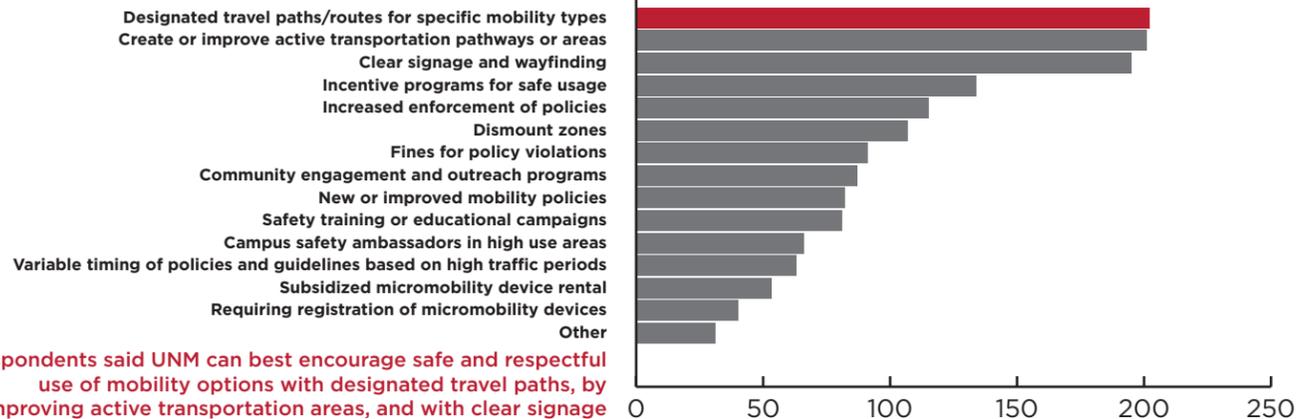
* Respondents listed additional dedicated active transportation paths as their highest priority followed by improved lighting and micromobility services

3.2 - Which areas on campus would benefit most from improved mobility connectivity?



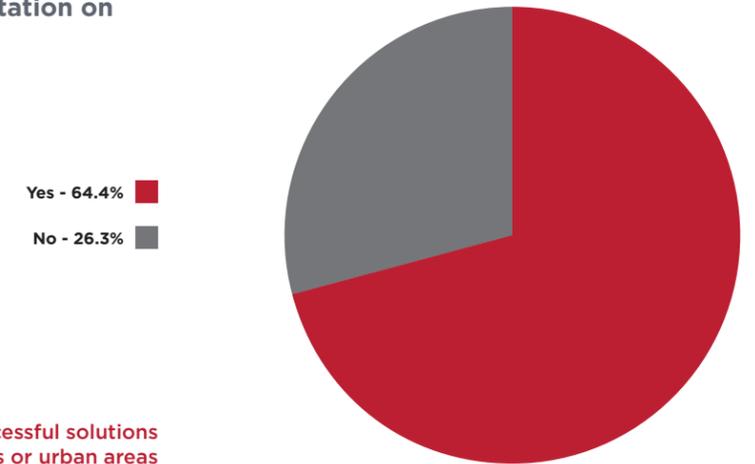
* Respondents said that Central campus to North campus would benefit most from improved mobility connectivity

3.3 - How can UNM encourage safe and respectful use of mobility options?



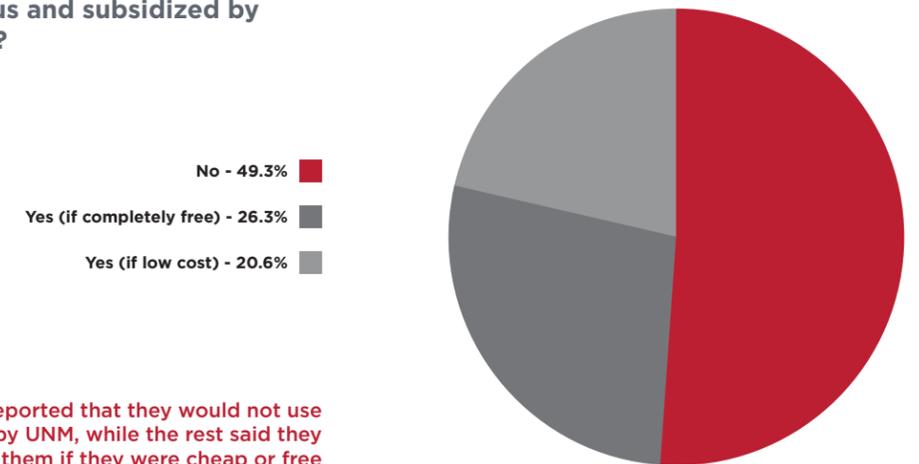
* Respondents said UNM can best encourage safe and respectful use of mobility options with designated travel paths, by improving active transportation areas, and with clear signage and wayfinding

3.4 - Have you experienced or observed any successful solutions for active transportation on other campuses or urban areas?



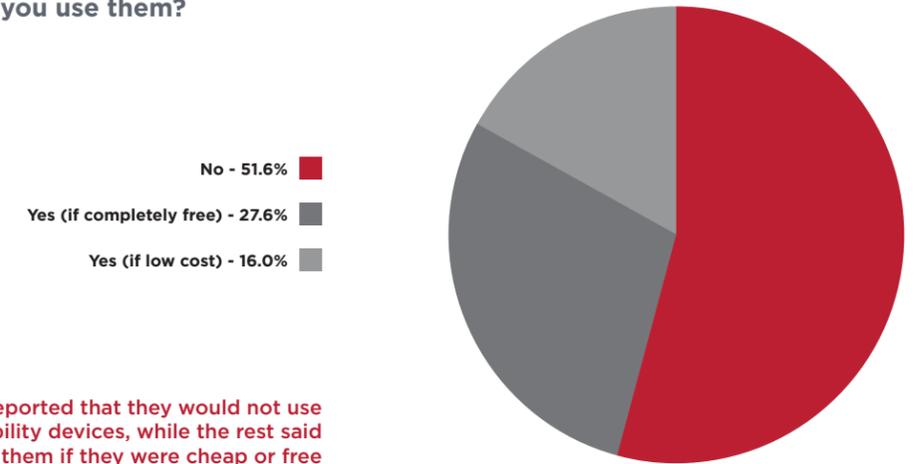
* The majority of respondents have observed successful solutions for active transportation on other campuses or urban areas

3.5 - If rental of micromobility devices were provided for use on campus and subsidized by UNM, would you use them?



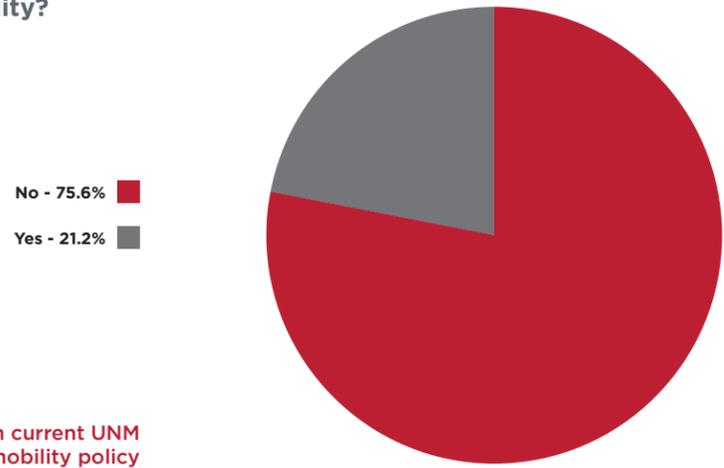
* About half of respondents reported that they would not use micromobility devices provided by UNM, while the rest said they would use them if they were cheap or free

3.6 - If valet parking areas for micromobility devices existed on campus, would you use them?



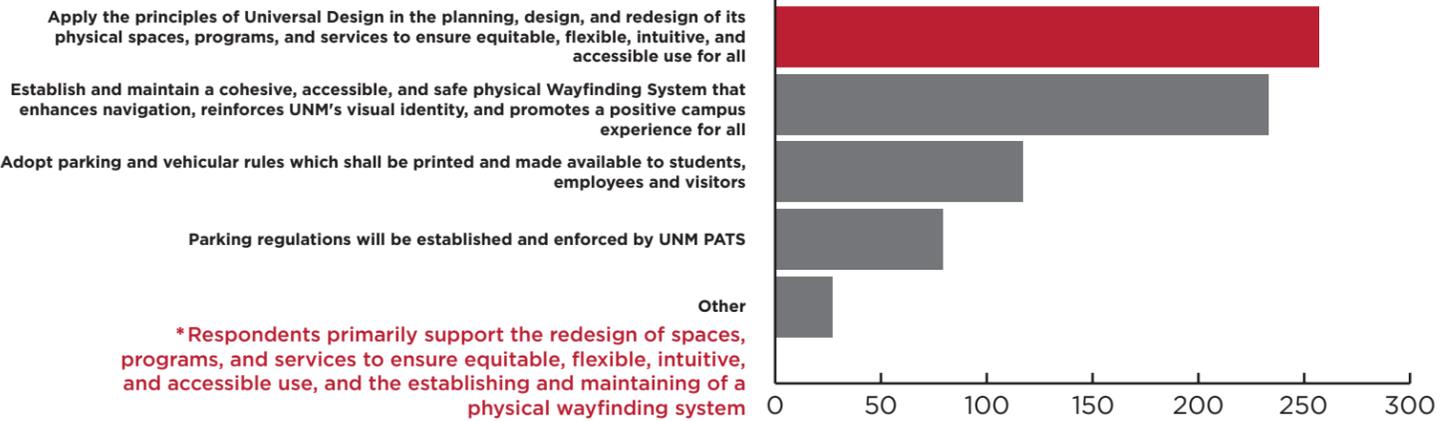
* About half of respondents reported that they would not use valet parking areas for micromobility devices, while the rest said they would use them if they were cheap or free

3.7 - Are you familiar with (read or seen) the current UNM policies that regulate mobility?



*The majority of respondents are not familiar with current UNM mobility policy

3.8 What new or different UNM policies related to mobility would you support?



* Respondents primarily support the redesign of spaces, programs, and services to ensure equitable, flexible, intuitive, and accessible use, and the establishing and maintaining of a physical wayfinding system

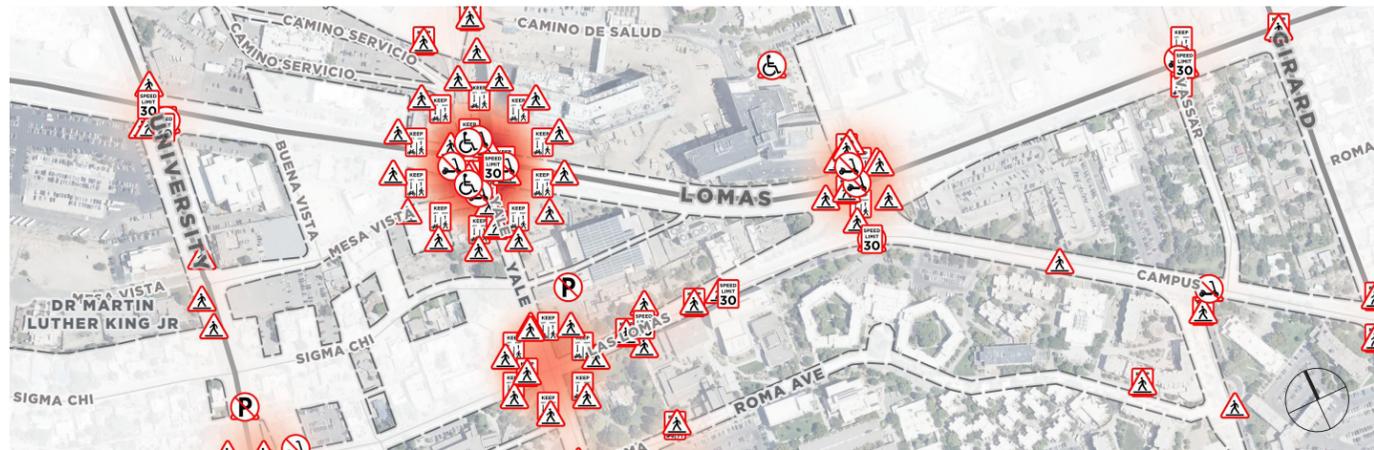
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Survey Responses

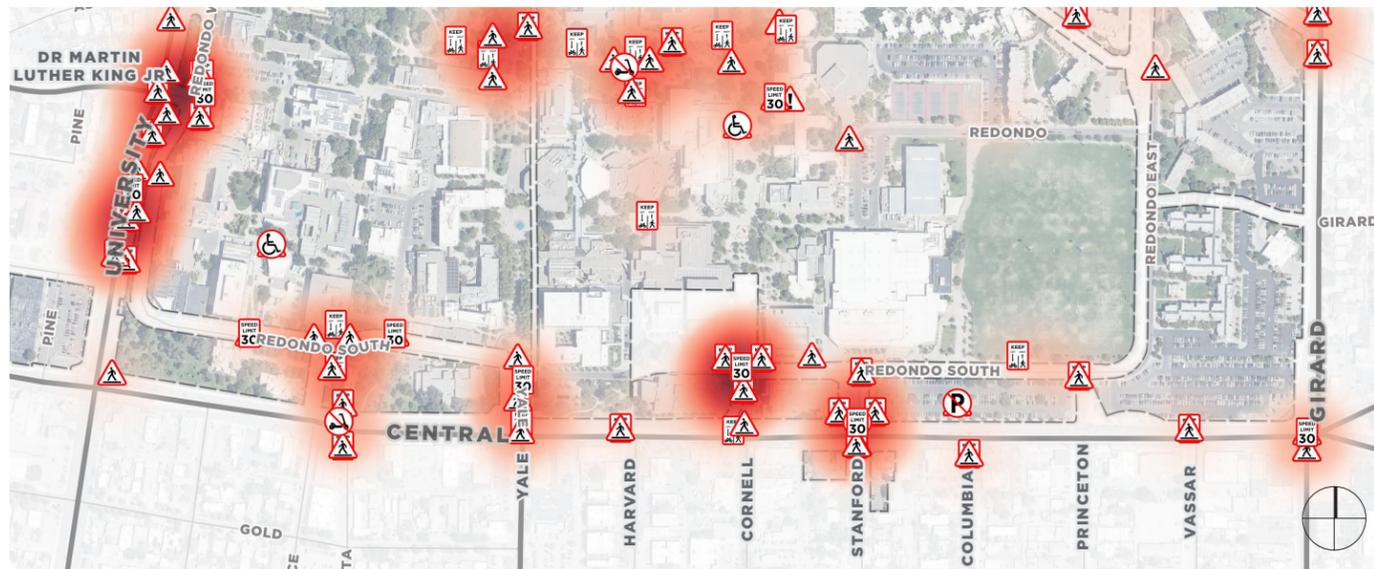
As part of the Safe Mobility Action Plan survey, respondents were able to place points on a map where they experience mobility conflicts. Below is a map showing these survey results, organized by type of mobility issue and conflict flagged.

The respondents flagged excessive speeding concerns, lack of designated paths, unsafe roadway crossings, lack of designated paths, unsafe roadway

crossings, poor surface conditions, parking issues, limited micromobility, and accessibility issues. Lack of safe roadway crossings and designated active transportation routes were mapped as the biggest mobility challenges faced by respondents. Crosswalks, intersections, and roadways were noted as the greatest area of conflict between different transportation modes. Refer to the Appendix for complete maps.



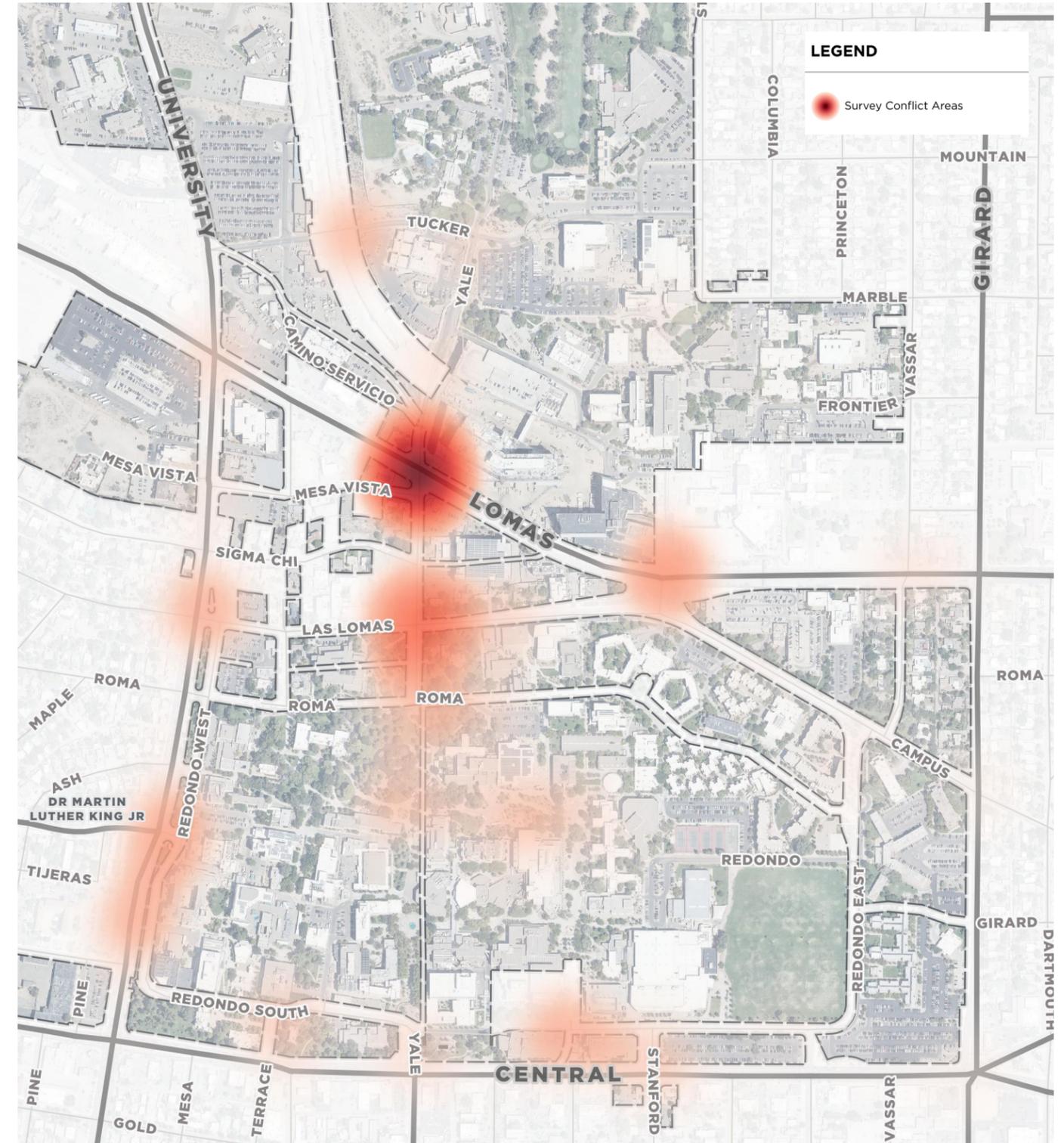
Map 24. Lomas Blvd Survey Responses Heat Map



Map 25. Central Ave Survey Responses Heat Map

LEGEND

-  Survey Conflict Areas
-  Speeding Issues
-  Lack of Designated Paths
-  Unsafe Roadway Crossing
-  Poor Surface Conditions
-  Parking Issues
-  Limited Micromobility
-  Accessibility Issues



Map 26. Survey Response Heat Map



OVERVIEW

Introduction

Improving campus mobility is essential for creating a more accessible, safe, efficient, and sustainable environment for students, faculty, and staff. As UNM's campuses grow and evolve, so do the challenges related to transportation, safety, and connectivity. The following list of recommendations and strategies aim to address the challenges identified during a rigorous campus engagement process, field assessments, and research into best practices for mobility at peer institutions and similar urban contexts. They are also in alignment with the UNM 2040: Opportunity Defined Plan and the ICP, building upon the ICP's recommendations for mobility and circulation.

Policies and General Recommendations include specific policy guidance on Institutional Review, Creating a Mobility Safety Office Position, Partner with MMV Fleet Provider(s), seeking certification for Bicycle Friendly University, Adopting Complete Streets Policy, and Adopting Vision Zero Policy.

A Project Implementation Matrix is included in Section 7.0 "Implementation," which inventories all recommendations and identifies near-, mid-, and long-term priorities based on the site analysis, national best practices, and stakeholder feedback.

Recommendation Categories

Recommendations are organized into three categories: 1) Infrastructure Improvements, 2) Strategies for Promoting Safe and Responsible Use, and 3) Policies and General Recommendations.

Infrastructure Improvements include specific infrastructure upgrades for Roadway and Non-Roadway Pathways, Intersections and Crossings, Access Controls, Mobility Hubs, Secure Storage and Charging, Signage and Wayfinding as well as other infrastructure safety measures.

Strategies for Promoting Safe and Responsible Use include specific recommendations for Education Campaigns, Safety Training Seminars, New Student/Faculty/Staff Orientation, Incentive Program, Campus Events, Community Partnerships, and other safety measures relating to Mobility Mapping, Route Designation, Geofencing, and Dismount and Speed Limit Zones.



06

RECOMMENDATIONS & STRATEGIES

HIGH PRIORITY RECOMMENDATIONS

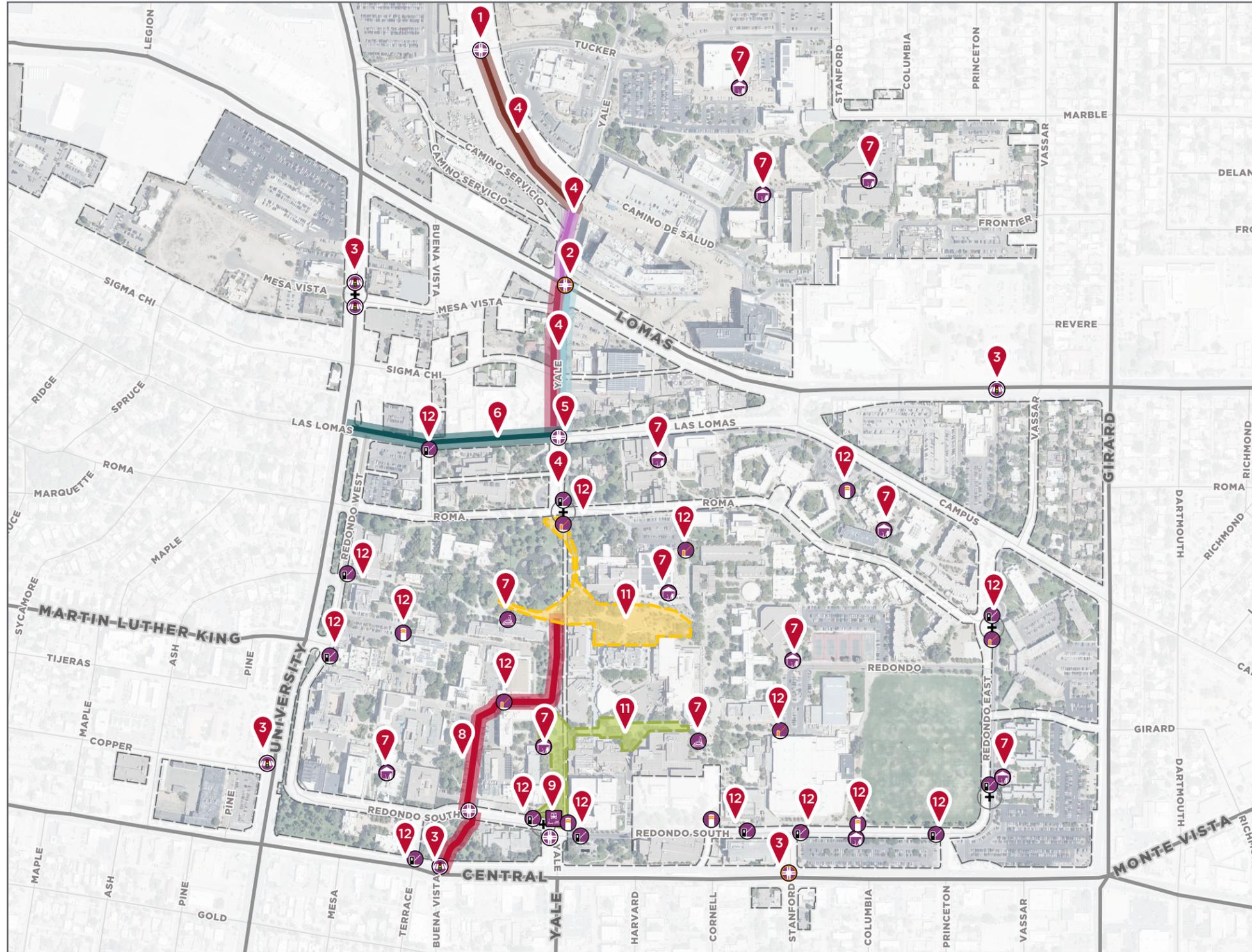
Building off site assessment data, engagement feedback, crash data analysis, and project scoring criteria, twelve (12) high priority projects are recommended for immediate implementation. The following list identifies the high priority, road safety projects and locations recommended for UNM to address in the Near-Term (1-3 years). Refer to the “High Priority Projects Map” and the “High Priority Projects Matrix” for additional details on specific locations and priority scoring criteria utilized.

High Priority Project List (Near-Term)

1. Crossing and Intersection Enhancements at Tucker Ave NE
2. Intersection Enhancements at Yale and Lomas
3. Various Proposed and Enhanced Crossings at Campus Perimeter
4. Path Construction, Yale Blvd and North Diversion Channel Trail from Tucker Ave to Roma Ave
5. Intersection Enhancements at Yale Blvd and Las Lomas Rd
6. Path Construction, Las Lomas Rd from University Blvd to Yale Blvd
7. Secure Storage and Safe Charging Stations, multiple locations
8. Path Construction, Central Ave & Buena Vista Dr to Duck Pond
9. Intersection Enhancements at Yale Blvd and Redondo Dr
10. Administrative/Educational/Outreach
11. Safety Measures, Dismount Zone and Speed Limit Zone
12. Bollards/Gates, multiple locations

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High Priority Projects Map (Main Campus)



- Project List Key (Near-Term)**
- 1.** Crossing and Intersection Enhancements at Tucker Ave NE
 - 2.** Intersection Enhancements at Yale and Lomas
 - 3.** Various Proposed and Enhanced Crossings at Campus Perimeter
 - 4.** Path Construction, Yale Blvd and North Diversion Channel Trail from Tucker Ave to Roma Ave
 - 5.** Intersection Enhancements at Yale Blvd and Las Lomas Rd
 - 6.** Path Construction, Las Lomas Rd from University Blvd to Yale Blvd
 - 7.** Secure Storage and Safe Charging Stations, multiple locations
 - 8.** Path Construction, Central Ave & Buena Vista Dr to Duck Pond
 - 9.** Intersection Enhancements at Yale Blvd and Redondo Dr
 - 10.** Administrative/Educational/Outreach
 - 11.** Safety Measures, Dismount Zone and Speed Limit Zone
 - 12.** Bollards/Gates, multiple locations

Proposed Non-Roadway Paths

- Delineated Path
- Enhanced Pedestrian Way
- Multi-Use Trail

Proposed Roadway Paths

- Bike Boulevard
- Bike Lane, Buffered
- Bike Lane, Standard

Zones

- Speed Zones
- Dismount Zones

MMV Infrastructure

- MMV Shelter, Charging
- MMV Valet
- MMV Shelter
- Mobility Hub
- Shuttle Stop

Proposed Crossings

- Crossing, Not Signalized
- Crossing, Signalized
- Enhanced Non-Signalized Intersection
- Enhanced Signalized Intersection

Bollard/Gates

- Bollard
- Gates, Automatic
- Gates, Manual

Proposed Project IDs

- Project Matrix Number

NOTE: Refer to the "High Priority Projects" on the following pages and the "High Priority Projects Matrix" for additional details on specific locations and priority scoring criteria utilized.

Map 27. High Priority Projects Map



1. Crossing Enhancement at Tucker Ave and North Diversion Channel Trail - Infrastructure Improvement.

Tucker Ave is an important gateway to North Campus for automobiles and active transportation users and its use has significantly increased during the recent UNM Hospital tower construction project. Other current and planned developments in North Campus will surely increase the traffic on Tucker.

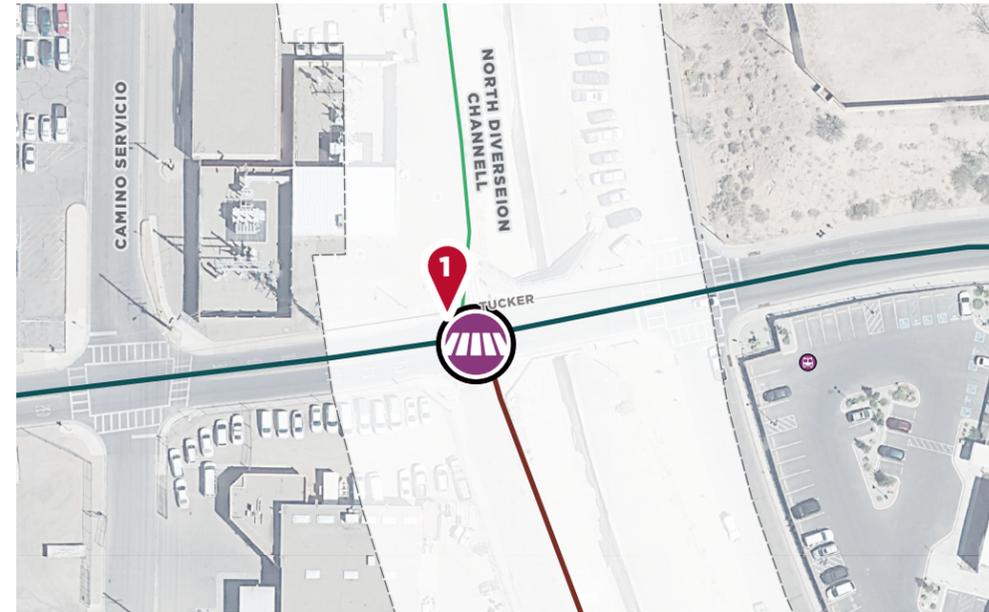
Many active transportation users, primarily those who park in the remote "G" lot northwest of Tucker and Camino Servicio and "I" lot, walk along Tucker and interact with intersections at Camino Servicio, North Diversion Channel Trail, and Camino de Salud to reach destinations within North Campus. In addition, many active transportation users cross Tucker at the North Diversion Channel Trail, a heavily used multi-use trail, when commuting to campus from other remote lots and points north that are connected to the city's extensive bikeway and trails network.

The ICP also recognizes this as an important continuous corridor between North and Central Campuses, particularly as future development in North Campus allows for development of an eco-corridor.

Conflicts between automobiles and active transportation users at this location were flagged by numerous CoMap and mobility survey respondents and the taskforce.

The existing crossing includes limited warnings of the upcoming crossing for all modes and lacks additional safety elements including high visibility markings, textured or raised surfaces, or curb extensions to shorten the crossing length.

- ✔ **Proposed Improvements:** Recent improvements to install multi-stop (4-way) control at the two adjacent Tucker intersections (Camino Servicio and Camino de Salud) have been implemented per a May 2024 analysis prepared by Lee Engineering. These improvements were recommended to calm traffic and improve safety for pedestrians. However, the analysis also recommended improvements to the crossing of the North Diversion Channel Trail with Tucker that have not been implemented. These recommended enhancements include:
 - High-visibility continental pavement markings
 - Rectangular Rapid Flashing Beacon (RRFB)
 - In-street pedestrian crossing signs (R1-6b, Yield)
 - ADA-compliant Curb Ramps
- ✔ In addition, this plan recommends the incorporation of an elevated crossing with colored/textured paving, which will improve visibility and reduce speeds.
- ✔ This portion of Tucker Ave is a UNM facility, but the North Diversion Channel and Trail are AMAFCA facilities requiring collaboration on proposed improvements.
- ✔ Cost: \$175,000



- Proposed Non-Roadway Paths**
- Multi-Use Trail
- Proposed Roadway Paths**
- Bike Boulevard
- MMV Infrastructure**
- Shuttle Stop
- Proposed Crossings**
- Crossing, Not Signalized
- Proposed COA Trails**
- Bike Boulevard (Long Term)
- Paved Multi-Use Trail (Long Term)
- Existing COA Trails**
- Paved Multi-Use Trail



Figure 69. Tucker Ave Existing Northbound Approach



Figure 71. Tucker Ave Existing Southbound Approach

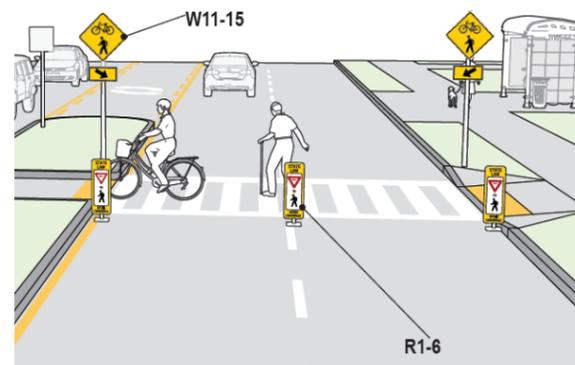


Figure 70. In-Street Path Crossing (AASHTO)

2. Signalized Intersection Enhancements at Yale and Lomas - Planning & Analysis

The Yale Blvd and Lomas Blvd intersection is the most-flagged mobility conflict location by CoMap and mobility survey respondents, the site of numerous crashes, and a general barrier to the efficient and safe flow of university activity from North Campus to Central Campus. Heavy automobile traffic and limited facilities for pedestrians and MMVs at this intersection leave many users feeling uncomfortable traversing this important corridor and there are few efficient alternatives. A lack of safe roadway crossings was noted as the greatest mobility challenge faced by survey respondents. This intersection is a City of Albuquerque facility and will require close collaboration on the study and implementation of any improvements.

Proposed Improvements: Collaborate with the City of Albuquerque to procure an intersection enhancement study which will likely include traffic analysis, crash data analysis, operational analysis, alternative intersection designs, potential costs and funding sources. The goal of the study is to recommend specific enhancements to the intersection that will provide for efficient flow that prioritizes safety and comfort for active transportation users, such as signage and high visibility pavement markings, reduced lane widths, wider crosswalks with paving treatments, pedestrian refuge islands, leading pedestrian intervals, and accessibility improvements.

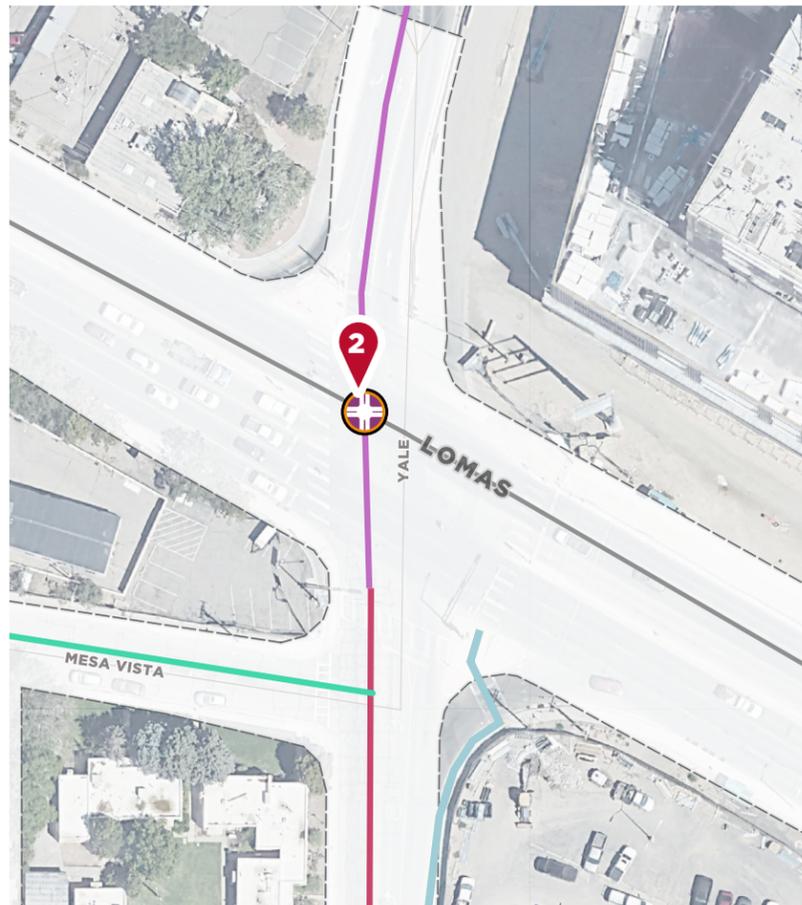
Cost: \$75,000



Figure 73. Yale and Lomas Intersection - Existing



Figure 74. Yale and Lomas Intersection - Existing



- Proposed Roadway Paths**
 - Bike Lane, Buffered
 - Bike Lane, Standard
 - Buffered Bike Lane (Long Term)
- Proposed Non-Roadway Paths**
 - Enhanced Pedestrian Way
- Proposed Crossings**
 - Enhanced Signalized Intersection
- Proposed COA Trails**
 - Shared Street



- Property Boundary
- ↔ Pedestrian Connections
- Crossings
- Existing Crossings
- Proposed Crossings
- Active Edge
- Proposed Development

Figure 72. Lomas Boulevard Corridor Improvements (UNM ICP)

3. Proposed and Enhanced Crossings, Intersection Enhancements at Campus Perimeter - Planning & Analysis.

There are several uncontrolled crossings into Central Campus where active transportation users have little or no accommodation for safe travel. These crossings align with key internal circulation network routes or with routes from the surrounding neighborhood. Locations include:

- > Central & Buena Vista - an existing uncontrolled crossing that aligns with a proposed Bicycle Blvd on Buena Vista south of UNM, and provides an efficient continuous corridor linking South Campus with Central Campus.
- > Central & Stanford - an existing signalized intersection that aligns with a proposed Bicycle Blvd on Stanford south of UNM and is frequently used to access residential neighborhoods south of Central.
- > University north of Copper - no current crossing infrastructure but frequently traversed to access UNM landholdings and parking lots at the NW corner of University and Central from Central Campus.
- > University north of Mesa Vista - no current crossing infrastructure but an important connection between Central Campus and existing and proposed UNM landholdings on Mesa Vista west of University, as well as the "T" lot.
- > Lomas west of Vassar - no current crossing infrastructure but a proposed connection between Central Campus and North Campus that is as an alternative to Lomas and Yale and more direct route to residential areas north of Central Campus.

These locations were flagged by survey respondents and taskforce members as points of mobility conflict. A lack of safe roadway crossings was noted as the greatest mobility challenge faced by survey respondents. All locations are within City of Albuquerque facilities and will require close collaboration on the study and implementation of any improvements.

Proposed Improvements: Collaborate with the City of Albuquerque to procure a traffic study that will identify opportunities to enhance or construct crossings at the locations above, which will likely include traffic analysis, crash data analysis, operational analysis, alternative intersection designs, potential costs and funding sources. The goal of the study is to recommend specific enhancements to crossing locations that will provide for efficient flow that prioritizes safety and comfort for active transportation users, such as signage and high visibility pavement markings, reduced lane widths, wider crosswalks with paving treatments, pedestrian refuge islands, HAWK signals or other beacons, and accessibility improvements.

Cost: \$200,000



Figure 75. Existing Crossing - Girard and Central Ave



Figure 76. Existing Crossing - Cornell and Central Ave



Figure 77. University of Pittsburgh Campus Perimeter Crossing



Figure 78. University of Pittsburgh Campus Perimeter Crossing

4. Path Construction, Yale Blvd and North Diversion Channel Trail from Tucker Ave to Roma Ave - Infrastructure Improvement.

The existing North Diversion Channel Trail, a heavily used multi-use trail for active transportation users commuting to campus from remote lots and points north that are connected to the city's extensive bikeway and trails network, currently terminates at Tucker Ave and users must merge with an access road for UNM buildings and parking lots south of Tucker. This shared roadway includes very few safety accommodations for active transportation. Where the path meets Yale, there is currently no safe crossing to the new UNM Hospital tower, no bike facility on Yale, and most users must share a narrow sidewalk when traveling south to Lomas. South of the Lomas intersection to Roma, Yale currently has no bike facilities and pedestrians are accommodated on narrow sidewalks immediately adjacent to the curb.

In combination, these path sections represent a major gap in the mobility network of Main Campus and a barrier to increased active transportation. The ICP also recognizes this as an important continuous corridor between North and Central Campuses, particularly as future development in North Campus allows for development of an eco-corridor along the route.

Conflicts between automobiles and active transportation users along this route were flagged by numerous CoMap and mobility survey respondents as well as the taskforce members. A lack of designated active transportation paths/routes connecting to campus was noted as the second greatest mobility challenge faced by survey respondents.

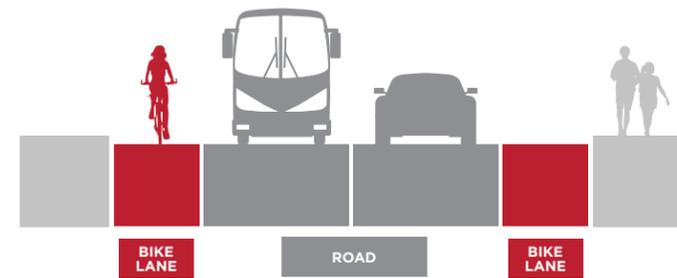
- Proposed Improvements**
- Construct Multi-Use Trail from Tucker Ave to Yale.
 - Construct Buffered Bike Lanes on Yale from Tucker to Lomas.
 - Construct Standard Bike Lanes on Yale from Lomas to Roma.

- Construct pedestrian enhancements along Yale, from Lomas to Roma, including widened sidewalks, the incorporation of landscape buffers, lighting, and amenities.
- ✓ These facilities are partially within the public ROW and proposed improvements will require collaboration with the City of Albuquerque and AMAFCA.
- ✓ **Cost:** \$950,000

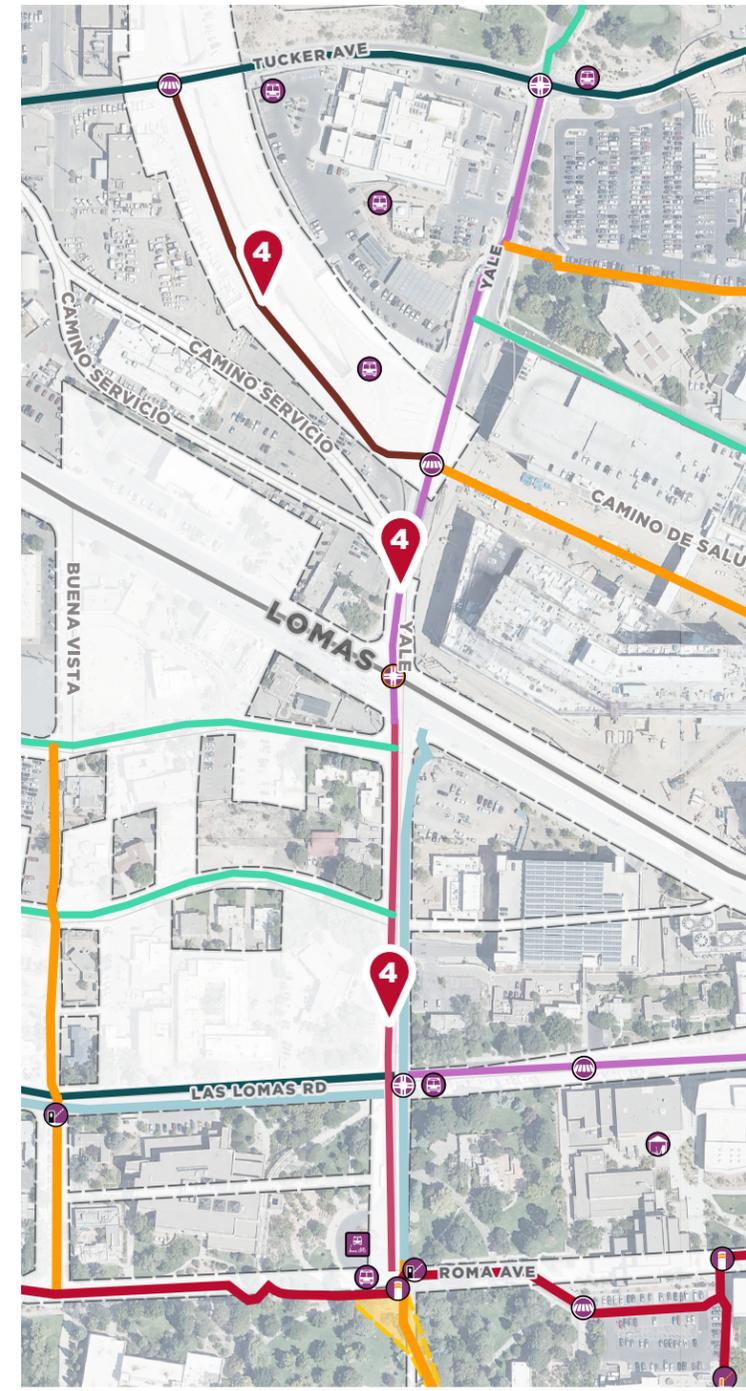
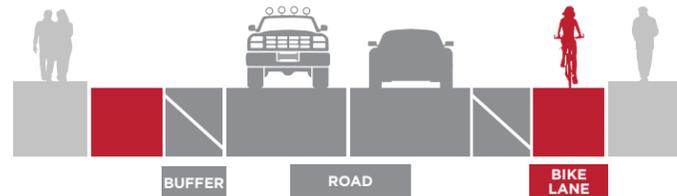
Multi-Use Trail



Standard Bike Lanes



Buffered Bike Lane



- Proposed Non-Roadway Paths**
- Delineated Path
 - Enhanced Pedestrian Way
 - Shared Path
 - Multi-Use Trail
- Proposed Roadway Paths**
- Bike Boulevard
 - Bike Lane, Buffered
 - Bike Lane, Separated
 - Bike Lane, Standard
 - Shared Street
- MMV Infrastructure**
- MMV Shelter, Charging
 - Mobility Hub
 - Shuttle Stop
- Proposed Crossings**
- Crossing, Not Signalized
 - Crossing, Signalized
 - Enhanced Non-Signalized Intersection
 - Enhanced Signalized Intersection
 - Parking Garage
- Bollard/Gates**
- Bollard
 - Gates, Automatic
 - Gates, Manual

5. Non-Signalized Intersection Enhancements at Yale Blvd and Las Lomas Rd - Infrastructure Improvement.

The Yale Blvd and Las Lomas Rd intersection, a 4-way stop, is the second most-flagged mobility conflict location by CoMap and mobility survey respondents, which is not surprising due to its location near the heart of Central Campus, at a confluence of multiple shuttle routes, heavy private automobile traffic, and active transportation users. The ICP recommends construction of a mobility hub just south of the intersection and continued use of automobile traffic. In addition, the City of Albuquerque Trail and Bikeways plan proposes a Bicycle Blvd on Las Lomas west of the intersection and standard bike lanes on Yale north of the intersection, all of which will continue to make this intersection a critical nexus of mobility. Existing pedestrian accommodations are minimal. This intersection is a City of Albuquerque facility and will require close collaboration on the study and implementation of any improvements.

- ✓ Proposed Improvements: Collaborate with the City of Albuquerque to construct intersection improvements at Yale Blvd and Las Lomas Rd, including a raised intersection or crosswalks, high visibility pavement markings, accessibility upgrades, signage, landscape buffers, and relocation of a shuttle stop.
- ✓ Cost: \$225,000



- Proposed Non-Roadway Paths**
 - Enhanced Pedestrian Way
- Proposed Roadway Paths**
 - Bike Boulevard
 - Bike Lane, Buffered
 - Bike Lane, Standard
- MMV Infrastructure**
 - Shuttle Stop
- Proposed Crossings**
 - Enhanced Non-Signalized Intersection
- Proposed COA Trails**
 - Bike Lane (Long Term)
 - Bike Boulevard (Short Term)
 - Buffered Bike Lane (Short Term)



Figure 79. Existing Crossing - Yale and Las Lomas



Figure 81. Precedent Raised Intersection Non-Signalized



Figure 80. Raised Intersection - City of Oceanside, CA



Figure 82. Precedent Raised Intersection, Tufts University

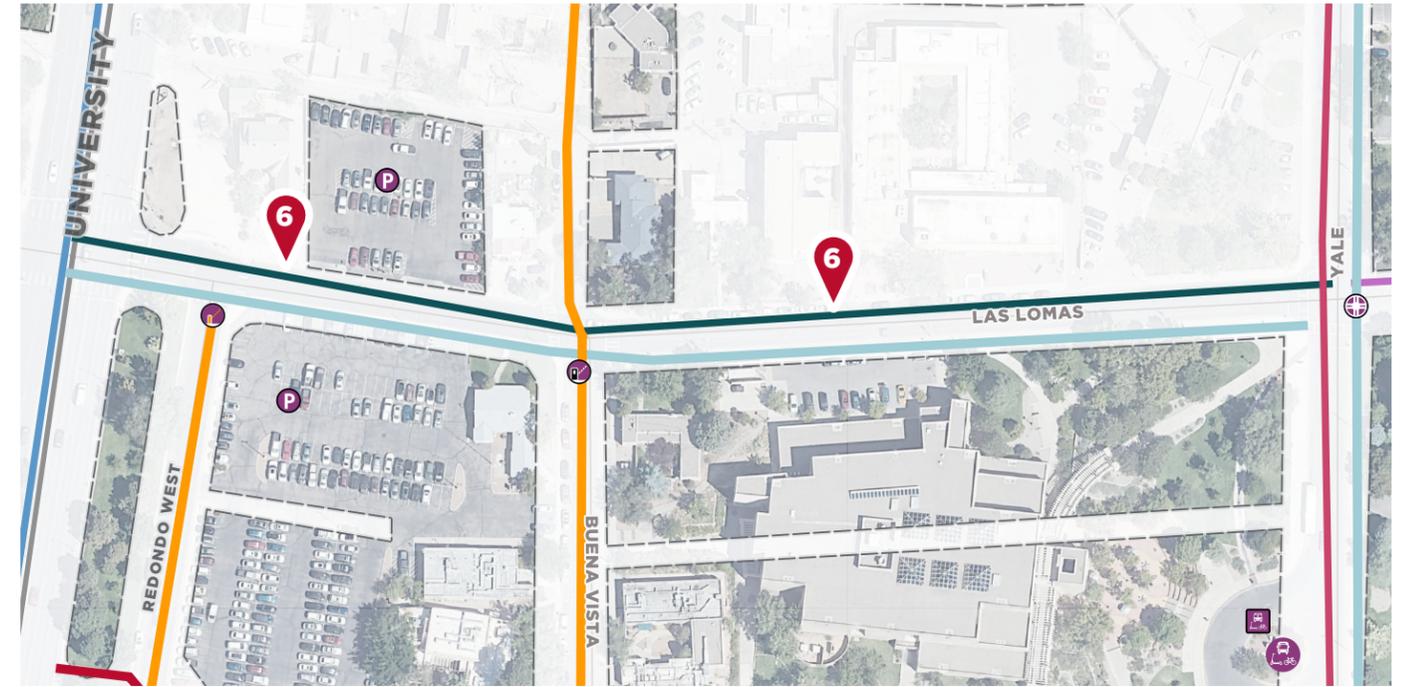
6. Path Construction, Las Lomas Rd from Yale Blvd to University Blvd – Infrastructure Improvement.

Las Lomas, from Yale to University is a two-lane road without MMV facilities that accommodates automobiles and numerous shuttle routes. One block includes existing on-street parallel parking. Existing sidewalks are narrow and adjacent to the curb. There is one 50’ portion on the north side of Las Lomas near University with no paved sidewalk. Accessibility accommodations are minimal and crosswalks are without enhancements. The City of Albuquerque’s Trail and Bikeways Plan recommends a Bicycle Boulevard for this roadway and the ICP recommends continued use of this roadway for vehicular traffic and the development of structured parking near University. Field assessment documented poor pavement condition and striping. This roadway is a City of Albuquerque facility and will require close collaboration on the study and implementation of any improvements.

Proposed Improvements: Collaborate with the City of Albuquerque to construct a Bicycle Blvd roadway path along Las Lomas Rd from Yale Blvd to University Blvd, along with the following:

- Complete reconstruction of the pavement.
- Removal of on-street parking.
- Construction of pedestrian enhancements, including widened sidewalks, the incorporation of landscape buffers, lighting, and amenities.
- Enhanced crosswalks at Buena Vista Dr and Redondo Dr.

Cost: \$700,000



- | | |
|--------------------------------------|----------------------------------|
| Proposed Non-Roadway Paths | Proposed COA Trails |
| Enhanced Pedestrian Way | Bike Lane (Long Term) |
| Shared Path | Bike Boulevard (Short Term) |
| Proposed Roadway Paths | Separated Bike Lane (Short Term) |
| Bike Lane, Separated | Bollard/Gates |
| Bike Lane, Standard | Gates, Automatic |
| Proposed Crossings | Gates, Manual |
| Enhanced Non-Signalized Intersection | Parking Garage |
| Parking Garage | |

Bike Boulevard

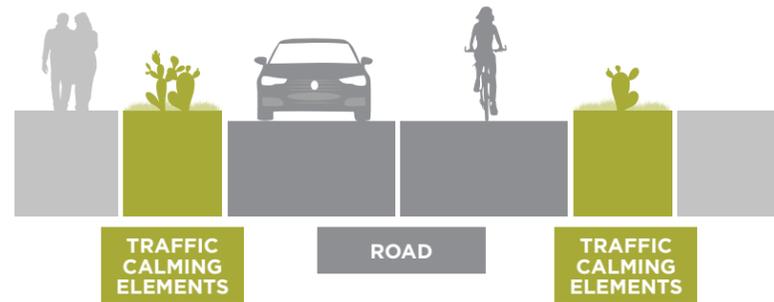


Figure 83. City of Albuquerque, Bike Blvd on Silver Ave



Figure 84. Bike Boulevard in West Baltimore

7. Secure Storage and Safe Charging Stations at multiple Main Campus locations - Infrastructure Improvement.

Lack of secure MMV storage was one of the top mobility challenges faced on campus by survey respondents. Bike theft has been identified as one barrier to active transportation use for many. A new UNM policy banning indoor charging of MMV lithium batteries is also pending, which could further discourage use of MMVs as an alternative transportation mode. Traditional bike racks on campus are generally plentiful and underutilized due to theft concerns. These could be converted to secure storage for all MMV devices. Survey respondents listed secure storage and charging as a mobility solution that should be prioritized.

- ✔ **Proposed Improvements:** Study potential locations for the construction of secure outdoor MMV storage and charging stations on Central and North Campuses, with an ultimate goal of providing secure storage within a 2.5-minute walk of all activity centers and within proximity to primary MMV paths.
 - Implement highest priority locations as funding allows.
 - Secure storage options recommended by this plan include MMV valets, shelters, yards, and lockers.
 - Provide charging stations at all storage locations and consider solar options when access to grid power is not easily accessible.
- ✔ **Cost:** Varies, \$100,000 to \$250,000 per location

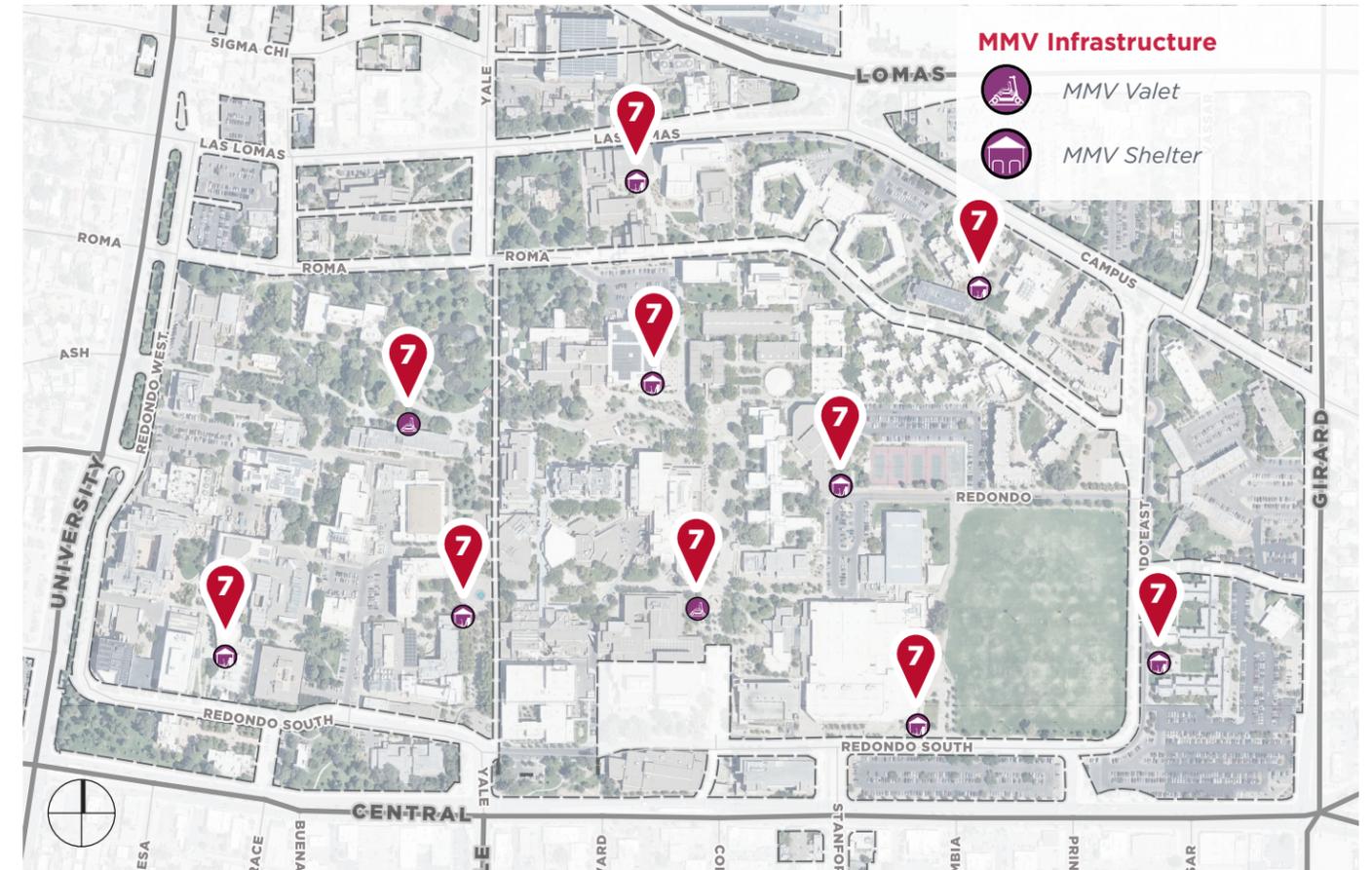


Figure 85. Existing Secure Bike Storage at Coronado Hall



Figure 86. Existing Secure Bike Yard at PAIS



Figure 87. University of Arizona Bike Valet



Figure 88. EnerFusion Inc Electric MMV Charging Shelter

8. Path Construction, Central Ave and Buena Vista Dr to the Duck Pond - Infrastructure Improvement.

Survey respondents ranked the creation of dedicated active transportation paths/routes as the #1 mobility solution that should be prioritized on campus. This plan recommends creation of a continuous north-south MMV corridor from Central and Buena Vista to the Duck Pond, continuing north along Yale to North Campus. Continue mobility corridors that link key destinations with minimal disruptions to travel encourage regular use of active transportation because of their efficiency, convenience, safety, and comfort. This plan recommends an enhanced crossing at Central from the proposed Bicycle Blvd on Buena Vista, which will become an important mobility gateway to Central Campus. The first segment of existing shared path north of Central is narrow and has steep slopes. The existing crosswalk at Redondo is minimal and does not include any safety enhancements. North of Redondo, all paths are shared, often congested, and included noted locations of conflicts between pedestrians and MMVs. The site assessment also identified numerous locations with unsafe paving conditions.

- Central to Redondo- widen an existing shared pathway to 15' width to accommodate a bi-directional MMV lane adjacent to a pedestrian path that is ADA-compliant.
- Construct an enhanced roadway crossing at Redondo, including high-visibility continental pavement markings, raised crosswalk paving, in-street pedestrian crossing signs, signage, and ADA-compliant curb ramps.
- Redondo to Carlisle Gym- create bi-directional MMV lane through service drive and parking lot in between Catter Hall and Logan Hall, including high-visibility pavement markings and signage.
- South of Carlisle Gym- create bi-directional MMV lane adjacent to pedestrian path through existing shared path, including pavement markings and signage.
- Yale Mall from Carlisle Gym to the Duck Pond- create bi-directional MMV lane adjacent to pedestrian path through the existing paved mall, including pavement replacement or renovation, pavement markings and signage, and green stormwater infrastructure landscape buffers.

✓ **Cost:** \$400,000

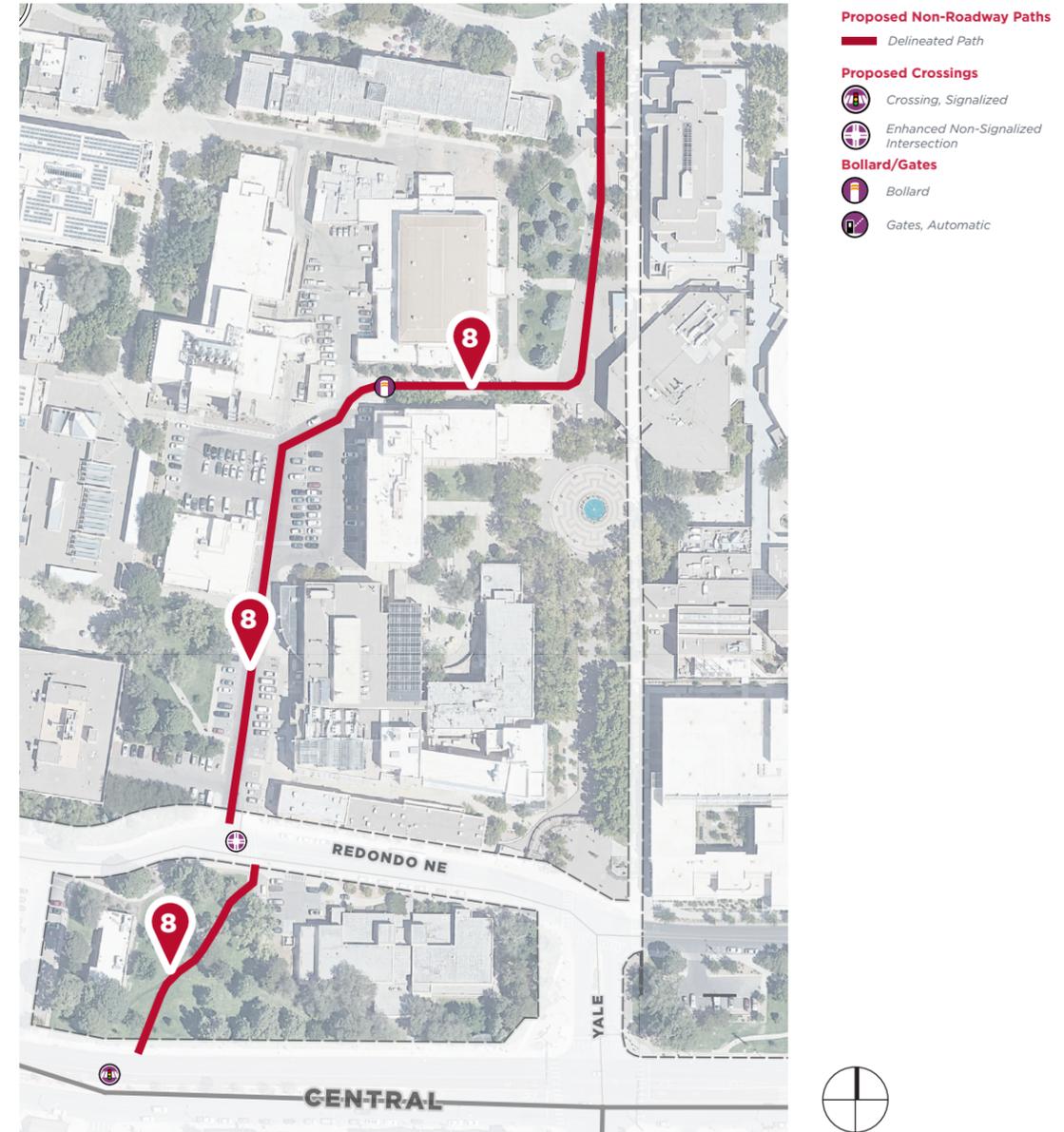
✓ Proposed Improvements: Construct a delineated path from the Buena Vista Dr crossing at Central Ave. to the Duck Pond. Segment improvements include the following:



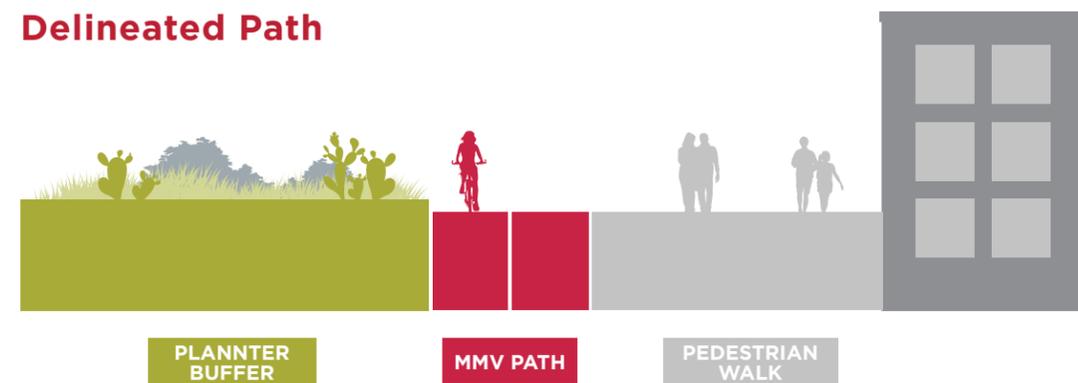
Figure 89. University of Arkansas Discovery Trail



Figure 90. Purdue University Delineated Path



Delineated Path



9. Non-Signalized Intersection Enhancements at Yale Blvd and Redondo Dr - Infrastructure Improvement.

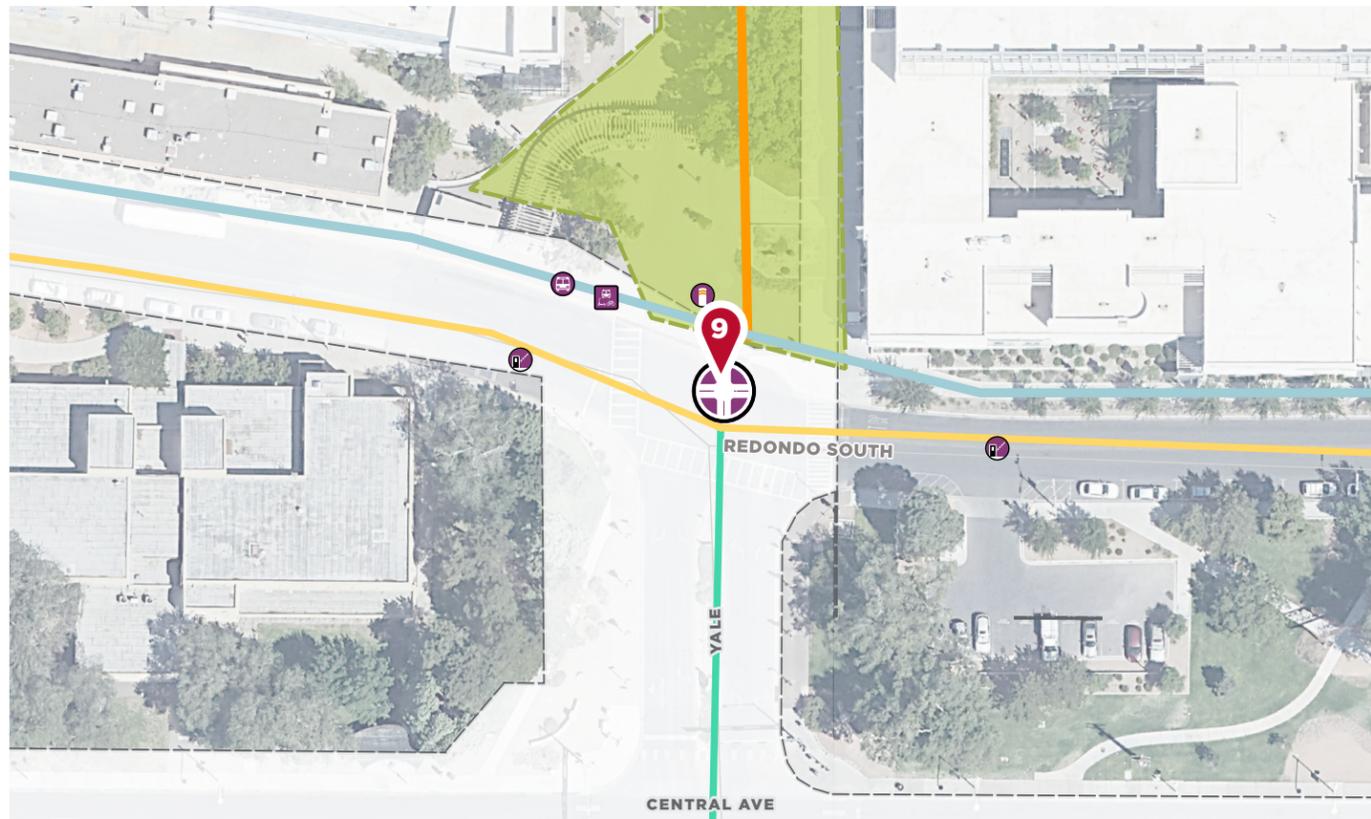
The Yale Blvd and Redondo Dr intersection is a 3-way stop, with no stop for northbound traffic. It is the south gateway to the Yale Mall, the site of a busy shuttle stop on multiple shuttle routes, heavy private automobile traffic, and active transportation users. The intersection is one of the most-flagged mobility conflict locations by CoMap and mobility survey respondents. The ICP recommends construction of a mobility hub at this location and the restriction of automobile traffic on Redondo to shuttles and service vehicles only. In its present condition, there are no MMV facilities and pavement markings are poor.

- ✓ Proposed Improvements: Construct near-term intersection enhancements at Yale Blvd and Redondo Dr, including a raised crosswalks, high visibility pavement markings, accessibility upgrades, and signage. These are minor near-term recommendations to address immediately safety needs. The ICP recommends long-term construction of a mobility hub at this location, which will significantly alter the nature and function of this intersection.
- ✓ **Cost:** \$215,000

10. Create Safe Mobility Officer Position and Safe Mobility Advisory Committee - Administrative

The Yale Blvd and Redondo Dr intersection is a 3-way stop, with no stop for northbound traffic. It is the south gateway to the Yale Mall, the site of a busy shuttle stop on multiple shuttle routes, heavy private automobile traffic, and active transportation users. The intersection is one of the most-flagged mobility conflict locations by CoMap and mobility survey respondents. The ICP recommends construction of a mobility hub at this location and the restriction of automobile traffic on Redondo to shuttles and service vehicles only. In its present condition, there are no MMV facilities and pavement markings are poor.

- ✓ Proposed Improvements: Construct near-term intersection enhancements at Yale Blvd and Redondo Dr, including a raised crosswalks, high visibility pavement markings, accessibility upgrades, and signage. These are minor near-term recommendations to address immediately safety needs. The ICP recommends long-term construction of a mobility hub at this location, which will significantly alter the nature and function of this intersection.
- ✓ **Cost:** \$215,000



- Proposed Non-Roadway Paths**
 - Enhanced Pedestrian Way
 - Shared Path
- Proposed Roadway Paths**
 - Cycle Track
 - Shared Street
- Zones**
 - Speed Limit Zones
- Bollard/Gates**
 - Bollard
- MMV Infrastructure**
 - Mobility Hub
 - Shuttle Stop
 - Enhanced Non-Signalized Intersection



11. Dismount Zone at Smith Plaza and Duck Pond, Speed Limit Zone at Yale Mall - Infrastructure Improvement.

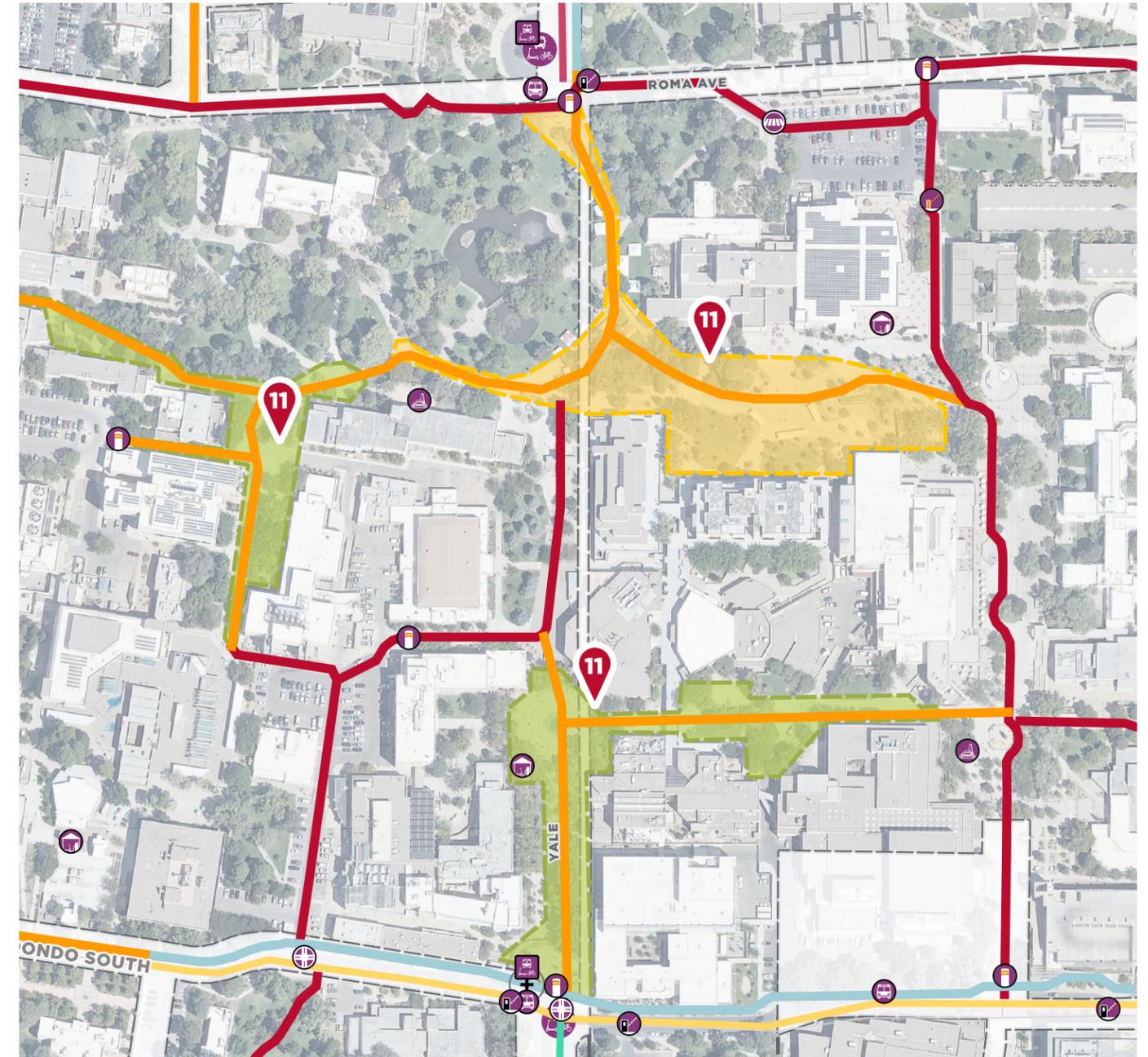
Conflicts between pedestrians and MMV users on shared paths surrounding the Duck Pond and through Smith Plaza were flagged by numerous CoMap and mobility survey respondents. These conflicts were also noted by taskforce members and observed during site analysis field work. These shared paths are in the heart of Central Campus and experience periods of heavy congestion, particularly between class periods. These paths are important north-south and east-west continuous corridors and provide access to key destinations on campus.

The implementation of delineated lanes to separate modes is difficult in these areas because of space limitations, numerous intersecting paths, fire lane accommodations, obstructions, and the need for flexibility to accommodate special events. In addition, these areas fall within Historic Zones in the Heritage Preservation Plan, which may limit implementation of infrastructure that could impact character defining features.

The implementation of dismount zones and speed limit zones is an effective way of prioritizing pedestrian safety when constructing physical infrastructure is impractical. However, dismount zones and speed limits can also be considered a barrier to active transportation and enforcement of them requires additional resources. National best practices suggest that restricting MMV use and speed only during peak pedestrian traffic is most successful. This allows fluid mobility during off-peak times, including early morning, evenings, and weekends.

Proposed Improvements: Establish timed dismount zones along shared paths surrounding the south and east sides of the Duck Pond, as well as through Smith Plaza. Establish a timed speed limit zone along the Yale Mall, from Redondo to the Duck Pond, and along the shared path between Woodward Hall and Popejoy Hall. Install a combination of vertical sign posts and pavement markings at zone boundaries and within the zones. Publish and post policies clearly and implement education campaigns to communicate with all campus users.

Cost: \$30,000



- | | | |
|---|---|---|
| <p>Proposed Non-Roadway Paths</p> <ul style="list-style-type: none"> — Delineated Path — Enhanced Pedestrian Way — Shared Path <p>Proposed Roadway Paths</p> <ul style="list-style-type: none"> — Bike Lane, Separated — Bike Lane, Standard — Cycle Track — Shared Street <p>Zones</p> <ul style="list-style-type: none"> ■ Speed Limit Zones ■ Dismount Zones | <p>Bollard/Gates</p> <ul style="list-style-type: none"> Bollard Gates, Automatic Gates, Manual <p>Proposed Crossings</p> <ul style="list-style-type: none"> Crossing, Not Signalized Enhanced Non-Signalized Intersection | <p>MMV Infrastructure</p> <ul style="list-style-type: none"> MMV Valet MMV Shelter Mobility Hub Shuttle Stop |
|---|---|---|



Figure 91. Zig Zag Treatment



Figure 92. Dismount Zone Sandwich Board

12. Access Control at multiple Central Campus Locations - Infrastructure Improvement.

Conflicts between active transportation users and automobiles exist at multiple non-roadway shared paths within the heart of Central Campus. These are locations where regular and periodic access by service and emergency vehicles is required but must be controlled to limit these conflicts and to prioritize pedestrian and MMV safety. A preliminary study has identified priority locations for implementation of access control, including:

- > At Casas del Rio (Roma Way) path entry and Redondo Dr and the roundabout
- > At Duck Pond path intersection with Roma at the shuttle stop
- > Between Student Health and Counseling (SHAC) and Johnson Center
- > Between Carlisle Gym and Northrup Hall



Figure 94. Albuquerque On-Street Retractable Arms

Proposed Improvements: Construct the following access control measures:

- Retractable bollards at Casas del Rio (Roma Way) path entry and Redondo Dr and the roundabout
- Retractable bollards at Duck Pond path intersection with Roma at the shuttle stop
- Retractable bollards between Student Health and Counseling (SHAC) and Johnson Center
- Retractable bollards between Carlisle Gym and Northrup Hall

Cost: \$30,000

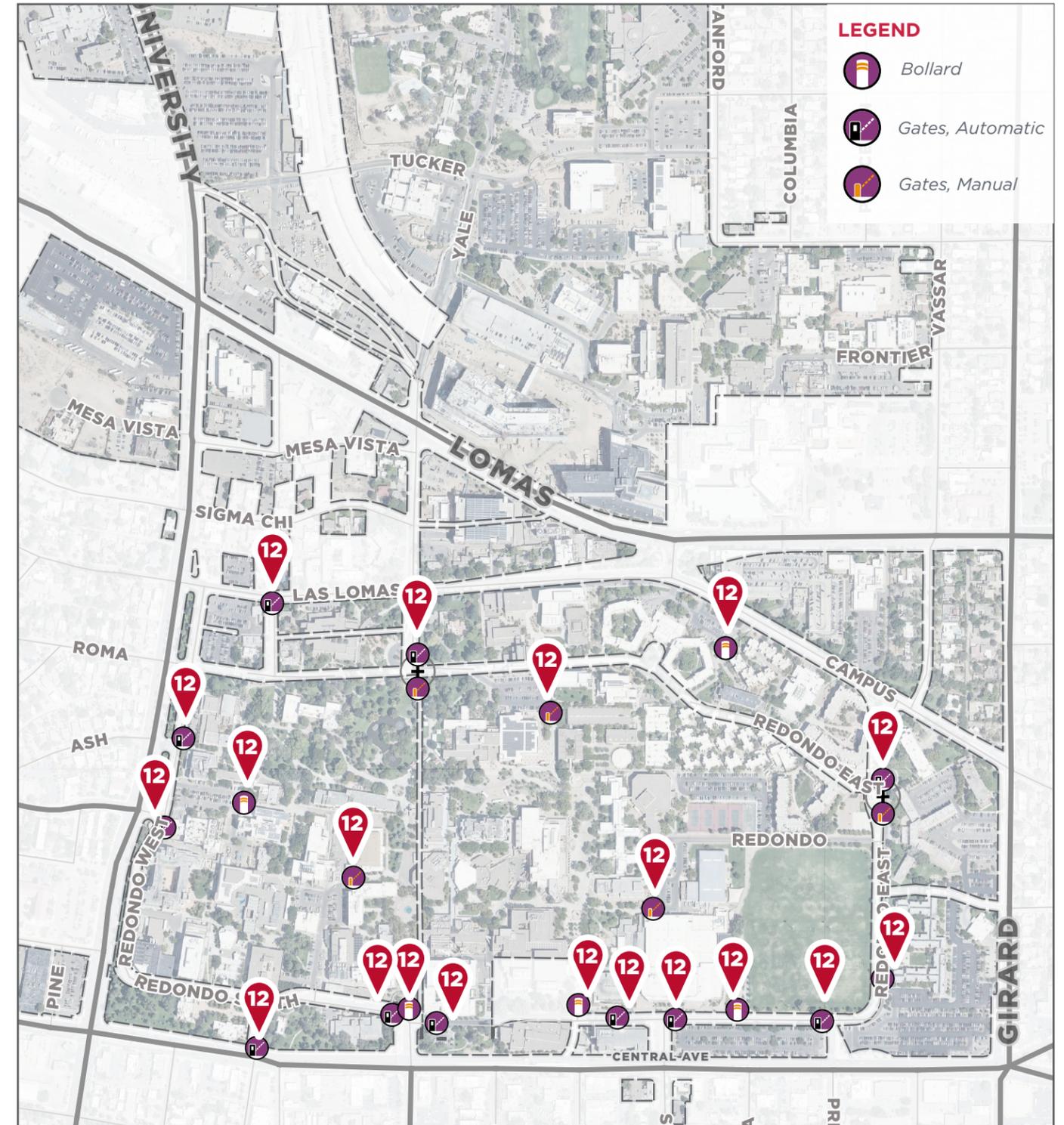


Figure 93. Retractable Bollards, Paul Revere Park, Boston, MA



Figure 95. Cleveland State University Gates

Proposed Access Control (Central Campus)



Map 28. Proposed Bollards/Gates Map

High Priority Projects Matrix

Disclaimer: Costs included in the following matrix are intended to be general and used for long-range planning purposes. The estimates do not include UNM's internal administrative costs, right-of-way acquisition, surveying, tax or contingency. Construction costs will vary based on the ultimate project scope (i.e. combination with other projects) and economic conditions at the time of construction. These costs were prepared in the Spring of 2025. An escalation rate of 4-6% should be applied for each calendar year beyond 2025.

#	Category	Project Type	Campus Location	Project Description	Priority (Low, Medium, High)	Near-Term (1-3 yrs)	Mid-Term (4-6 yrs)	Long-Term (7-10 yrs)	Priority Score	Infrastructure Improvement Project Scoring Only							Administrative Project Scoring Only				Planning Level Cost Estimate	
										Located on UNM landholding	Flagged as conflicts by taskforce	Flagged as conflict by mobility survey	Crash location	Flagged as conflict by other jurisdictions	No additional planning required	Roadway	Relatively easy to implement	Aligned w/ National Best Practices	Relatively easy to implement	Supportive survey response		Existing Dept. to manage
1	Infrastructure Improvements	Intersection Enhancement - Non-signalized	North Campus	Crossing Enhancement at Tucker Ave and North Diversion Channel Trail.	High	x			6	0	1	1	1	0	1	1	1	N/A	N/A	N/A	N/A	\$ 175,000
2	Planning and Analysis	Intersection Enhancement - Signalized	Central + North Campus	Signalized Intersection Enhancements at Yale and Lomas Blvd - Additional Planning and Analysis Study for safe pedestrian and MMV enhancements.	High	x			5	0	1	1	1	1	0	1	0	N/A	N/A	N/A	N/A	\$ 75,000
3	Planning and Analysis	Intersection Enhancement - Signalized	Central Campus	Proposed and Enhanced Crossings, Intersection Enhancements at Campus Perimeter including Central and Buena Vista (existing crossing), Central & Stanford (existing crossing), University north of Copper (proposed crossing), University north of Mesa Vista (proposed crossing), Lomas west of Vassar (proposed crossing)	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 200,000
4	Infrastructure Improvements	Pathway	Central + North Campus	Path Construction, Yale Blvd and North Diversion Channel Trail from Tucker Ave to Roma Ave: Construction of Multi-use Trail, Buffered Bike Lane, Bike Lane, and Enhanced Pedestrian Way paths.	High	x			6	1	1	1	1	1	0	1	0	N/A	N/A	N/A	N/A	\$ 950,000
5	Infrastructure Improvements	Intersection Enhancement - Non-signalized	Central Campus	Non-Signalized Intersection Enhancements at Yale Blvd and Las Lomas Rd for safe pedestrian and MMV enhancements.	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 225,000
6	Infrastructure Improvements	Pathway	Central Campus	Path Construction, Las Lomas Rd from Yale Blvd to University Blvd: pavement reconstruction, Bike Boulevard, and Enhanced Pedestrian Way paths.	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 700,000
7	Infrastructure Improvements	Secure Storage w/ Safe Charging	Central + North Campus	Install Secure and Safe Exterior Charging Stations at multiple Main Campus locations. First prepare feasibility study, then implement priority locations identified by study.	High	x			4	1	1	1	0	0	0	0	1	N/A	N/A	N/A	N/A	Varies, \$100,000 to \$250,000 per location
8	Infrastructure Improvements	Pathway	Central Campus	Path Construction, Central Ave and Buena Vista Dr (south terminus) to the Duck Pond (north terminus): Delineated path and non-signalized road crossing enhancement.	High	x			5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 400,000
9	Infrastructure Improvements	Intersection Enhancement - Non-signalized	Central Campus	Non-Signalized Intersection Enhancements at Yale Blvd and Redondo Dr: safe pedestrian and MMV enhancements.	High	x			5	1	1	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 215,000
10	Administrative (General Recommendations)	Education/Outreach	Central, North, and South Campus	Create Safe Mobility Officer Position and Safe Mobility Advisory Committee	High	x			3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	0	1	\$ -
11	Infrastructure Improvements	Safety Measures	Central Campus	Establish Dismount Zone at Smith Plaza and Duck Pond, Speed Limit Zone at Yale Mall and Shared Pathway between Woodward and Popejoy.	High	x			6	1	1	1	1	0	1	0	1	N/A	N/A	N/A	N/A	\$ 30,000
12	Infrastructure Improvements	Access Controls	Central + North Campus	Install Access Controls at multiple Central Campus Locations to protect MMVs and Pedestrians from automobiles. Priority locations as identified on the "High Priority Projects Map" and "Proposed Access Control Map." (4 total locations)	High	x			6	1	1	1	0	0	1	1	1	N/A	N/A	N/A	N/A	\$ 30,000

RECOMMENDATIONS & STRATEGIES TOOLKIT

Infrastructure Improvements

a. Pathway Designations - Roadway Paths

For the purposes of this plan, roadway paths are facilities that accommodate bikes and other MMVs within the roadway profile adjacent to automobile traffic. Pedestrians are accommodated separately on adjacent sidewalks. For all roadway changes, input will be sought from the surrounding neighborhoods and landowners around campus.

- i. **Bike Boulevard:** The location of proposed bike boulevards leading to and through Central Campus are aligned with the City of Albuquerque's Bikeway and Trail Facilities Map. These roadways prioritize bikes and other MMVs while managing automobiles with traffic calming measures like reduced speed limits, speed bumps, chicanes, narrowed lanes, and bulb-outs.
 - One proposed location for a bike boulevard facility on North Campus is Tucker Ave, from Stanford to the North Diversion Channel multi-use trail.
- ii. **Standard Bike Lanes:** Standard Bike lanes, where a designated portion on the right side of the roadway is marked for the exclusive use of bikes and other MMVs, is proposed where roadway widths are limited and do not accommodate the additional protections of a buffer or physical separation. The location of proposed standard bike lanes leading to and through Central Campus are aligned with the City of Albuquerque's Bikeway and Trail Facilities Map.
 - One proposed location for a standard bike lane facility on Central Campus is Yale Blvd from Las Lomas Rd to Lomas Blvd. In this location, the adjacent pedestrian path is proposed for enhancements to make this important corridor more accommodating for all active transportation users.

iii. **Buffered Bike Lane:** Buffered bike lanes, where a designated portion on the right side of the roadway is marked for the exclusive use of bikes and other MMVs and includes a painted buffer to visually separate MMVs from automobiles and parked cars. These facilities are proposed where roadway widths are limited and do not accommodate the additional protection of physical separation. The location of proposed buffered bike lanes leading to and through Central Campus are aligned with the City of Albuquerque's Bikeway and Trail Facilities Map.

- One proposed location for a buffered bike lane facility on North Campus is Yale Blvd from Lomas Blvd to Tucker Ave. In this location, the adjacent pedestrian paths are proposed for enhancements to make this important corridor more accommodating for all active transportation users.

iv. **Separated Bike Lane:** Separated bike lanes, where a designated portion on the right side of the roadway is set aside for the exclusive use of bikes and other MMVs and includes a physical barrier separate them from automobiles and parked cars. These facilities are proposed where roadway widths are wide enough to accommodate the additional protection of physical separation. Physical separation can include raised curbs, paved medians, raised planters, and at-grade or sunken planting strips which can capture stormwater. The location of proposed separated bike lanes leading to and through Main Campus are aligned with the City of Albuquerque's Bikeway and Trail Facilities Map.

- One proposed location for a separated bike lane facility on Central Campus is University Blvd from Lomas Blvd to Central Ave. In this location, the adjacent pedestrian paths are proposed for enhancements to make this important corridor more accommodating for all active transportation users.

v. **Cycle Track (Bi-Directional Separated Bike Lane):** Cycle tracks are like separated bike lanes, but they are bi-directional where both directions are accommodated on one side of the roadway. They are for the exclusive use of bikes and other MMVs and include a physical barrier to separate them from automobiles and parked cars. These facilities are proposed where roadway widths are wide enough to accommodate the additional protection of physical separation, where it is more convenient and efficient to have both directions of MMVs on one side of the roadway, and where conflicts with intersections are limited. Physical separation can include raised curbs, paved medians, raised planters, and at-grade or sunken planting strips which can capture stormwater.

- One proposed location for a cycle track facility on Central Campus is Redondo Dr from Redondo Cir to Dr Martin Luther King Jr Blvd. In this location, Redondo accommodates limited automobile traffic in the form of shuttle buses and service vehicles in a one-way clockwise circulation pattern. A cycle track will allow MMVs to travel both ways while being separated from automobiles and pedestrians. The adjacent pedestrian paths are proposed for enhancements to make this important corridor more accommodating for all active transportation users.

vi. **Shared Street:** In a shared street facility, bikes and other MMVs share the entire roadway with automobiles. They are different from a bike boulevard in that all modes are accommodated equally, rather than prioritizing active transportation. These facilities are proposed where roadway widths are limited and do not accommodate the additional protections of a buffer or physical separation and where automobile volumes may be higher than a bike boulevard. The location of proposed shared roadways leading to and through Main Campus are aligned with the City of Albuquerque's Bikeway and Trail Facilities Map.

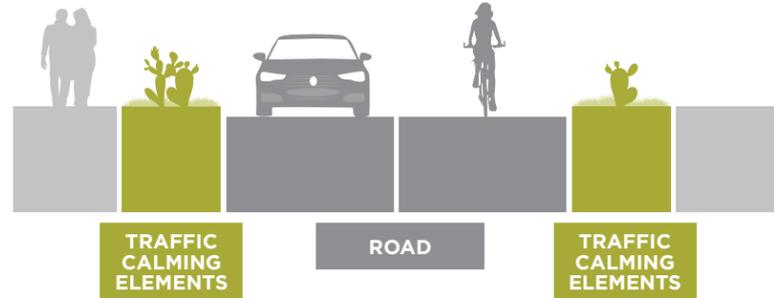
- One proposed location for a shared roadway on North Campus is Vassar Dr from Lomas Blvd to Marble Ave. In this location, the adjacent pedestrian path is proposed for enhancements to make this important corridor more accommodating for all active transportation users.

PATHWAY DESIGNATIONS - ROADWAY PATHS

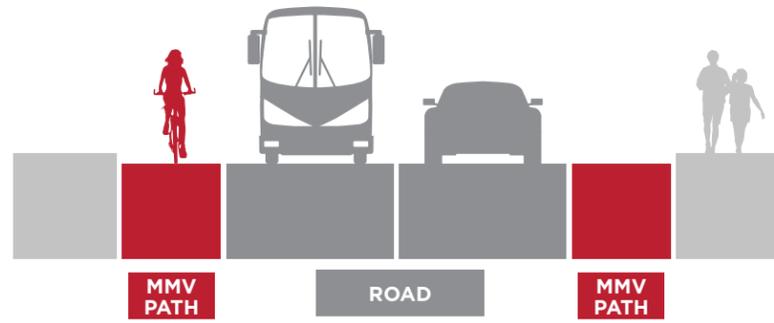
The following sections show mobility conflict mitigation strategies specifically around roadway path delineation.

- KEY DESIGN CONSIDERATIONS**
- Be aware of space limitations (ROW width, fire and service lanes, existing obstructions)
 - General conflicts with pedestrians, particularly at path crossings
 - Path delineation could create more conflicts with more users
 - Delineated lanes may encourage excessive speed unless controls are implemented
 - Continuity and efficiency may be hard to achieve in the campus core and in dense areas without major upgrades. Refer to Precedent Graphics on the following pages.
 - Cost

Bike Boulevard

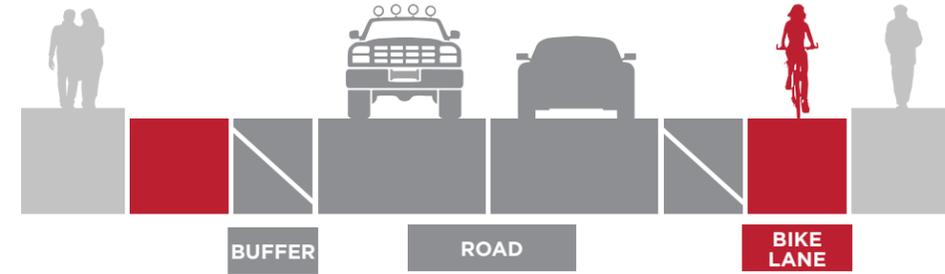


Standard Bike Lanes

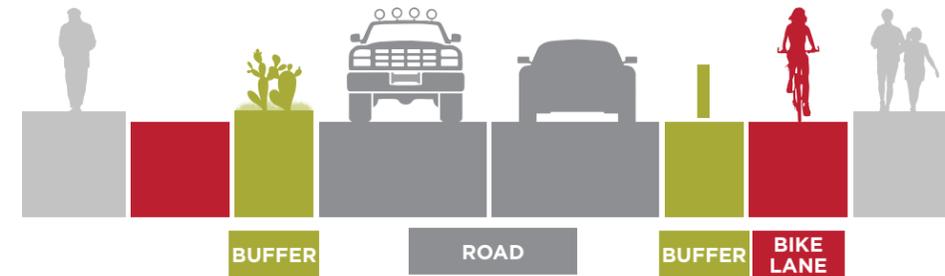


PATHWAY DESIGNATIONS - ROADWAY PATHS

Buffered Bike Lane



Separated Bike Lane



Cycle Track (Bi-Directional Separated Bike Lane)



Shared Street

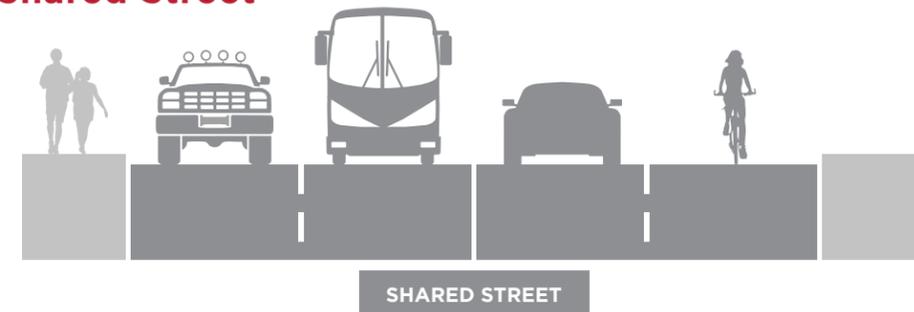


Figure 96. Roadway Cycle Track



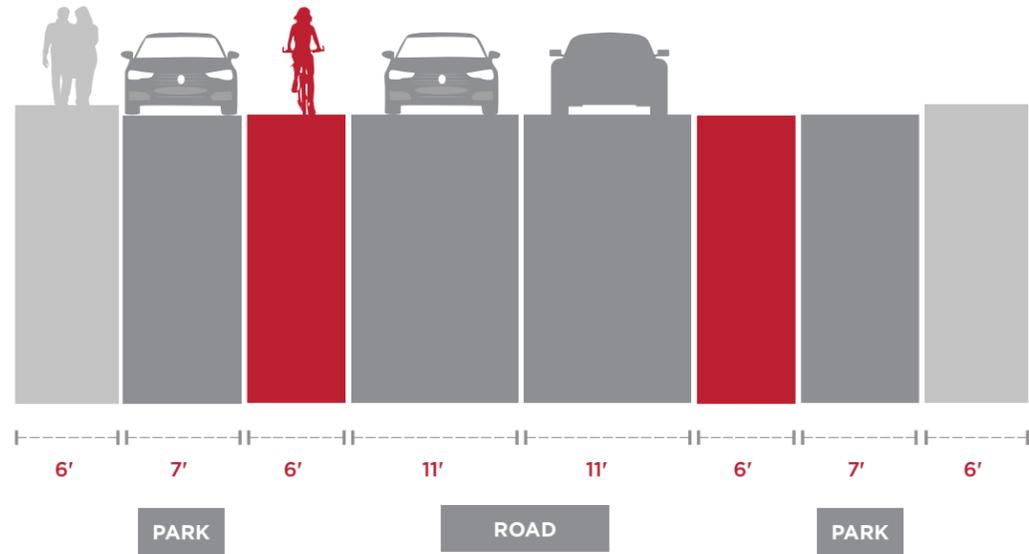
Figure 97. Roadway Cycle Track with GSI buffer



Figure 98. Non-Roadway Cycle Track

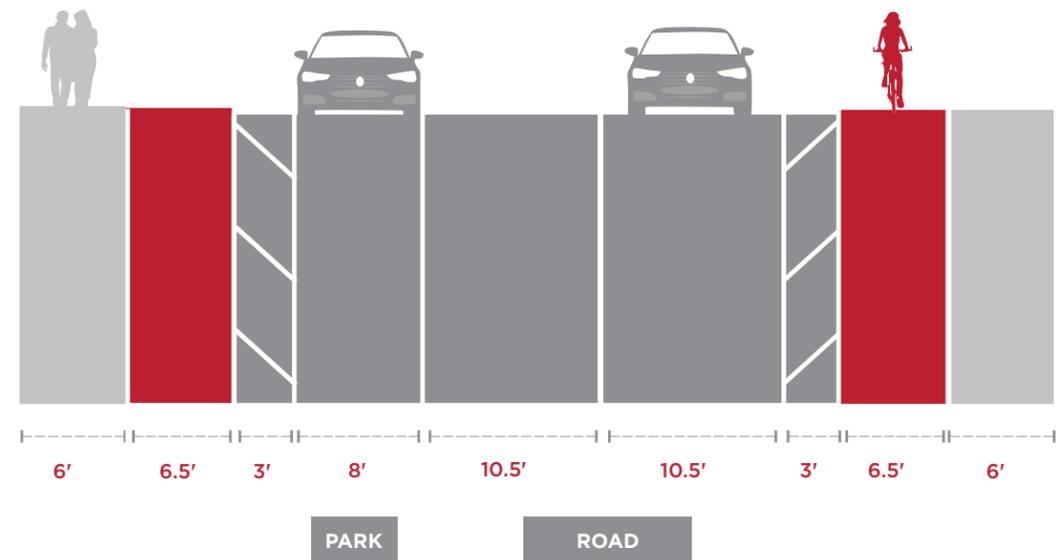
AASHTO DESIGN STRATEGIES FOR PATHWAY DELINEATION

Conventional Bike Lane

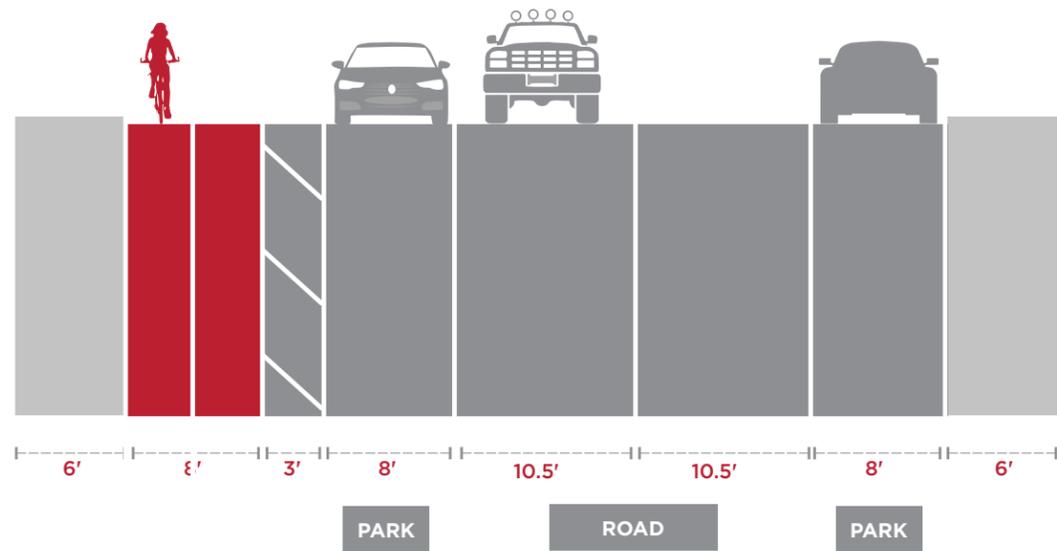


AASHTO DESIGN STRATEGIES FOR PATHWAY DELINEATION

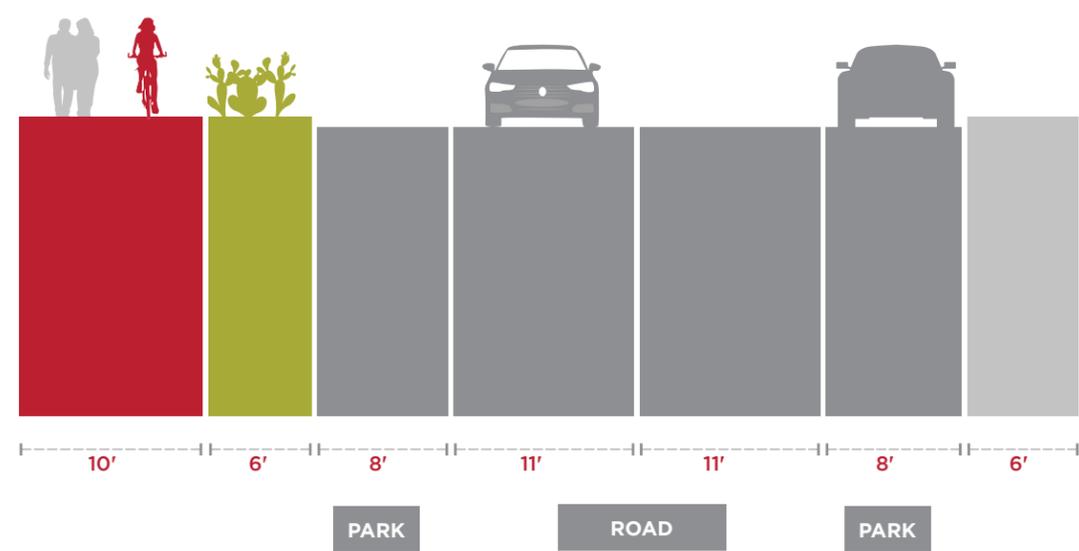
Uni-Directional Separated Bike Lane



Bi-Directional Separated Bike Lane

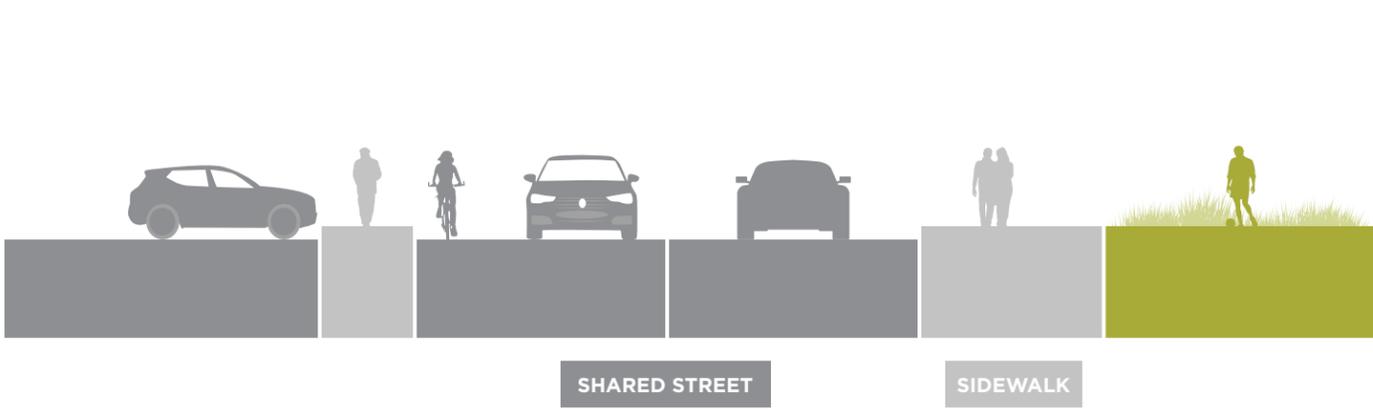
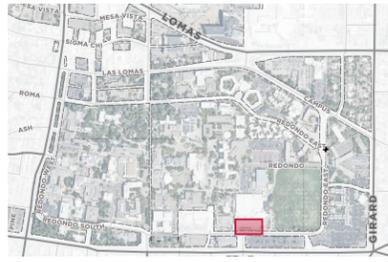


Sidepath



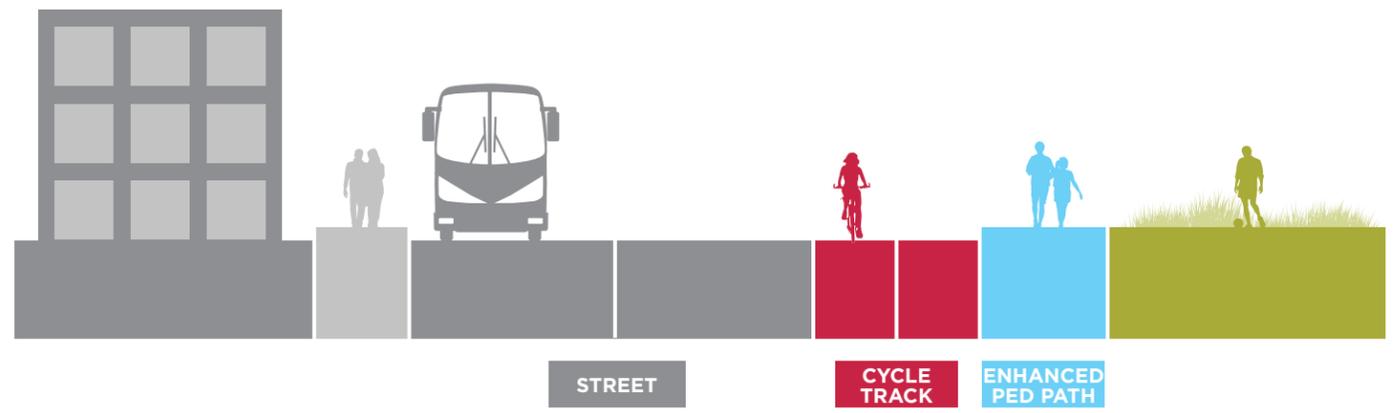
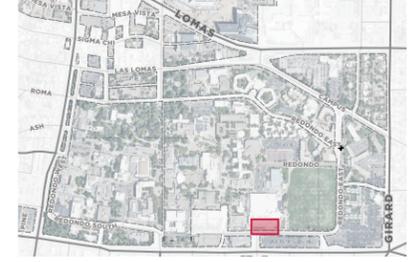
Existing Conditions

Redondo Drive - Existing Roadway Path

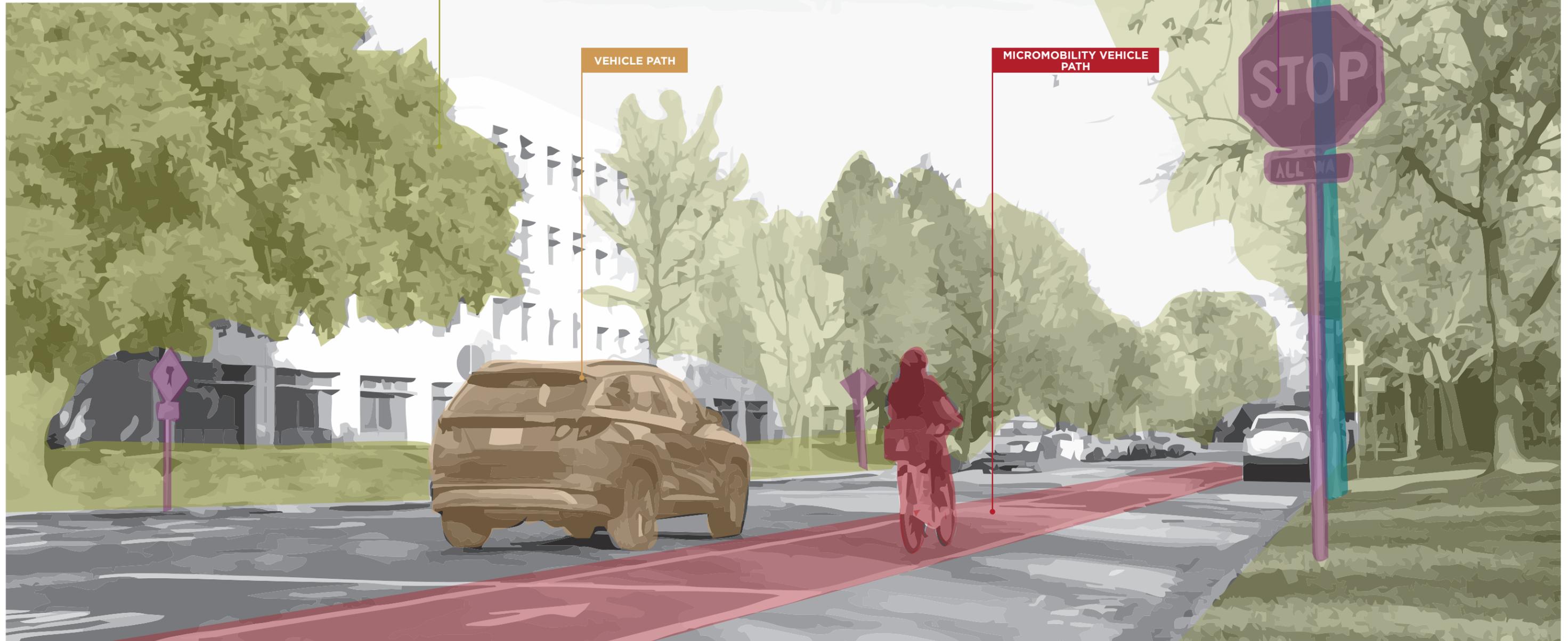


Proposed Treatment

Redondo Drive - Proposed Roadway Path



ROADWAY PATHWAY DELINEATION ELEMENTS



b. Pathway Designations - Non-Roadway Paths

For the purposes of this plan, non-roadway paths are facilities that accommodate MMVs and pedestrians with only occasional automobile access by service and emergency vehicles.

- i. Delineated Paths:** Delineated paths separate MMVs from pedestrians with striping, surface treatments, or physical barriers like raised curbs, raised planters, and at-grade or sunken planting strips which can capture stormwater. Delineated paths typically accommodate bi-directional MMV traffic on one side of the path and pedestrian traffic on the other. Delineated paths are proposed along primary north-south and east-west mobility corridors where there is sufficient space. A typical minimum width of ten feet is recommended to safely accommodate a bi-directional MMV lane.
 - One proposed location for a north-south delineated path on Central Campus is through the Cornell Mall, from Redondo Dr to Roma Way.
- ii. Shared Path:** Shared paths are bidirectional facilities where MMVs and pedestrians share the entire path width without any separation of space or directional designation. There are no dimensional requirements. These facilities are proposed where path widths are limited and where significant cross traffic exists.
 - Shared paths are the unstructured use of space that is the most common existing path type on campus. Examples of shared paths include malls such as Cornell Mall and Yale Mall, and Roma Way between Redondo and Zimmerman.
 - One proposed location for a north-south shared path on Central Campus is between Campus Blvd and Lomas Blvd, in the corridor east of the Information Technologies Building.

iii. Multi-Use Trail: Similar to shared paths, multi-use trails combine MMVs and pedestrians into a bi-directional facility that often includes a center lane for directional designation. AASHTO recommends a minimum width of 10 feet, however for areas with higher anticipated use and speed, or to accommodate a wider range of users, 12 to 14 feet is recommended.

- The one proposed location of a multi-use trail on Main Campus is along the North Diversion Channel, which is aligned with the City of Albuquerque's Bikeway and Trail Facilities Map. It makes important connections to campus from remote parking lots at the far northern end of campus, as well as from the larger community.

iv. Enhanced Pedestrian Way: Enhanced pedestrian ways are pedestrian-only facilities, typically sidewalks adjacent to roadways or designated paths, that are along important mobility corridors that would benefit from increased width and the addition of buffer landscaping, lighting, and other amenities like seating and shade. These facilities should also include enhanced crosswalks at driveways, crossings, and intersections with other paths.

- One proposed location of an enhanced pedestrian way on Central Campus is along Las Lomas Rd, from Yale Blvd to University Blvd.

✓ **ACTION:** Complete further engineering review and planning for all recommended roadway and path improvements recommended by this plan that fall within the limits of UNM's landholdings.

✓ **ACTION:** Coordinate and engage with state and local agencies to align safe mobility improvement efforts for areas outside UNM's property and jurisdiction. Note: The City of Albuquerque (CABQ) 2024 Albuquerque Bikeway and Trail Facilities Plan outlines a recommendation for CABQ to coordinate with UNM on the implementation of enhanced bike facilities within the Main Campus.

- Ensure alignment with their relevant mobility plans and collaborate in identifying priority conflict locations.
- Coordinate bike lanes, crossings, and trail development: Build connections to nearby areas as part of the broader CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan. For example, Buena Vista Dr is recommended as a future Bicycle Blvd south of Central Ave.
- Conduct "Supplemental Safety Planning" to enhance the Action Plan, which could include Complementary Plan Development, Road Safety Audits, Data Collection & Safety Analysis, Roadway Safety Planning, among others.
- Coordinate with APD and UNM Police about traffic enforcement in the vicinity of campus.

✓ **ACTION:** Review federal grant requirements for safe mobility action implementation and seek co-signer agreement from CABQ to address active transportation paths within CABQ ROW.

✓ **ACTION:** Implement phased improvements while focusing on the creation of continuous corridors. Build on existing infrastructure, prioritizing areas where implementation is easiest and most impactful, and plan for more complex areas over time. Refer to the Project Phasing Map of this section.

v. Focus on key campus routes: Prioritize north and south travel routes and areas that connect to North Campus.

vi. Consider long-term development: Align trail delineation with the 2024 Albuquerque Bikeway and Trail Facilities Plan and the campus's long-term mobility goals identified in the ICP. Refer to Project Alignment Map of this section.

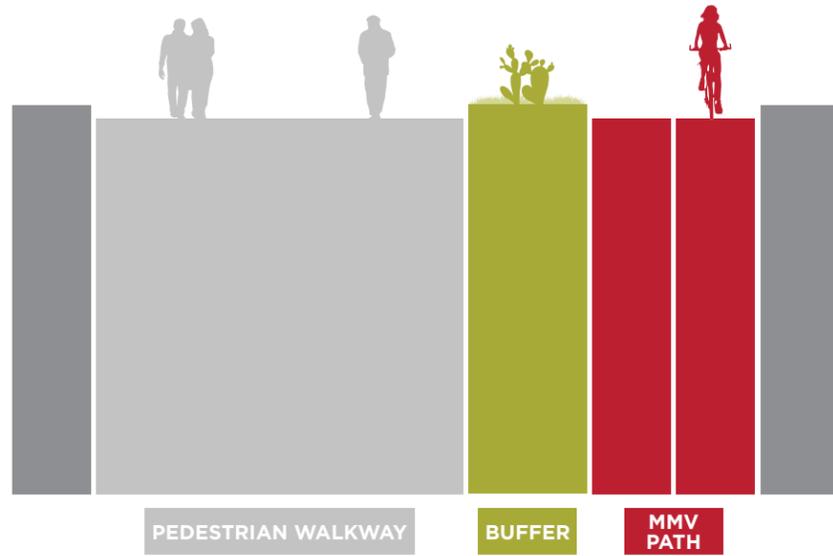
- > Bike Boulevard and Enhanced Bike Route Treatments (CABQ)
- > Stitch to the City Grid (ICP)
- > Promote Safe Streets and Micro-Mobility Connectivity (ICP)
- > Connect Campus Districts (ICP)
- > Establish a Flexible Framework (ICP)

vii. Consider mixed Use development: Proposed roadway restrictions on vehicle traffic significantly impact current mixed use strategies that UNM currently uses to manage competing interests and event traffic flow. Consider investing more heavily in transportation resources and infrastructure to accommodate the roadway changes.

viii. Avoid problematic areas: Ensure paths are only placed in areas conducive to safe delineation. Prioritize areas with a minimum of 10 feet wide for two-way mobility paths. Consider wider route widths with enough space and the least obstructions to accommodate a continuous MMV lane and pedestrian circulation. Consider roadways with enough shoulder and buffer space to accommodate vehicles and MMVs.

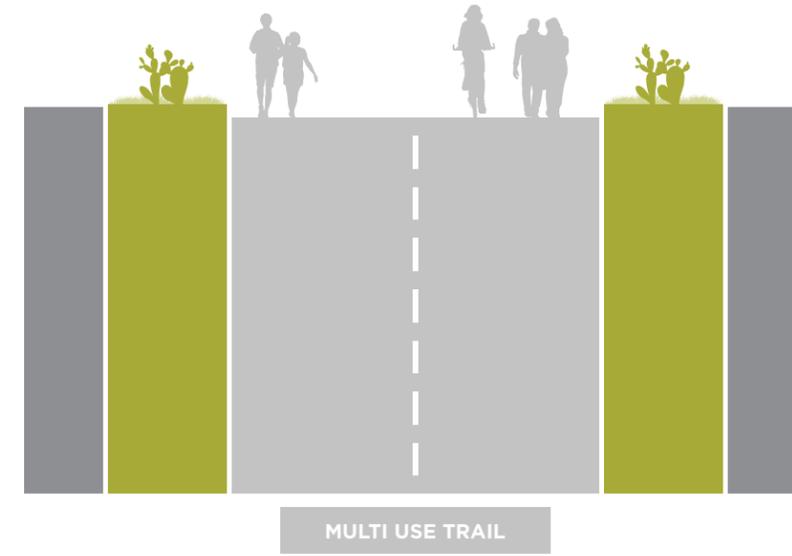
PATHWAY DESIGNATIONS - NON-ROADWAY PATHS

Delineated Paths

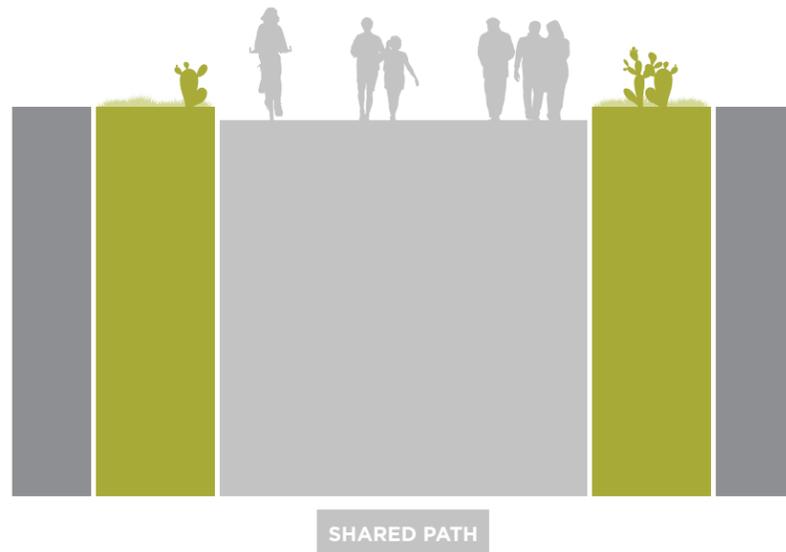


PATHWAY DESIGNATIONS - NON-ROADWAY PATHS

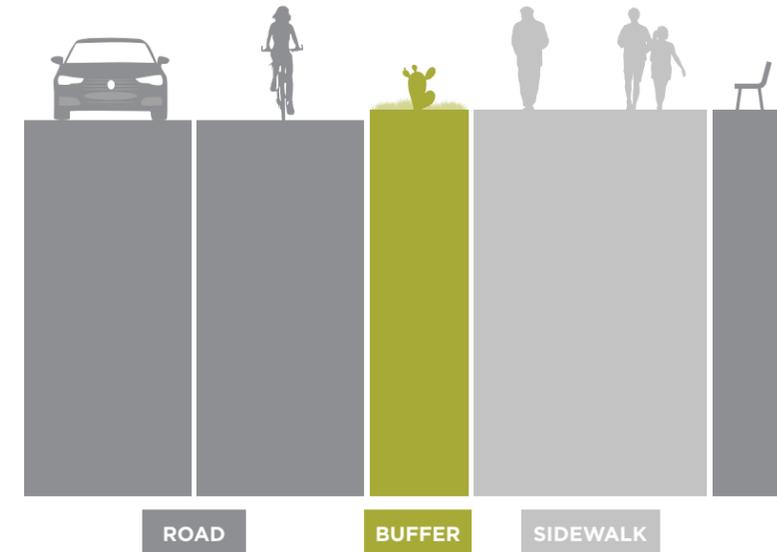
Multi-Use Trail



Shared Path



Enhanced Pedestrian Way



Existing Conditions

Yale Mall - Existing Non-Roadway Path

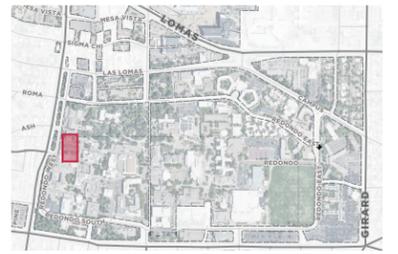


EXISTING PLANTER

PED + MMV

Proposed Treatment

Yale Mall - Proposed Non-Roadway Path



PLANTER BUFFER

MMV PATH

GSI STRIP W/ CROSSING SIGNAGE

PEDESTRIAN WALK

NON-ROADWAY PATHWAY DELINEATION ELEMENTS

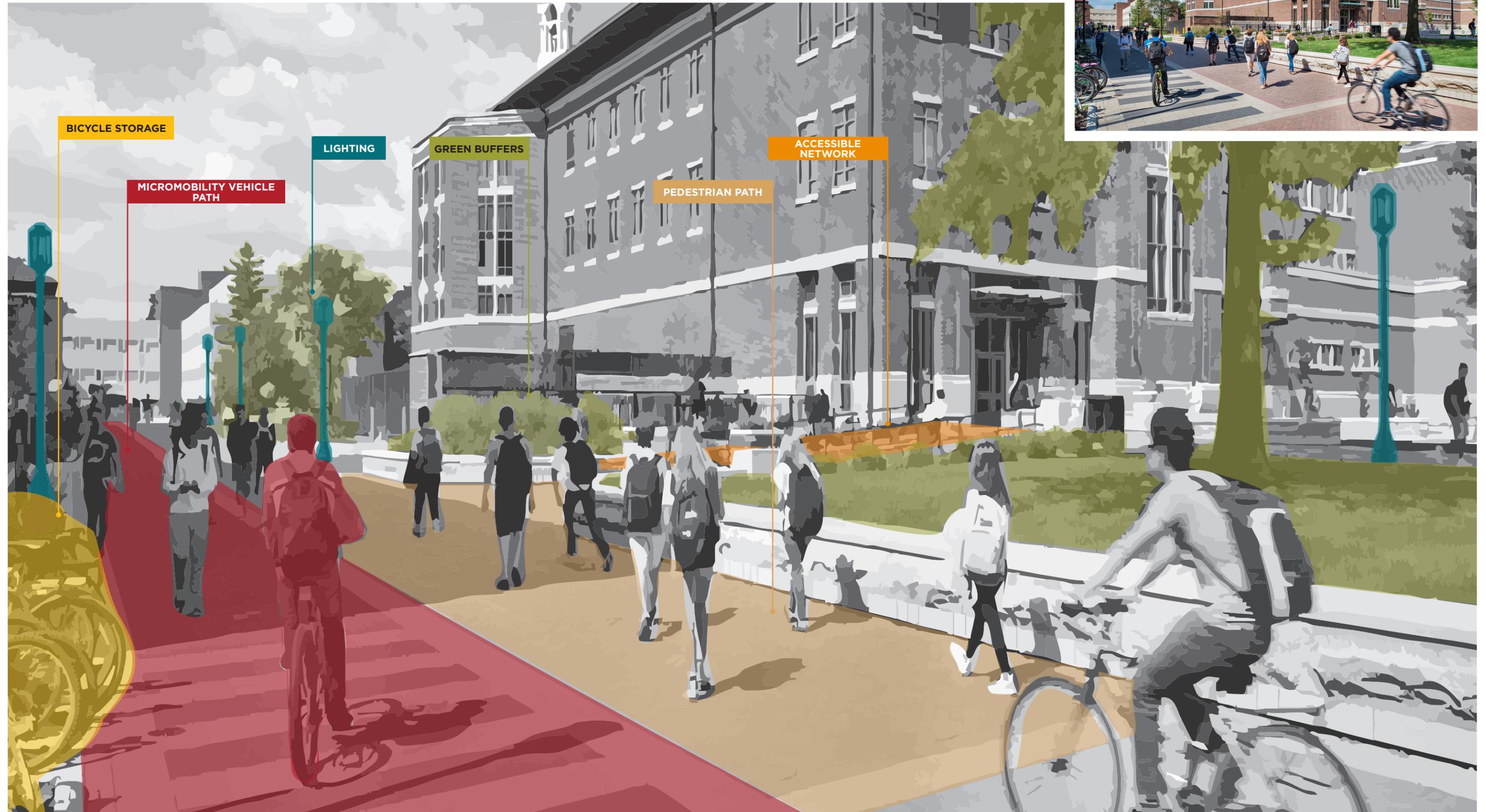
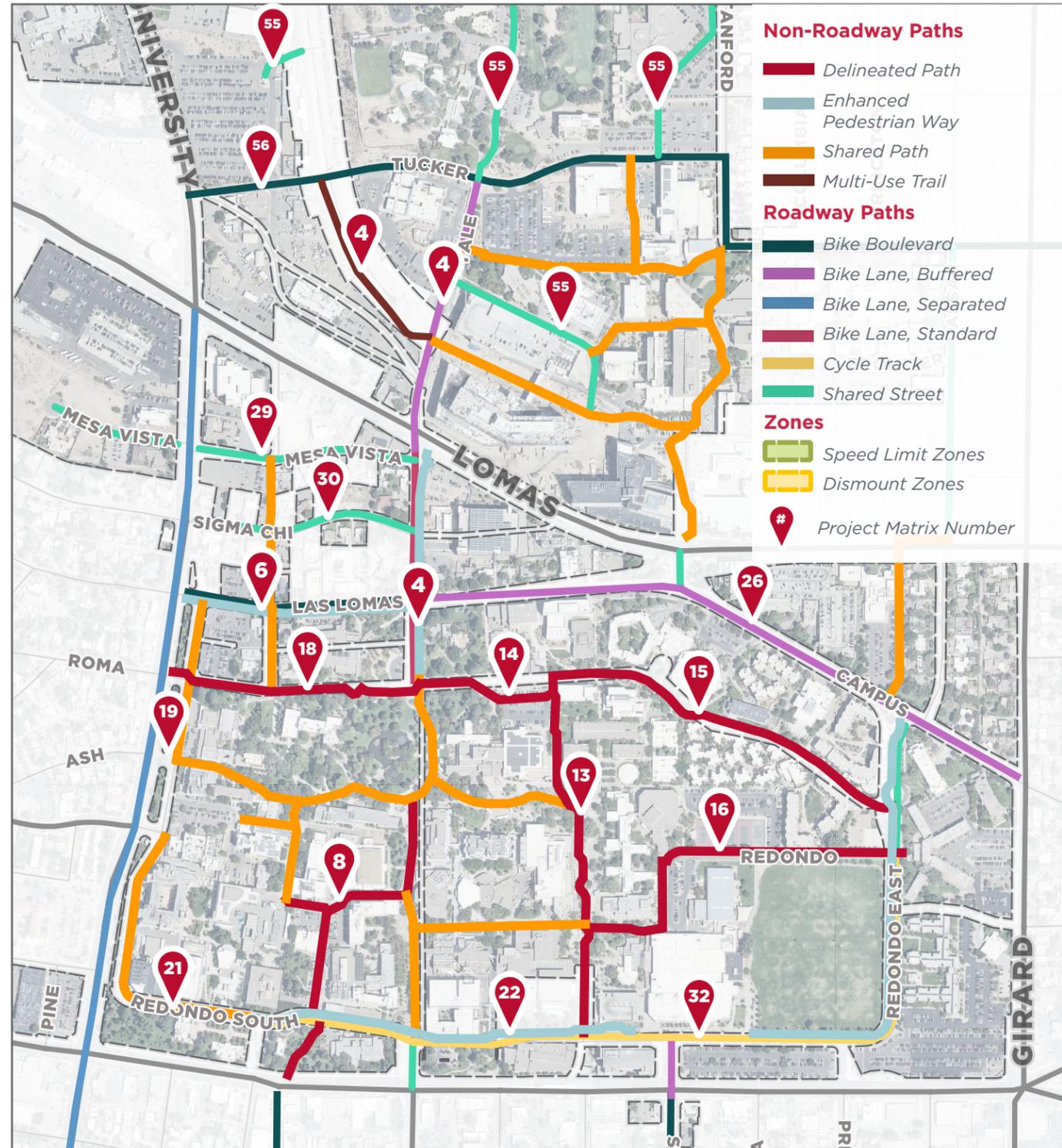


Figure 100. Pathway Definition at Purdue University

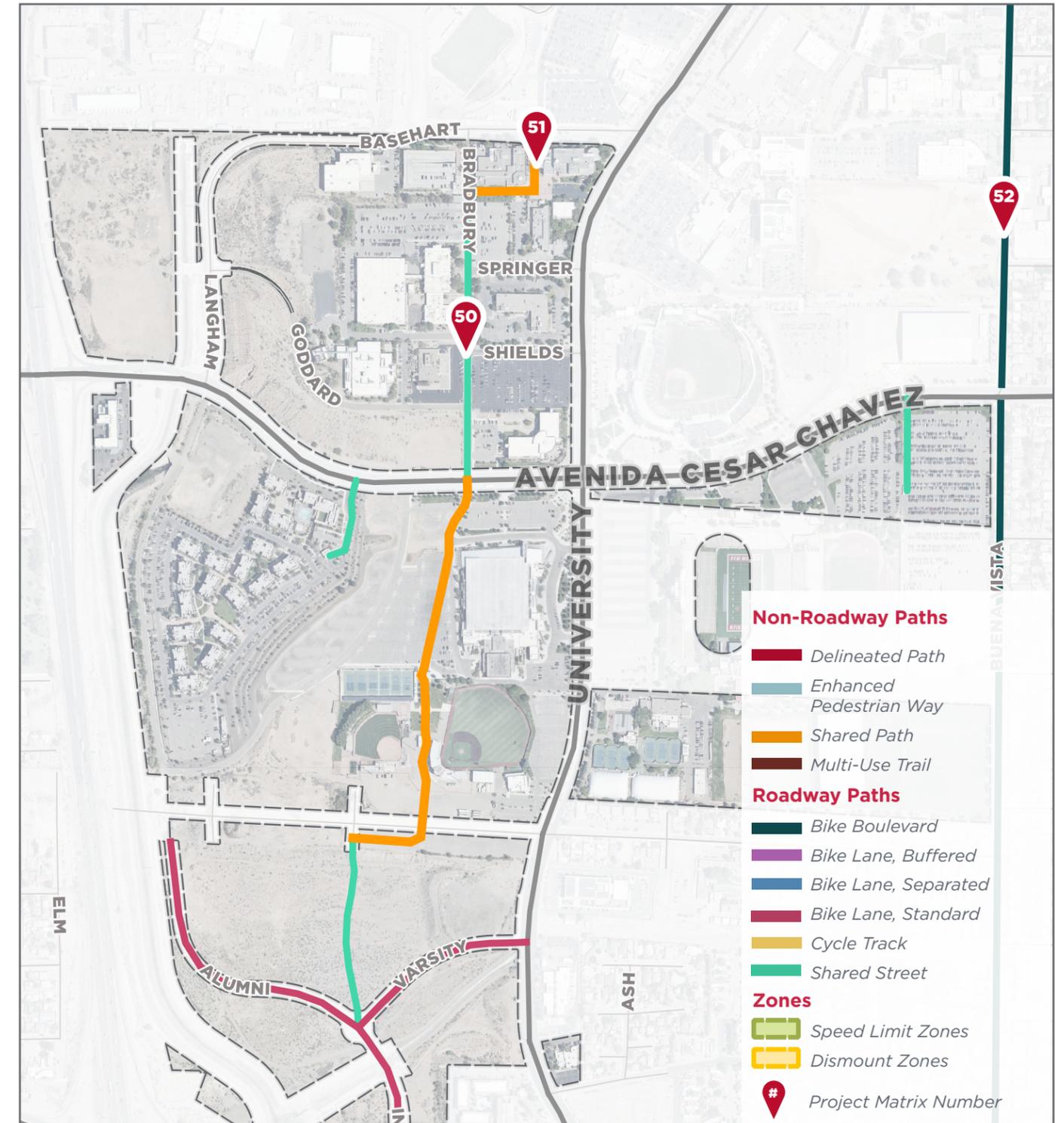
Proposed Pathways Map (Central And North Campus)



Map 29. Proposed Non-Roadway and Roadway Paths Map



Proposed Pathways Map (South Campus)



Map 30. Proposed Non-Roadway and Roadway Paths Map

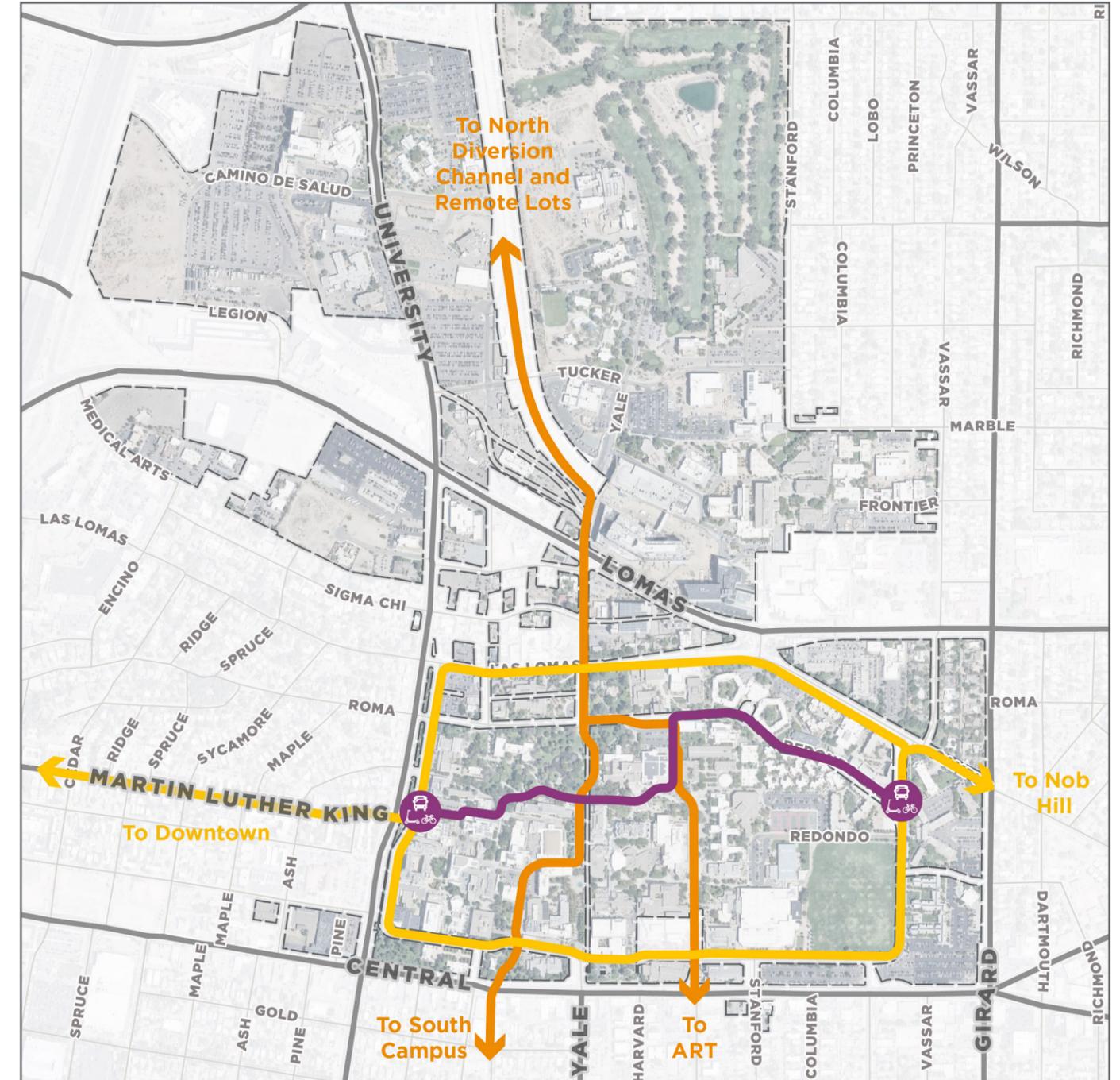


c. Continuous Corridors

- i. Implement a combination of infrastructure types to create continuous mobility corridors that link key destinations with minimal disruptions to travel. When path segments are linked together and strategically located to connect between important campus spaces and destinations, they encourage regular use of active transportation due to their efficiency, convenience, safety, and comfort for the pedestrian and MMV operator.
- ii. An example of one continuous north-south mobility corridor on Main Campus is from the South Campus commuter lot mobility hub located at Avenida Cesar Chavez and Buena Vista Dr, to Zimmerman Library in the heart of Central Campus. This corridor includes several mobility infrastructure types, including new signalized crossings, a bike boulevard proposed by the Albuquerque Bikeway and Trail Facilities Plan, delineated paths, and shared paths in a dismount zone.

- ✔ **ACTION:** Establish continuous corridors for MMVs through Central Campus connecting mobility hubs and Girard Blvd to Dr Martin Luther King Jr Ave and Lomas Blvd to Central Ave.
- ✔ **ACTION:** Establish a continuous corridor for MMVs connecting North and Central Campus that would exist just on Central Campus for MMVs.
- ✔ **ACTION:** Establish a continuous corridor for MMVs connecting Central and South Campus from Central Ave to Avenida Cesar Chavez.
- ✔ **ACTION:** Establish continuous corridors for MMVs in South Campus connecting the Science & Technology Park to future Lobo Crossing developments and connecting student housing to the University Stadium.
- ✔ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus infrastructure locations and associated costs, which are prioritized to implement a combination of improvements that will create complete continuous corridors from key destinations.

CONTINUOUS CORRIDORS



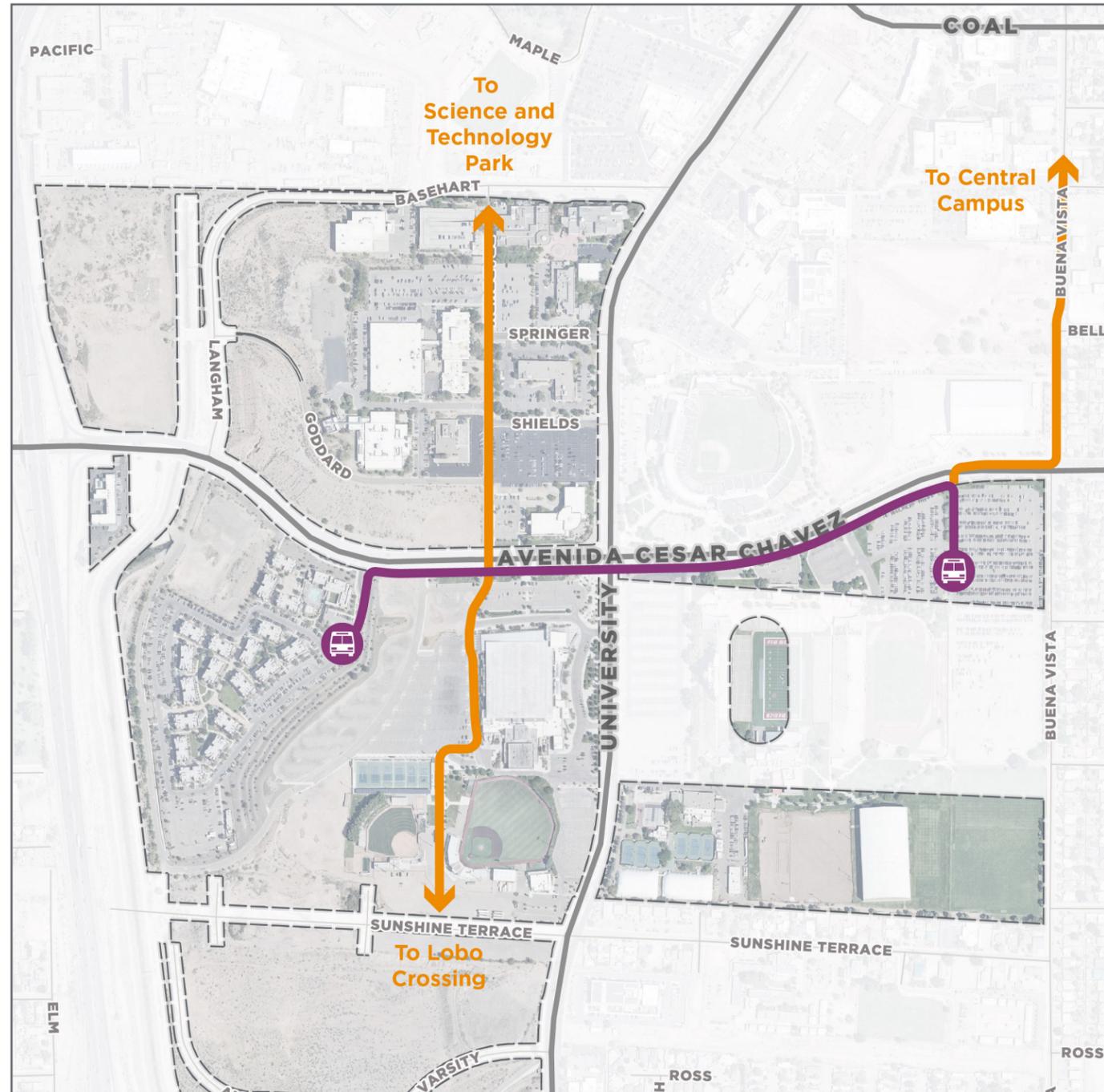
LEGEND

- Mobility Hub
- Primary East-West Corridor
- Primary North-South Corridor
- Primary Perimeter Corridor

Map 31. North and Central Campus Continuous Corridors



CONTINUOUS CORRIDORS



- LEGEND**
- Shuttle Stop
 - Primary East-West Corridor
 - Primary North-South Corridor

Map 32. South Campus Continuous Corridors



Intersections & Crossings

Intersections and roadway crossings internal to campus and at the campus edges are the most commonly cited points of conflict between pedestrians and MMVs with automobiles. These conflicts represent a significant impediment to increased active transportation and safety. Addressing these and other conflicts within UNM’s landholdings can be accomplished with few roadblocks and they are prioritized in the recommendations of this plan. Intersection and crossing improvements within the public right of way on roads that are not owned by UNM will require collaboration and coordination with the state and local agencies that manage them. These facilities outside UNM’s direct purview are not under the scope of this Safe Mobility Action Plan. However, stakeholder engagement has clearly identified significant conflicts and areas of concern particularly at crossings into campus. Future collaborative planning efforts to address these conflict areas should consider regular movements between UNM’s North, Central, and South campuses and with partner institutions such as Central New Mexico Community College (CNM).

a. Enhanced Non-Signalized Intersections and Crossings

Where active transportation users interact with automobiles at intersections without signals, improvements should be made to prioritize the non-automobile modes. This includes incorporating high-visibility crosswalk striping and signage, reducing vehicle speeds, narrowing drive lanes to minimize crossing distances while also increasing the width of sidewalks and bike facilities, incorporating raised medians as pedestrian refuge spaces, and maintaining clear sight lines for all users. In some cases, raising the entire intersection or crosswalk to the sidewalk level should be considered as a way of making pedestrians and MMVs more visible to motorists, encouraging automobiles to slow down as they approach the raised area, and creating a more pedestrian friendly and attractive campus environment.

- i. An example of proposed enhancements to a non-signalized intersection on Central Campus is the intersection of Yale Blvd and Las Lomas. Refer to the Priority Matrix for an inventory of all proposed Main Campus

intersection improvements, including locations within UNM’s landholdings and within the control of state and local agencies.

b. Enhanced Signalized Intersections and Crossings

Most signalized intersections will benefit from the same enhancements identified for non-signalized intersections. In addition, the incorporation of leading pedestrian intervals (LPIs), which allow pedestrians to cross a few seconds before vehicles get a green light should be considered.

- i. An example of proposed enhancements to a signalized intersection is the intersection of Lomas Blvd and Yale Blvd. Refer to Priority Matrix for an inventory of all proposed signalized intersection improvements, all of which are located within state and local facilities.

c. New Crossings

This plan recommends the addition of new signalized and non-signalized crossings at key uncontrolled entry points to Central Campus from the surrounding neighborhoods. Uncontrolled crossings are those where no traffic control (i.e. traffic signal or stop sign) is present. In most cases, these are locations that active transportation users currently cross roadways mid-block with minimal crossing accommodations and where their addition will increase safety and active transportation use.

d. Reduction of Crossings

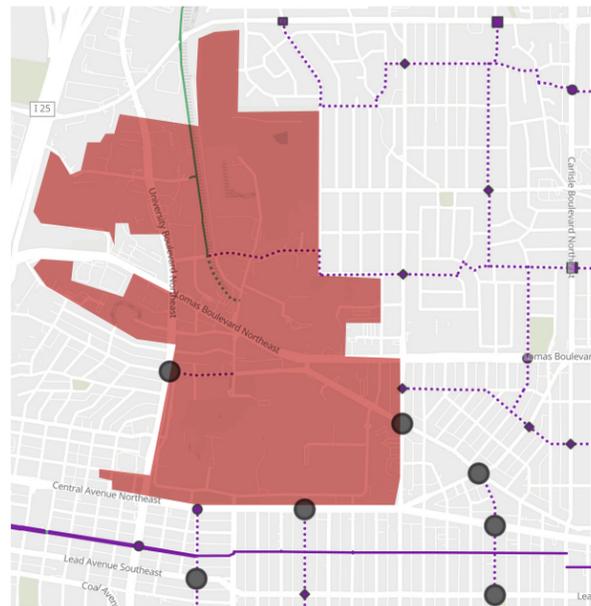
- i. Via road closures or access changes: The ICP recommends the closure of numerous roadways on Central Campus to regular access by private automobiles. While some roads will continue to allow regular access to campus shuttles and others will continue to allow occasional access to service and emergency vehicles, these closures will significantly reduce the instances of conflicts between these modes.

- ii. Via physical barriers and fences: Install median fencing to control or limit the location where pedestrians and MMVs cross roadways. See Physical Barriers & Controls.
- iii. Via removal of redundant crosswalks: While having roadway crossings at every primary pedestrian path prioritizes the convenience of pedestrians and can slow motorist speeds, it increases the number of potential conflict points and maintenance requirements. Existing crossings should be consolidated where they are in close proximity and can be combined without significant impact to the convenience of active transportation users.

- Coordinate with APD and UNM Police about traffic enforcement in the vicinity of campus.
- ✓ ACTION: Review federal grant requirements for safe mobility action implementation and seek co-signer agreement from CABQ to address crossing areas within CABQ ROW. Recommend applying for additional grants with ROW agencies including NMDOT at crossings and intersections.
- ✓ ACTION: Improve visibility and safety of crossings on Central Ave, Lomas Blvd, Girard Blvd, and University Blvd. Add more signage at priority crossings that promote the visibility and safety of active transportation users. Recommend following ASHTO and MUTCD signage placement standards.
- ✓ ACTION: Recognizing that many UNM students and staff also attend or teach at CNM, coordinate with CNM and identify ways to align mobility efforts related to active transportation, parking, and shuttle and transit services.

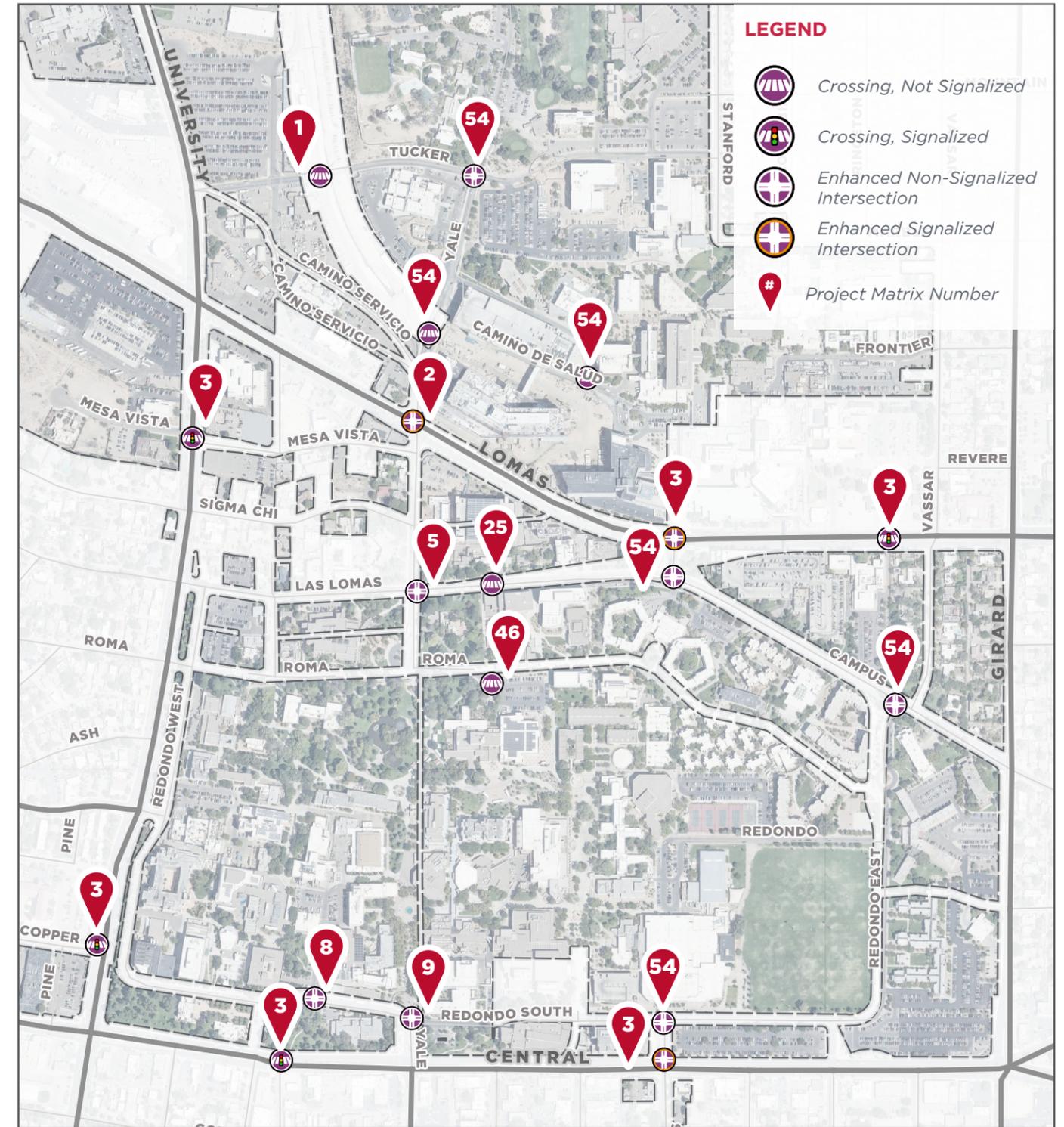
- ✓ ACTION: Complete further engineering review planning for all recommended intersection and crossing enhancements or additions recommended by this plan that fall within the limits of UNM's landholdings.
- ✓ ACTION: Coordinate and engage with state and local agencies to align safe mobility improvement efforts for areas outside UNM's property and jurisdiction. Note: The City of Albuquerque (CABQ) 2024 Albuquerque Bikeway and Trail Facilities Plan outlines a recommendation for CABQ to coordinate with UNM on the implementation of enhanced bike facilities within the Main Campus.

- Ensure alignment with their relevant mobility plans and collaborate in identifying priority conflict locations.
- Coordinate bike lanes, crossings, and trail development: Build connections to nearby areas as part of the broader CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan. For example, Buena Vista Dr is recommended as a future Bicycle Blvd south of Central Ave.
- Conduct "Supplemental Safety Planning" to enhance the Action Plan, which could include Complementary Plan Development, Road Safety Audits, Data Collection & Safety Analysis, Roadway Safety Planning, among others.



CABQ recommends enhanced crossings on the perimeter of UNM campus. (Source: CABQ 2024 Albuquerque Bikeway and Trail Facilities Plan)

Proposed Crossings & Intersections (Central And North Campus)



Map 33. Proposed Crossings & Intersections Map



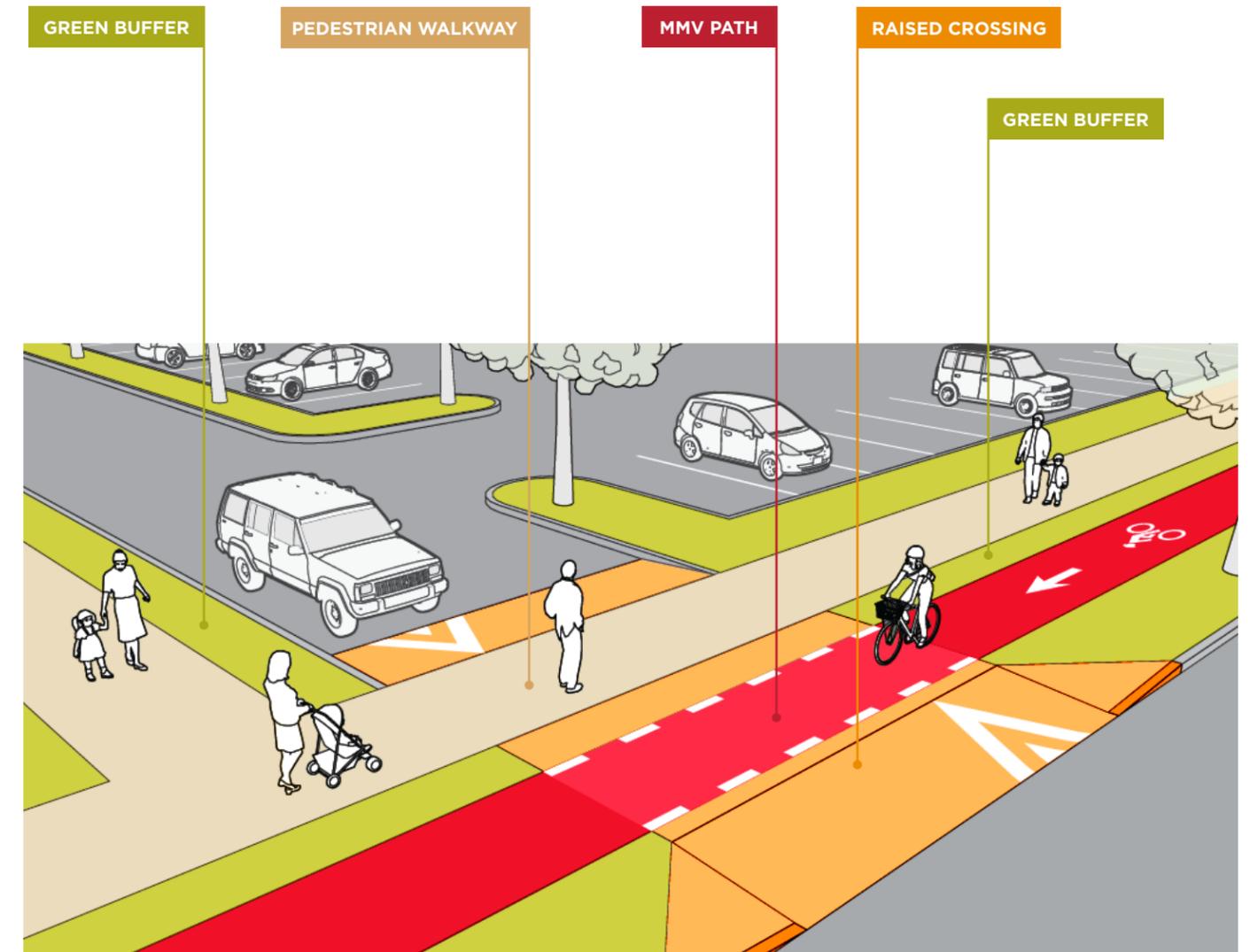
Proposed Crossings & Intersections (South Campus)



Map 34. Proposed Crossings & Intersections Map

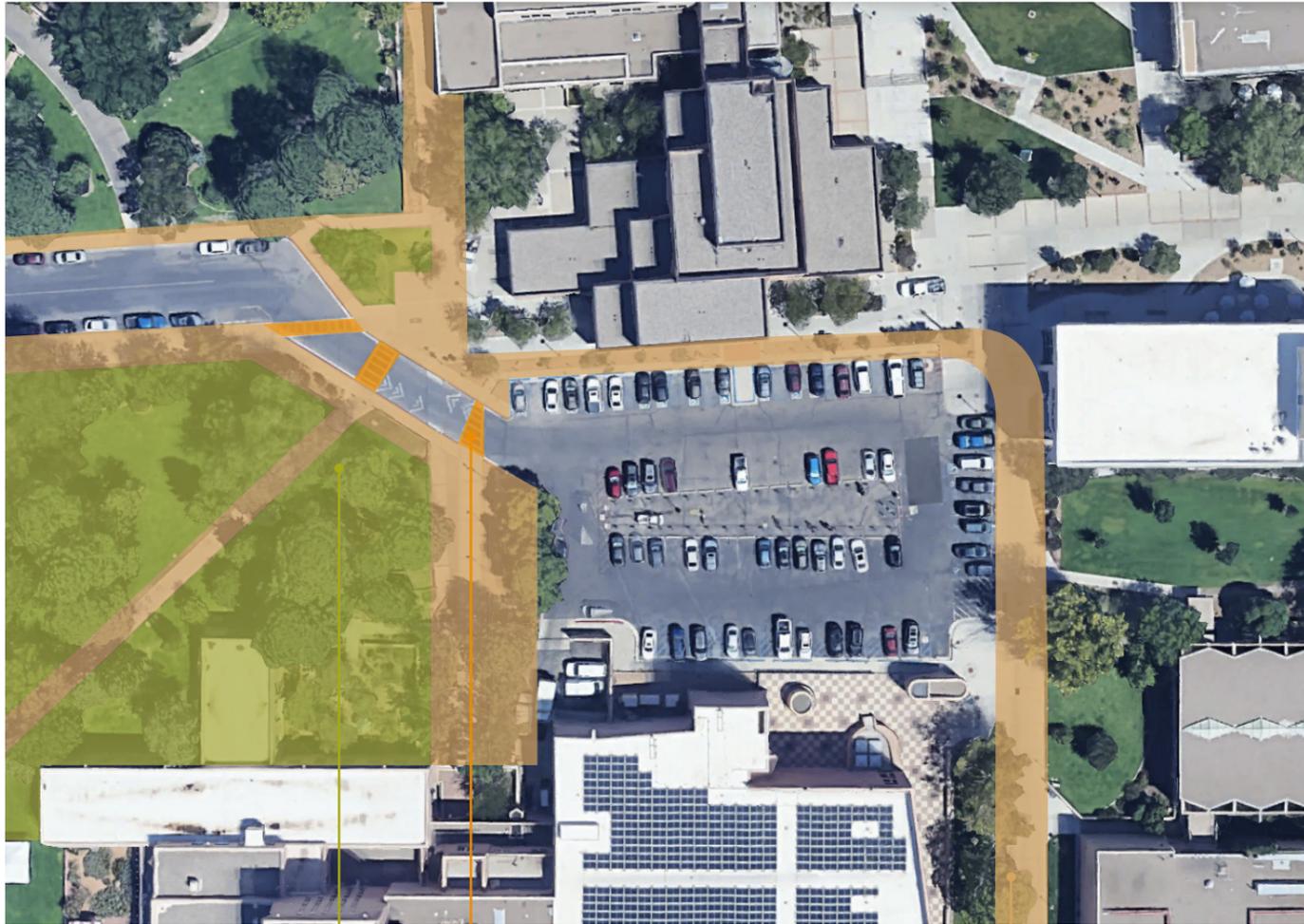
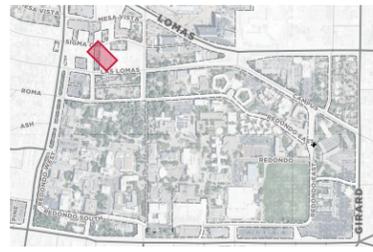


ENHANCED NON-SIGNALIZED RAISED CROSSING ELEMENTS



Existing Conditions

Roma Ave - Existing Crossings



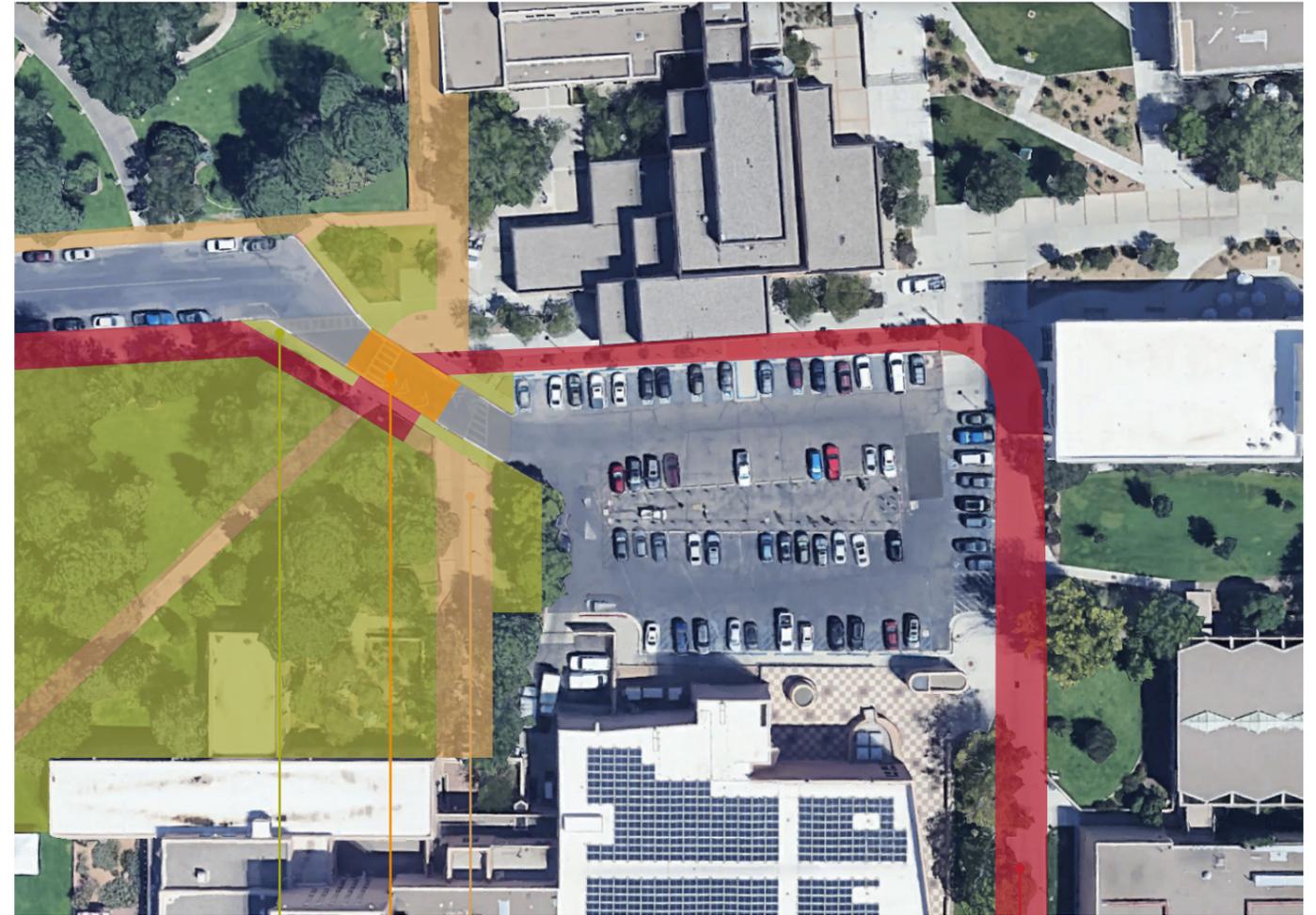
LANDSCAPE

MULTI STREET LEVEL CROSSINGS

PEDESTRIAN WALKWAY

Proposed Treatment

Roma Ave - Proposed Raised Crossings



GREEN BUFFER

CONSOLIDATED RAISED CROSSING

PEDESTRIAN WALKWAY

MMV PATH

NON-SIGNALIZED INTERSECTION ELEMENTS

SIGNALIZED CROSSING ELEMENTS

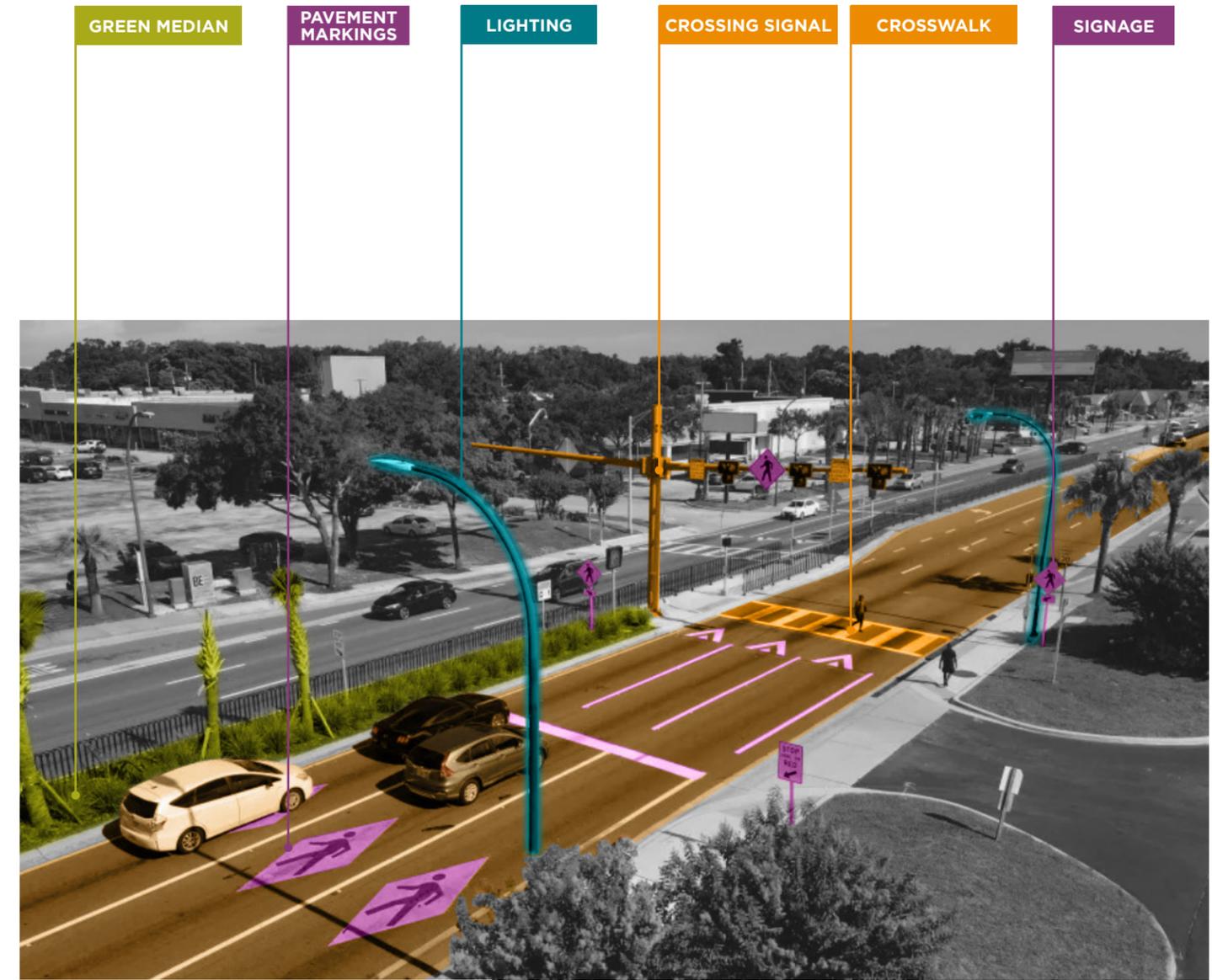
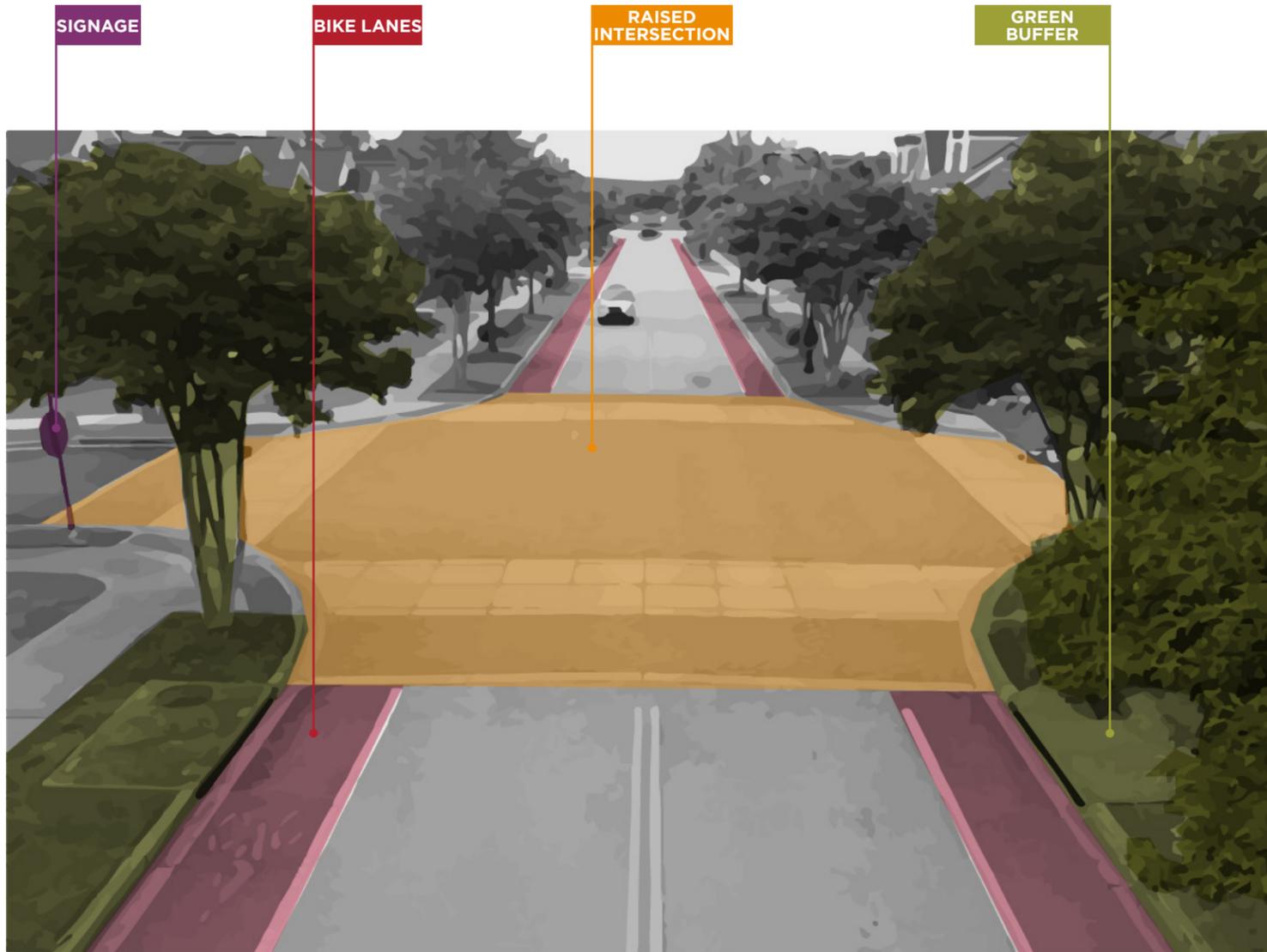


Figure 101. Raised Intersection Treatment



Figure 102. Midblock Crosswalk in Orlando, Florida

Access Control

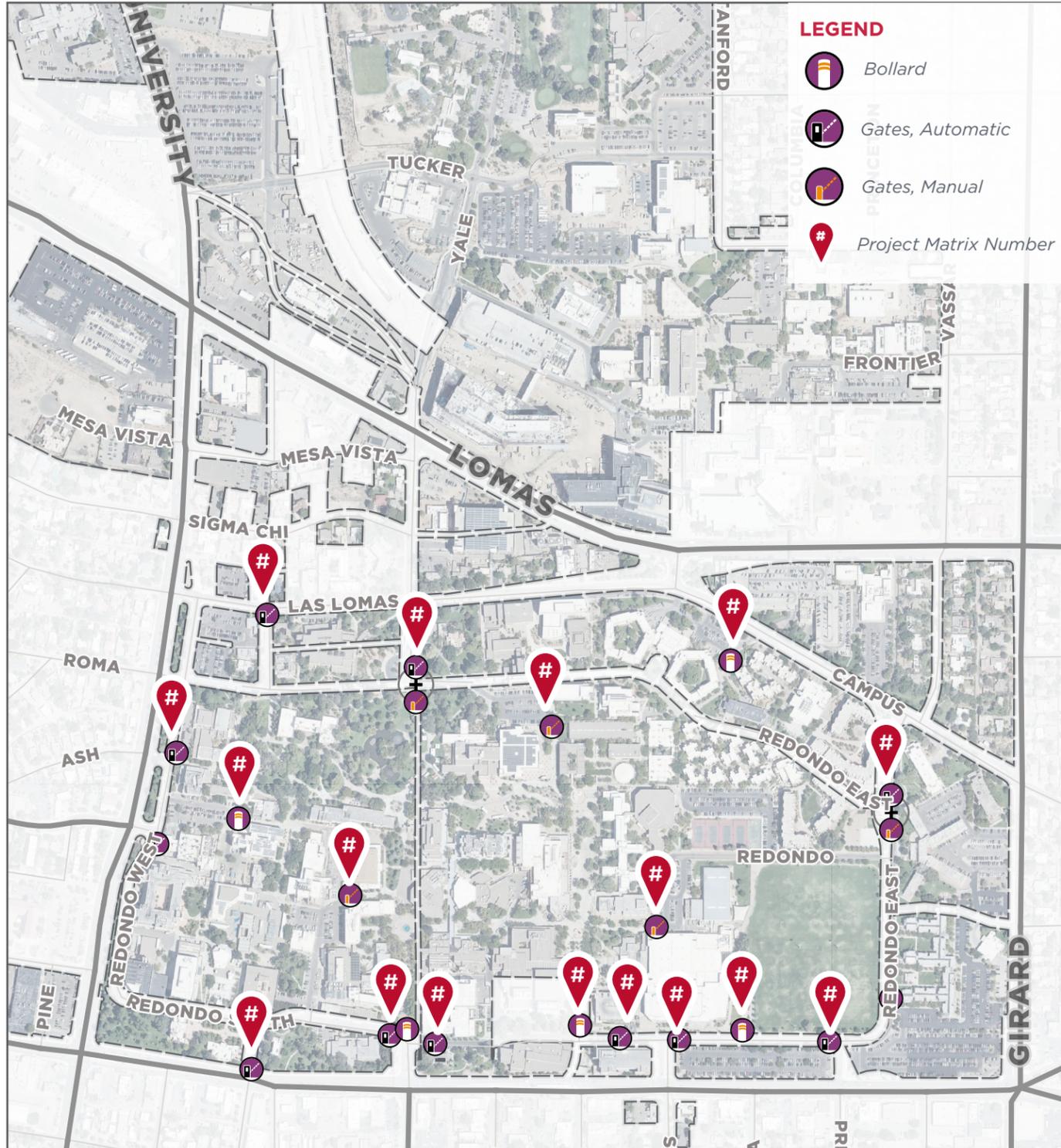
Install bollards and gates for restricted automobile access to reduce negative interactions between automobiles and MMVs/pedestrians. Three types of automobile access control are proposed:

- i. **Automatic Lift Gates:** Automatic lift gates are proposed at locations where regular and efficient access to designated automobile routes is required for permitted vehicles. Permitted automobiles include shuttle buses, police and emergency vehicles, service and delivery vehicles, and private vehicles with special permit access for close-proximity ADA parking access internal to campus, or where other special circumstances exist. In these locations, exiting a vehicle to manually open a gate or lower a bollard is not practical. Automatic lift gates are controlled by a remote control or a keypad/card swipe pedestal that can be integrated with UNM's standard access control system. While solar power and wireless communication options exist, automatic lift gates are ideally located with access to underground power and low-voltage communication.
 - One example of a proposed automatic lift gate location on Central Campus is on Redondo Drive, just west of the entry to Cornell Parking Structure. This location will restrict regular vehicle access onto Redondo while allowing only westbound shuttle buses to continue along Redondo and for trucks accessing the loading docks behind Popejoy Hall or the Bookstore. Automatic lift gates can also be controlled remotely or on a timed schedule. For example, restricted access can be provided during daytime hours, and then automatically opened at night or during a special event where regular vehicle circulation is permitted.
- ii. **Manual Pipe Gates:** Manual gates are proposed at locations where infrequent access is required for permitted automobiles. Permitted automobiles include service and delivery vehicles, police and emergency vehicles, and private vehicles where short-term special circumstances exist (i.e. special event loading/unloading and "move-in days"). These gates are generally located where a designated automobile route intersects a service route with restricted access or a low-volume pedestrian and MMV path that does not accommodate regular automobile traffic. They should also be restricted to more utilitarian locations where aesthetics and accommodation of high pedestrian and MMV traffic is not required. At these gate locations, the driver must exit the vehicle to unlock a padlock and manually swing the gate open and closed. Emergency vehicles gain access via a "Knox Box" - an existing master key system. Power and low-voltage communication are not required. One example of a proposed manual pipe gate location on Central Campus is between SHAC and Johnson Center, where special automobile access is required to Cornell Mall for special events.
- iii. **Bollards:** Bollards are proposed at locations where infrequent access is required for permitted automobiles. Permitted vehicles include service and delivery vehicles, police and emergency vehicles, and private vehicles where short-term special circumstances exist (i.e. special event loading/unloading and "move-in days"). Bollards are generally recommended where a designated automobile route intersects a high-volume pedestrian and MMV path that does not accommodate regular automobile traffic. Bollards are a low-profile barrier that visually blends into the campus fabric. Because they have a small footprint, they are a good solution for busy malls where heavy foot and MMV traffic must be accommodated through the barrier, rather than around it. As with manual gates, the driver of an automobile must exit the vehicle to manually lower or remove a bollard to gain access. Emergency vehicles gain access via a "Knox Box". Power and low-voltage communication are not required. One example of a proposed bollard location on Central Campus is where the Yale Mall intersects Redondo Drive, where a service or construction vehicle may need access to complete a building repair adjacent to the Mall.
- iv. **Supplemental to this plan, UNM CCSP will begin work in May 2025 on a bollard and gate siting design study. A few preliminary locations for priority installation have been identified including:**
 - > At Casas del Rio (Roma Way) walk entry and Redondo at the roundabout
 - > At Duck Pond path intersection with Roma at the shuttle stop
 - > Between Student Health and Counseling (SHAC) and Johnson Center
 - > Between Carlisle Gym and Northrop Hall
- v. While automatic lift gates, manual pipe gates, and bollards are an excellent way to restrict automobile access, it is important to note that they do not prevent unwanted access by pedestrians or MMVs. Where fully restricted access for site security is required, swinging or sliding vehicle gates connected to a perimeter fence are required.
- vi. In addition, expenses and associated costs for upkeep and continual maintenance should be considered.
- vii. See also Physical Barriers and Controls section for infrastructure recommendations specific to the access control and safety of pedestrians and MMVs.

✓ **ACTION:** Install bollards and gates for restricted automobile access to reduce negative interactions between automobiles and MMVs/pedestrians. Refer to Priority Matrix for an inventory of all proposed Main Campus bollard and gate locations and associated costs.

✓ **ACTION:** Additional study and vetting are required for each proposed location.

Proposed Access Control (Central Campus)



Map 35. Proposed Bollards/Gates Map



Figure 103. Albuquerque On-Street Retractable Arms



Figure 104. Cleveland State University Automatic Lift Gates



Figure 105. Arizona State University Bollards



Figure 106. Retractable Bollards, Paul Revere Park, Boston MA

Mobility Hubs

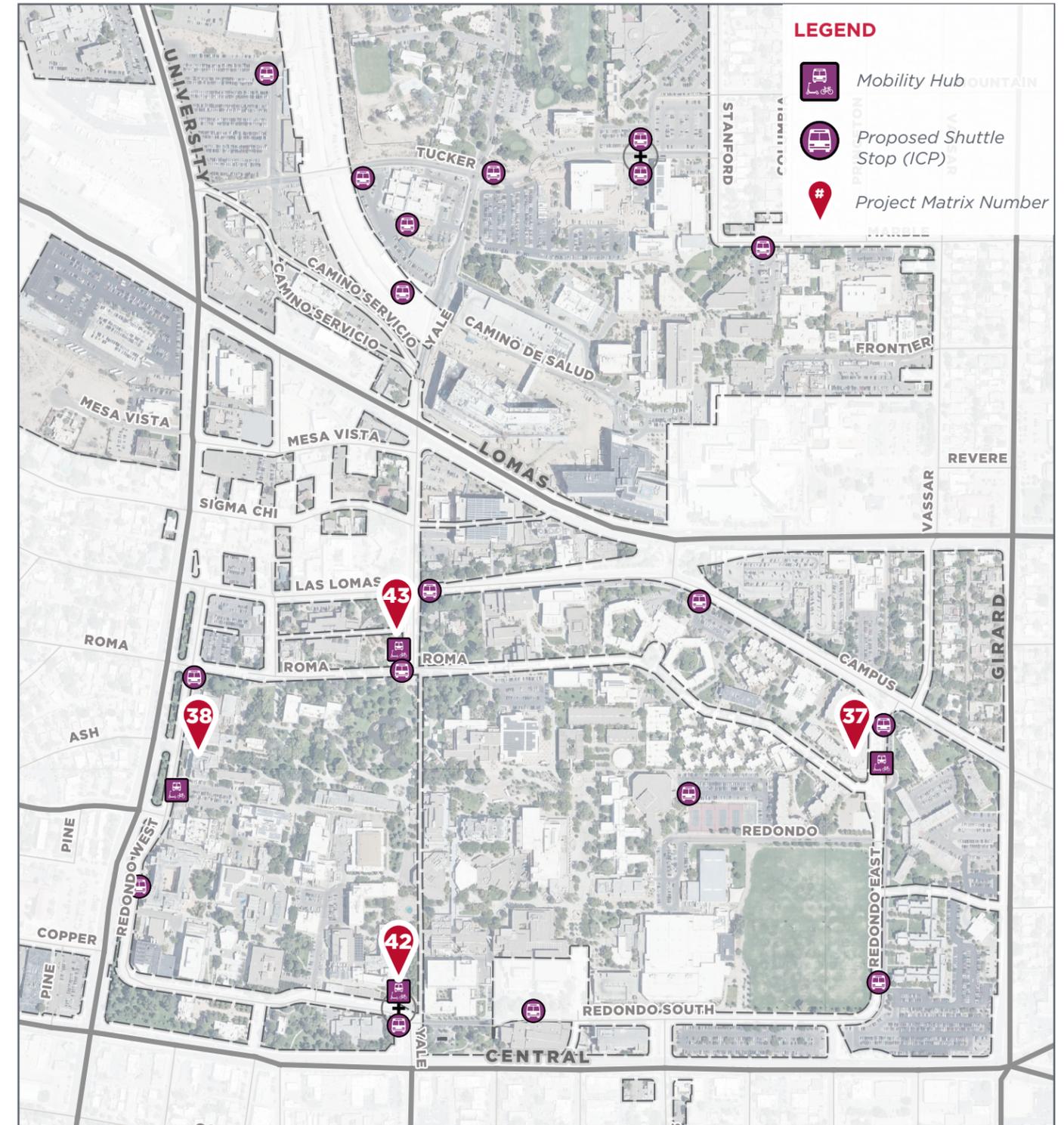
Mobility hubs offer a safe, convenient, and accessible environment for transfers between transportation modes, as well as a place to find useful travel information.

- i. Mobility hubs should be equipped with features such as:
 - > Enhanced pedestrian crossings and paths
 - > Protected bike lanes
 - > Separate drive lanes for shuttles and ride share pick-ups and drop-offs
 - > Well-lit private MMV storage (racks, secure shelters, lockers)
 - > Sheltered waiting areas with seating
 - > Bike repair equipment
 - > Charging stations
 - > Designated parking for MMV fleet rental equipment
 - > Information kiosks with campus and transit maps
 - > Public art
- ii. With increased traffic throughout the day, mobility hubs can also provide economic development by creating spaces for businesses like restaurants, coffee shops, and convenience stores.
- iii. An example of a proposed Mobility Hub on Main Campus is at the intersection of Yale Blvd and Redondo Dr.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus infrastructure upgrade locations and associated costs, including construction of Mobility Hubs. Prioritize the construction of infrastructure improvements at mobility hub locations identified in the Integrated Campus Plan (ICP), including:

- Improvements to primary paths leading to/from mobility hubs
- Improvements to lighting, signage, crossings, and gates in the vicinity of mobility hubs
- Addition of amenities such as secure MMV storage, information kiosks, and sheltered seating.
- Consider high use mobility locations currently serviced by buses and shuttles including near Popejoy. Additional planning and studies are required for high demand use locations, with multiple buses/shuttles required to be on location at the same time. Consider event buses drop off/pick up locations. Additional planning and studies are required for areas currently heavily used by event related traffic.

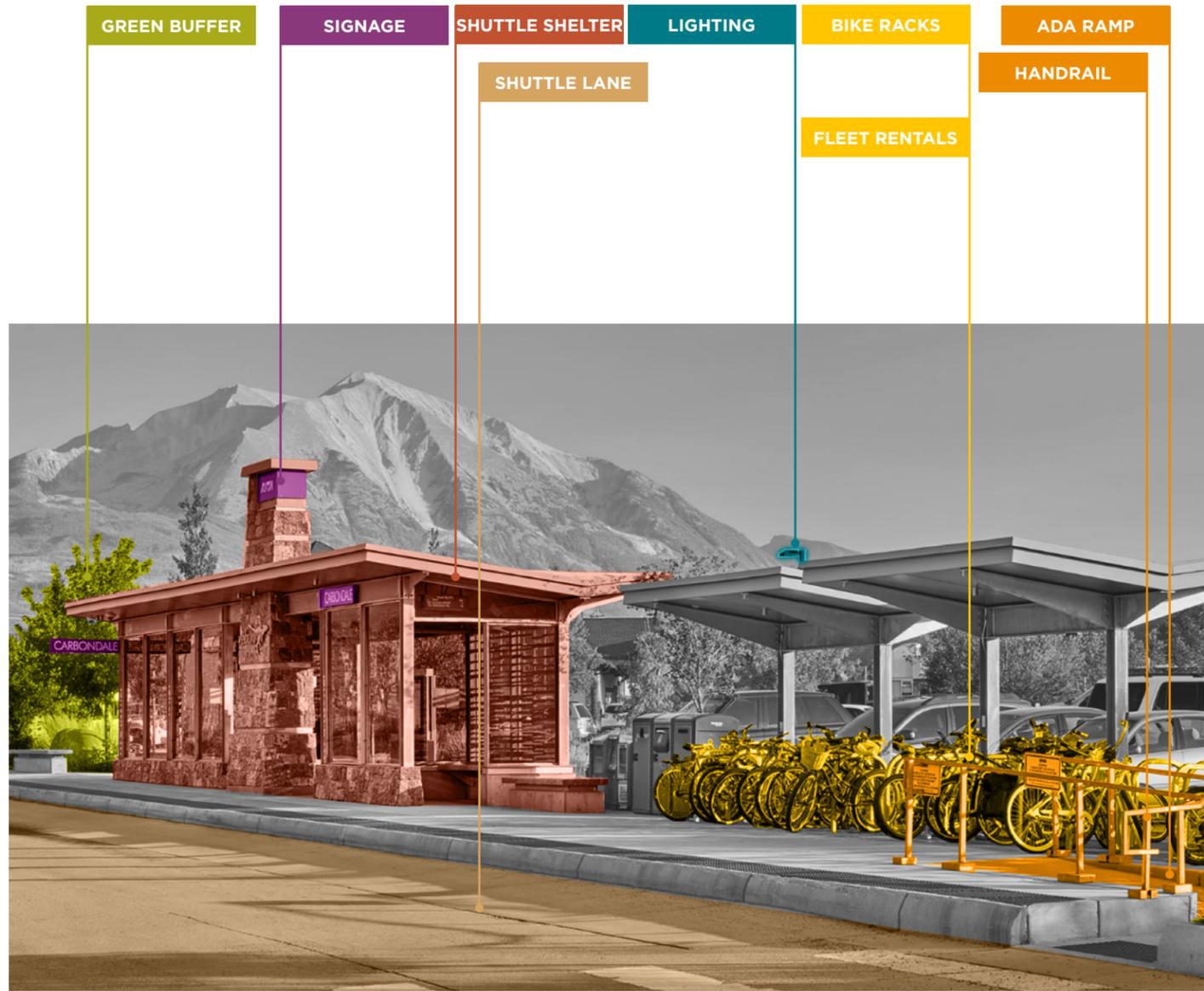
Mobility Hubs (Central And North Campus)



Map 36. Proposed Mobility Hubs Map



MOBILITY HUB ELEMENTS



GREEN BUFFER

SIGNAGE

SHUTTLE SHELTER

LIGHTING

BIKE RACKS

ADA RAMP

SHUTTLE LANE

FLEET RENTALS

HANDRAIL



Figure 107. Mobility Hub in Carbondale, Colorado

MOBILITY HUB ELEMENTS



LIGHTING

SHUTTLE SHELTER

DRIVEWAY

BIKE PATH

SIDEWALK

CROSSWALK

PLANTER

Figure 108. Mobility Hub at the University of Pittsburgh

MOBILITY HUB ELEMENTS

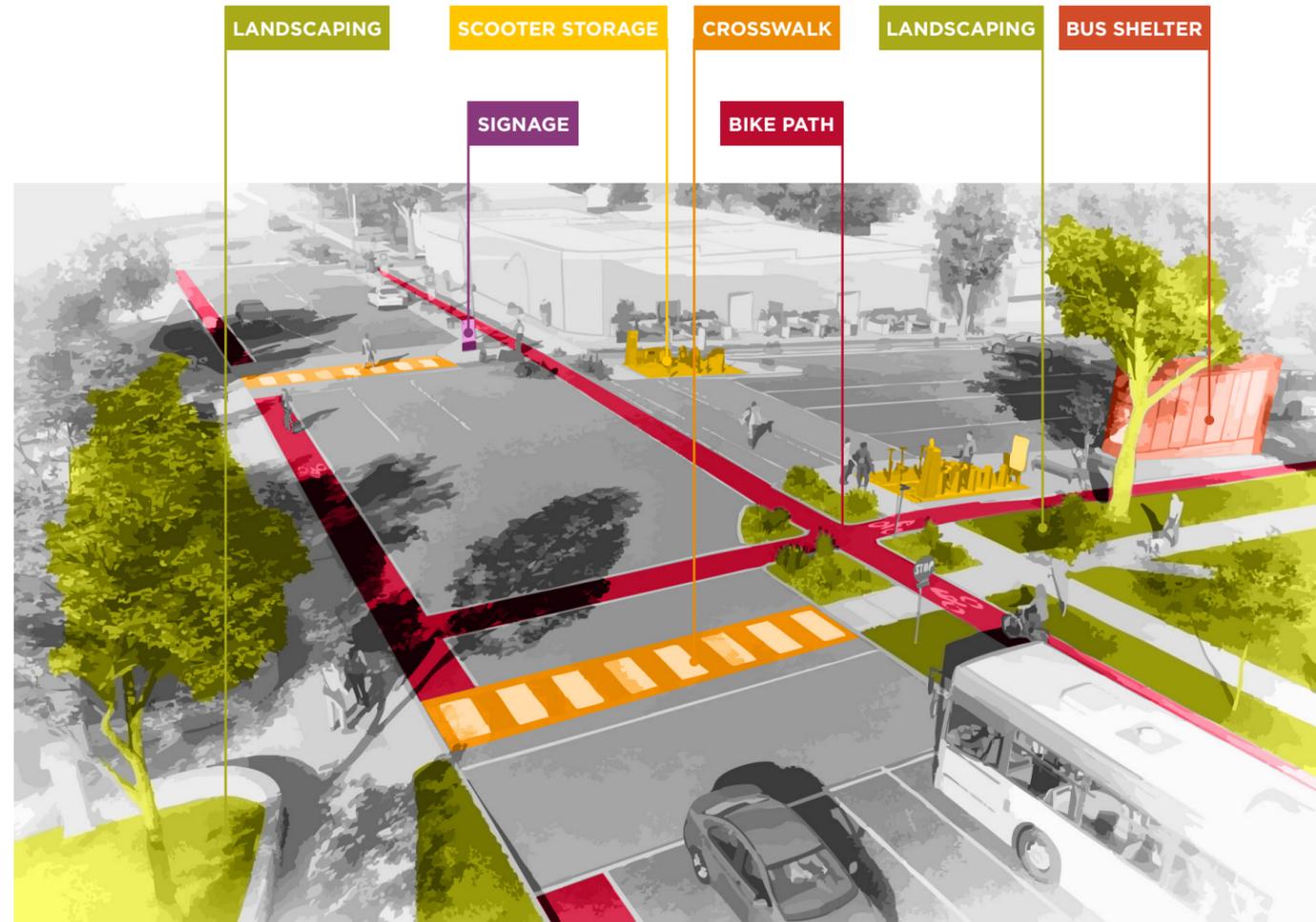


Figure 109. University of Utah Mobility Hub Rendering

MOBILITY HUB ELEMENTS

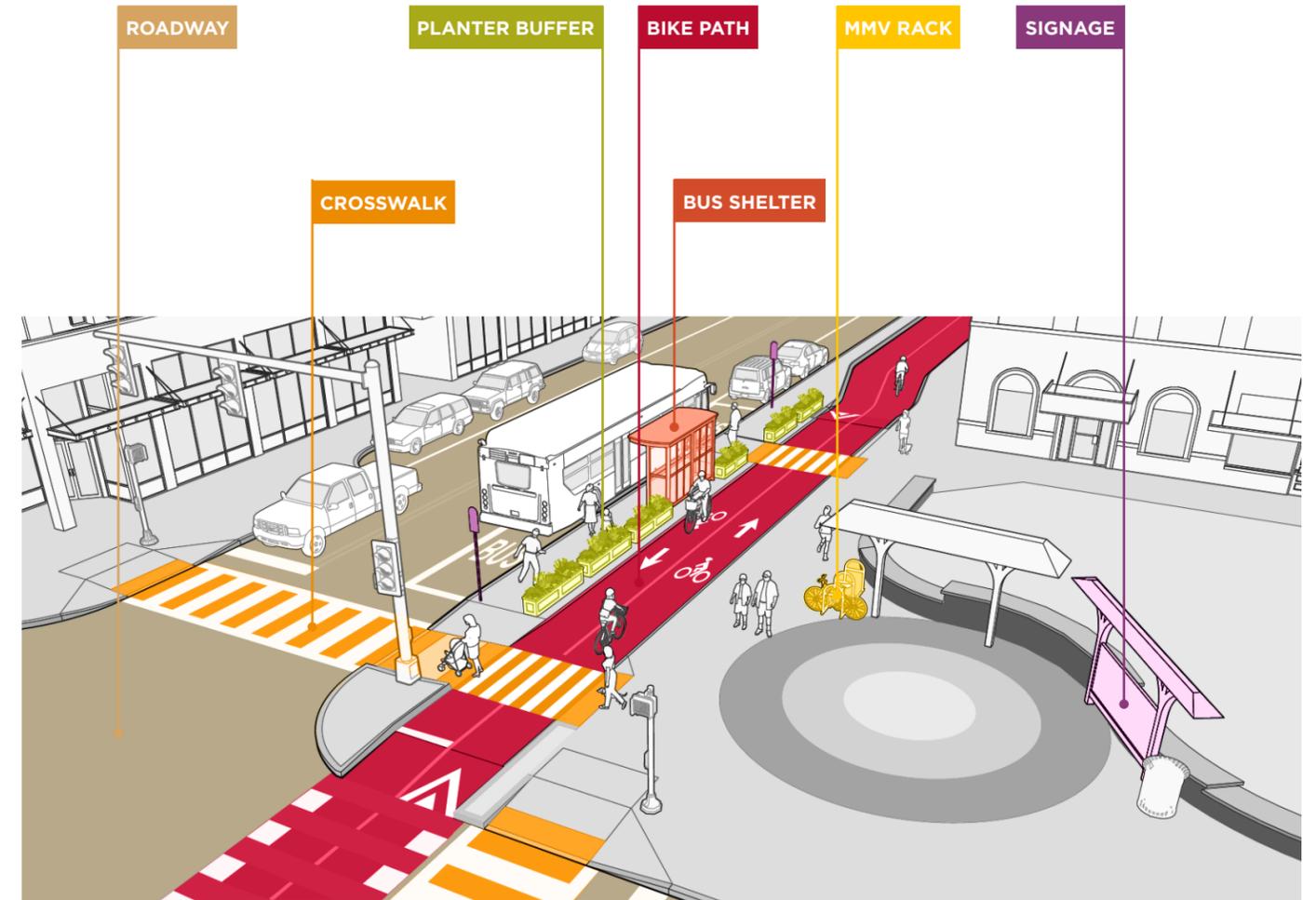


Figure 110. Floating Bus Stop, 2024 AASHTO Bike Guide

Secure Storage

UNM can encourage active transportation as an alternative to single occupancy vehicle trips by providing conveniently located secure MMV storage with protection from theft, vandalism, and the elements. Secure storage solutions include indoor and outdoor lockers, valets, shelters, and yards that accommodate all types of MMVs and their accessories (helmets, backpacks, etc). In addition to storage, these facilities can include safe charging for electric MMVs, shade canopies with solar panels, bike repair stations, and bottle filling stations.

- ix. An example of a proposed secure storage facility is near NE corner of Popejoy Hall, along the Cornell Mall.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus Secure MMV Storage locations and associated costs.

Charging Stations

- i. Provide secure storage options within a 2-1/2 minute walk from all major academic and activity hubs, emphasizing major destinations and along key mobility routes to maximize convenience.
- ii. Provide increased lighting and security cameras at storage areas.
- iii. Access to storage can be regulated using a card swipe that is tied to UNM’s standard access control system.
- iv. Outdoor storage should include charging infrastructure for electric MMVs. (See Charging Stations)
- v. New buildings and major renovations should consider the inclusion of indoor secure MMV storage to the maximum extent possible.
- vi. Consider using access to secure storage as a way of incentivizing people to register their MMVs, participate in safe mobility training, and comply with mobility policies.
- vii. Valet stations attended by staff are a great way to accommodate a large number of MMVs during the busiest times of day and they maximize convenience because MMV users don’t need to remember a lock or hunt for space.
- viii. Consider the costs associated with installing new MMV storage infrastructure. Prioritize locations with existing MMVs features, infrastructure, and utilities that provide easier implementation.

- i. Encourage safe charging of MMV batteries by providing conveniently located outdoor charging stations within a 2-1/2 minute walk from all major academic and activity hubs. Co-locate charging stations with secure MMV storage (See Secure Storage), however ensure proper distance from buildings and access by emergency vehicles.
- ii. Consider options for solar-powered charging stations that are located further from existing electrical infrastructure.
- iii. An example of a proposed MMV charging station location is along Roma Ave near La Posada and the residence halls.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus charging station locations and associated costs.

LARGE MMV VALET ELEMENTS

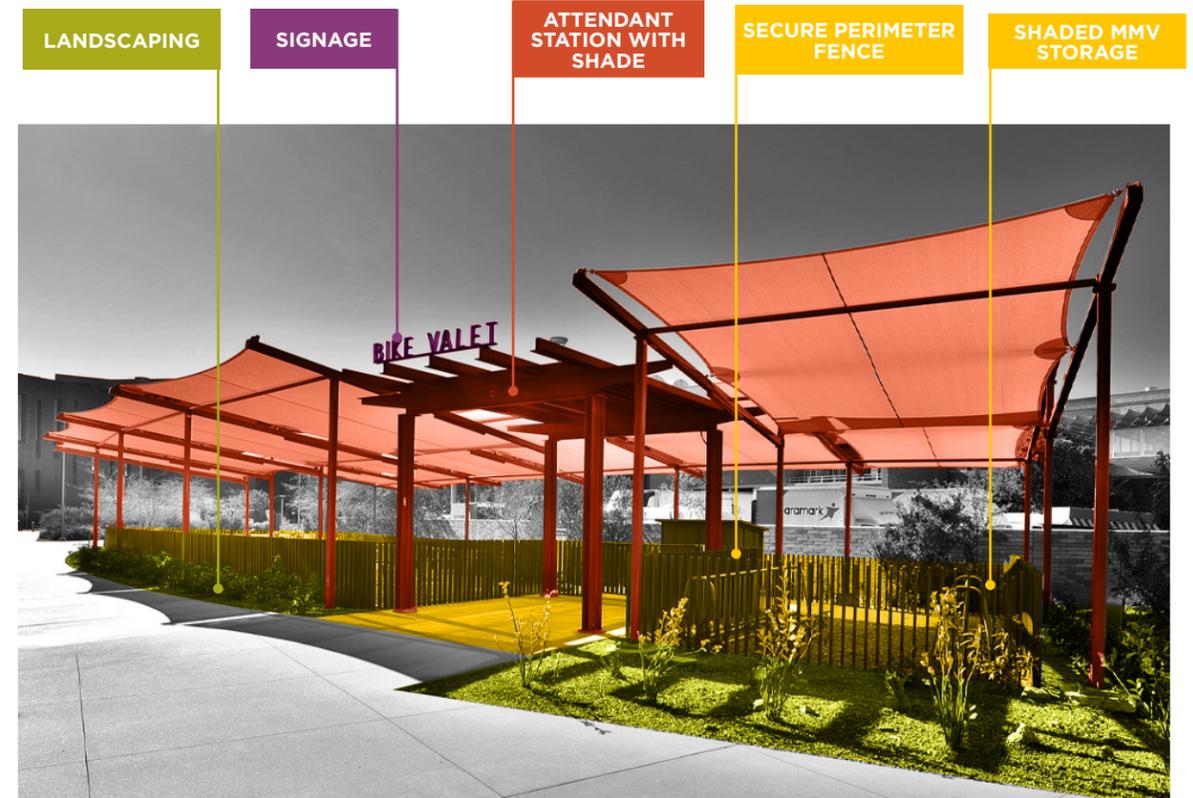


Figure 111. Arizona State University Large Bike Valet (Shade Industries)

LARGE MMV VALET ELEMENTS



Figure 112. Aerial of Arizona State University Large MMV Valet

SMALL MMV VALET ELEMENTS

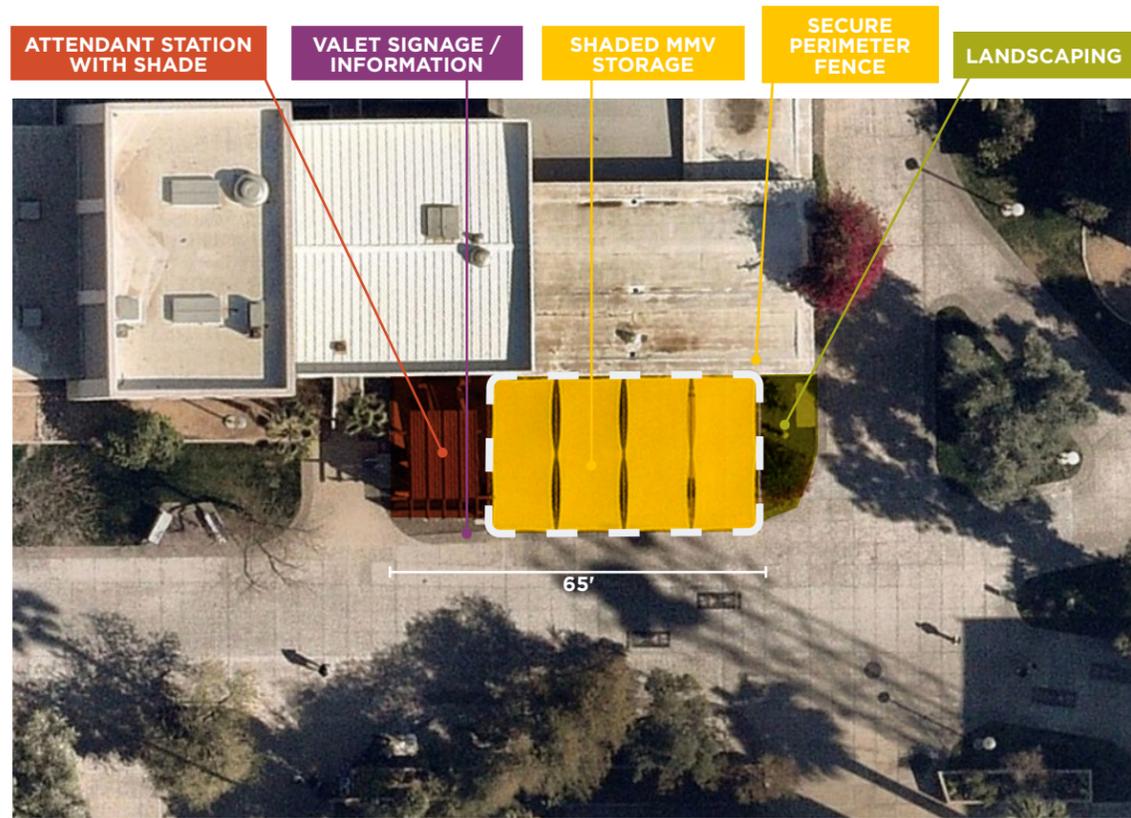


Figure 113. Aerial of Arizona State University Small MMV Valet



Figure 116. Secure Bike Storage at Coronado Hall



Figure 119. Rentable Bike Keep Brand Lockers



Figure 117. Secure Bike Storage at Coronado Hall



Figure 120. Bicycle Charging Rack on Atlanta's Beltline.



Figure 114. ASU Small MMV Valet Site (Before)



Figure 115. ASU Small MMV Valet Site (After)

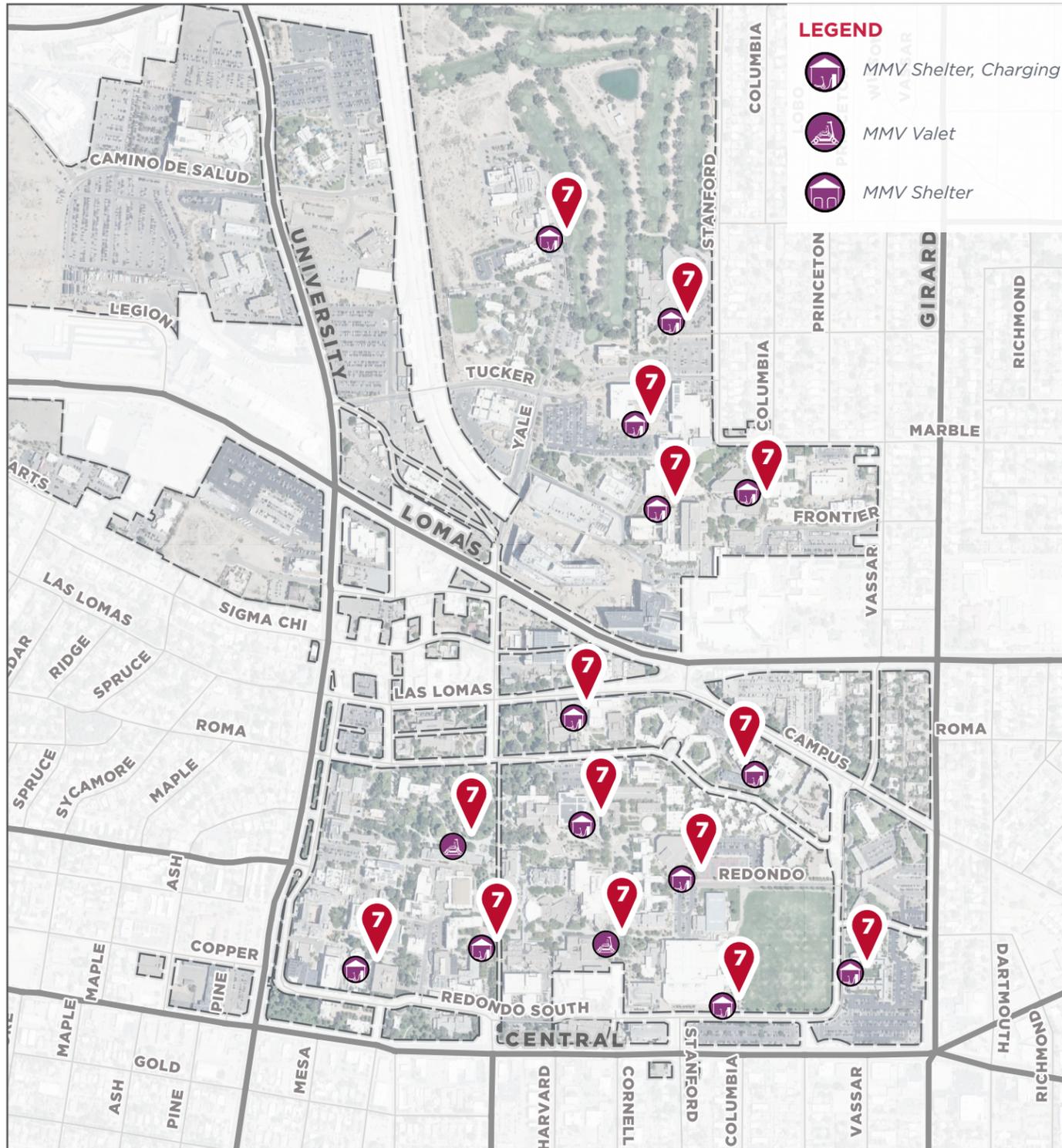


Figure 118. Secure Bike Yard at PAIS



Figure 121. EnerFusion Inc Electric MMV Charging Shelter

Proposed MMV Storage (Central And North Campus)



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Map 37. Proposed MMV Storage Map



Signage & Wayfinding

Signage and wayfinding within the public right-of-way are governed by various regulations depending on the location and jurisdiction, with different requirements for motorists, pedestrians, and MMV users. For motorists, signage ensures accessible (clear, bold, and legible) information visible from a distance and at speed to direct and control traffic flow. MMV users rely on signage to mark shared roadways, designated lanes, multi-use trails, and safe connections. Pedestrians use signs to avoid hazardous areas and find more scenic or accessible routes. Properly designed signage helps ensure that all users—motorists, MMV users, and pedestrians—understand right-of-way rules and can navigate safely on UNM campuses and the mobility facilities that connect them.

- i. For signs in the public right-of-way that are not specifically regulated, there is an opportunity to incorporate UNM branding standards for consistency in messaging and visuals across UNM’s campuses and landholdings.
- ii. Ensure regulatory signage is consistent and clear, with particular focus on conflict zones and crossings.
- iii. New signage and wayfinding should relate to the “Signage and Wayfinding” strategies outlined in Integrated Campus Plan (ICP), particularly, the recommended “Map Kiosks,” “Vehicular Directionals,” “Trailblazers,” and “Banners” which contribute to directional guidance for pedestrians, MMV users, and vehicles on Central, North, and South Campuses.
- iv. Avoid “sign pollution” - Balance necessary signage with aesthetics to avoid overwhelming pedestrians and drivers.
- v. See also Section 4 for signage specifically focused on reducing negative interactions between MMVs and pedestrians.

✓ **ACTION:** As infrastructure updates proposed by this plan are implemented, incorporate updated regulatory and campus signage relative to those improvements. Refer to Priority Matrix for an inventory of all proposed Central Campus improvements and associated costs, inclusive of signage components.

✓ **ACTION:** Update the Integrated Campus Plan’s Wayfinding and Signage sections to incorporate mobility signage elements recommended by this plan.

Other Signage

- i. Provide regulatory, wayfinding, and safety signage that is consistent and clear, strategically placed to enhance navigation, and accessible to all.
- ii. Prioritize key conflict locations like crossings, intersections, high traffic areas, path delineation, and route designation.
- iii. Avoid “sign pollution” - Balance necessary signage with aesthetics to avoid overwhelming pedestrians and drivers.
- iv. Ensure consistency with campus branding and the ICP’s wayfinding and signage standards.
 - > While not its primary function, signage is an opportunity to incorporate UNM branding for consistency in messaging and visuals across UNM’s campuses and landholdings.
- v. Recommended sign types include:
 - > Directional signs
 - > Informational signs
 - > Regulatory signs
 - > Floor decals and graphics
 - > Campus maps
 - > Digital message boards

The American Association of State Highway and Transportation Officials (AASHTO) Guide to Bicycle Facilities

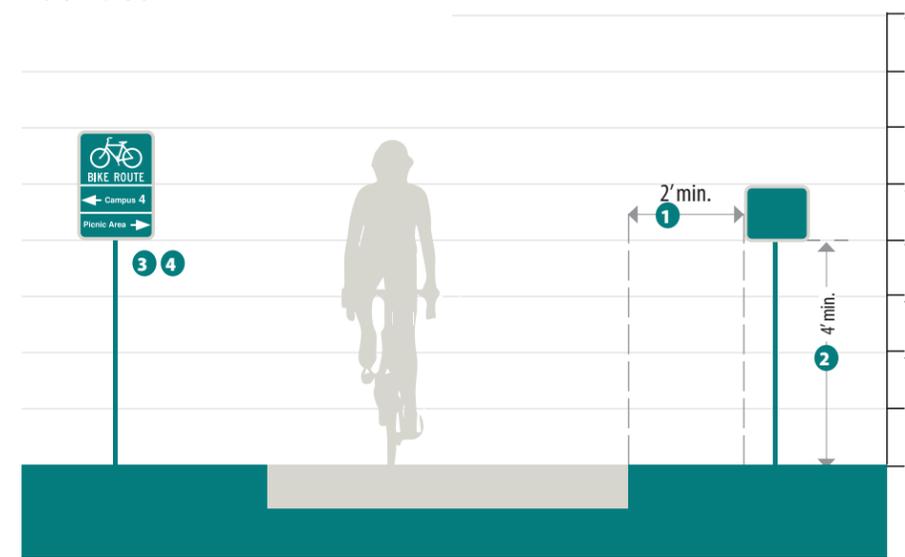


Figure 122. AASHTO Bicycle Signage Guidelines

Manual on Uniform Traffic Control Devices (MUTCD) Sign Standards applicable to NMDOT Facilities

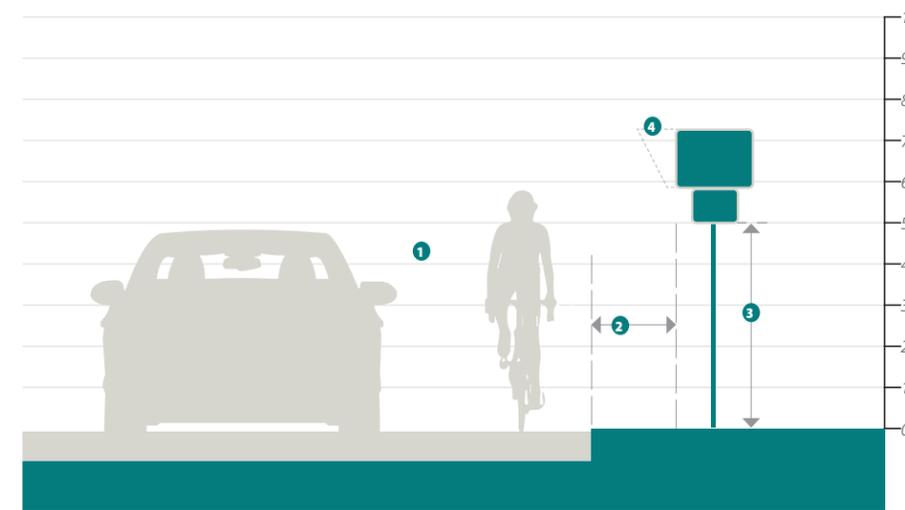


Figure 123. MUTCD Signage Standards

- 1 The sign must provide a 2 ft. minimum clear distance from the edge of the roadway to the edge of the sign overhang (4.11 and 5.2.1).
- 2 The minimum ground clearance of a sign along roadways is 4 ft. (4.11 and 5.2.1).
- 3 The D Series Routes signs include the green “BIKE ROUTE” sign (D11-1) as well as alternative signs that can replace the words “BIKE ROUTE” with a destination or route name. A variety of wayfinding destination sign options can be used either in conjunction with the D11-1 sign, or independently providing a combination of destination names, arrows, and mileage information (4.11).
- 4 Guide signs to indicate directions, destinations, distances, route numbers, and names of crossing streets should be used in the same manner as on roadways and as described in item 3 listed above. (5.4.2).

- 1 Where signs serve both bicyclists and other road users, vertical mounting height and lateral placement shall be as provided in Part 2 (9B.01.03).
- 2 For post-mounted signs, the minimum lateral offset should be 12 feet from the edge of the traveled way. If a shoulder wider than 6 feet exists, the minimum lateral offset for post-mounted signs should be 6 feet from the edge of the shoulder (2A.19.03).

On conventional roads in areas where it is impractical to locate a sign with the lateral offset prescribed by Section 2A, a lateral offset of at least 2 feet may be used. (2A.19.10). A lateral offset of at least 1 foot from the face of the curb may be used in business, commercial or residential areas where sidewalk width is limited or where existing poles are close to the curb (2A.19.11).
- 3 In business or residence districts where parking or pedestrian movements occur, the clearance to the bottom of the sign shall be at least 7 ft (2A.18.05). In rural districts, signs installed at the side of the road shall be at least 5 ft., measured from the bottom of the sign to the near edge of the pavement (2A.18.04).
- 4 Signs shapes depend on the type of sign: Regulatory and warning signs are rectangular shaped (2A.9)

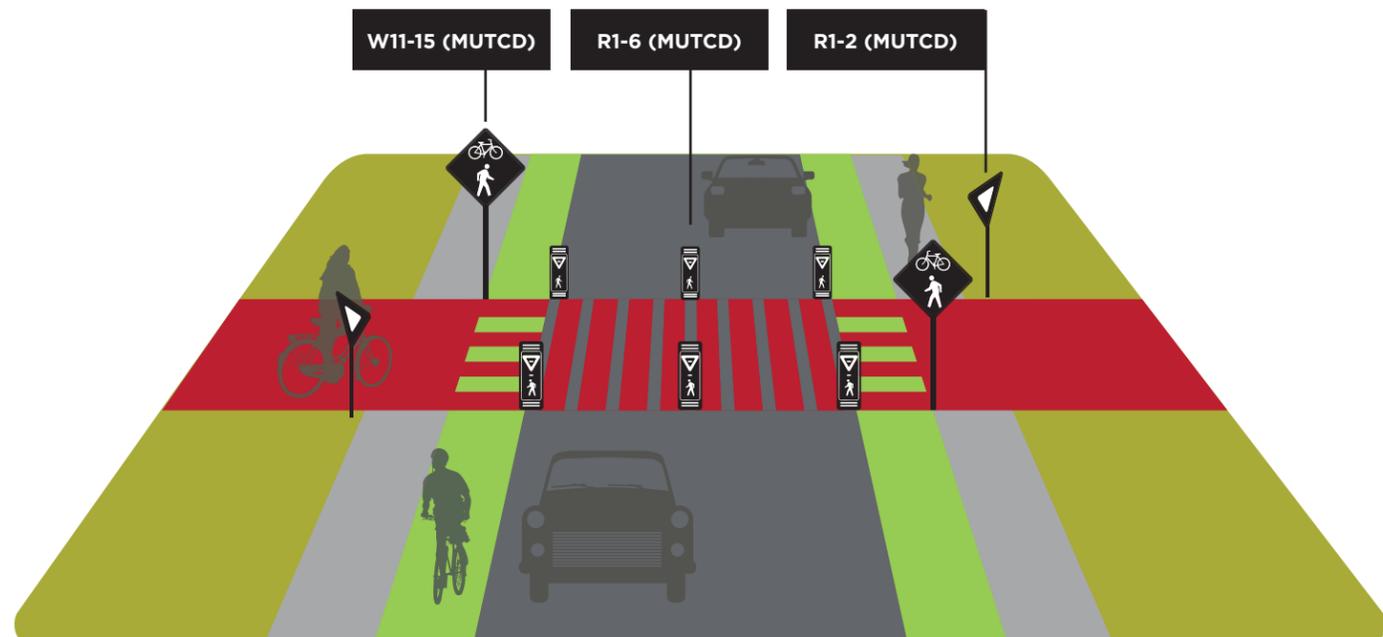
Signage Clutter Diagram



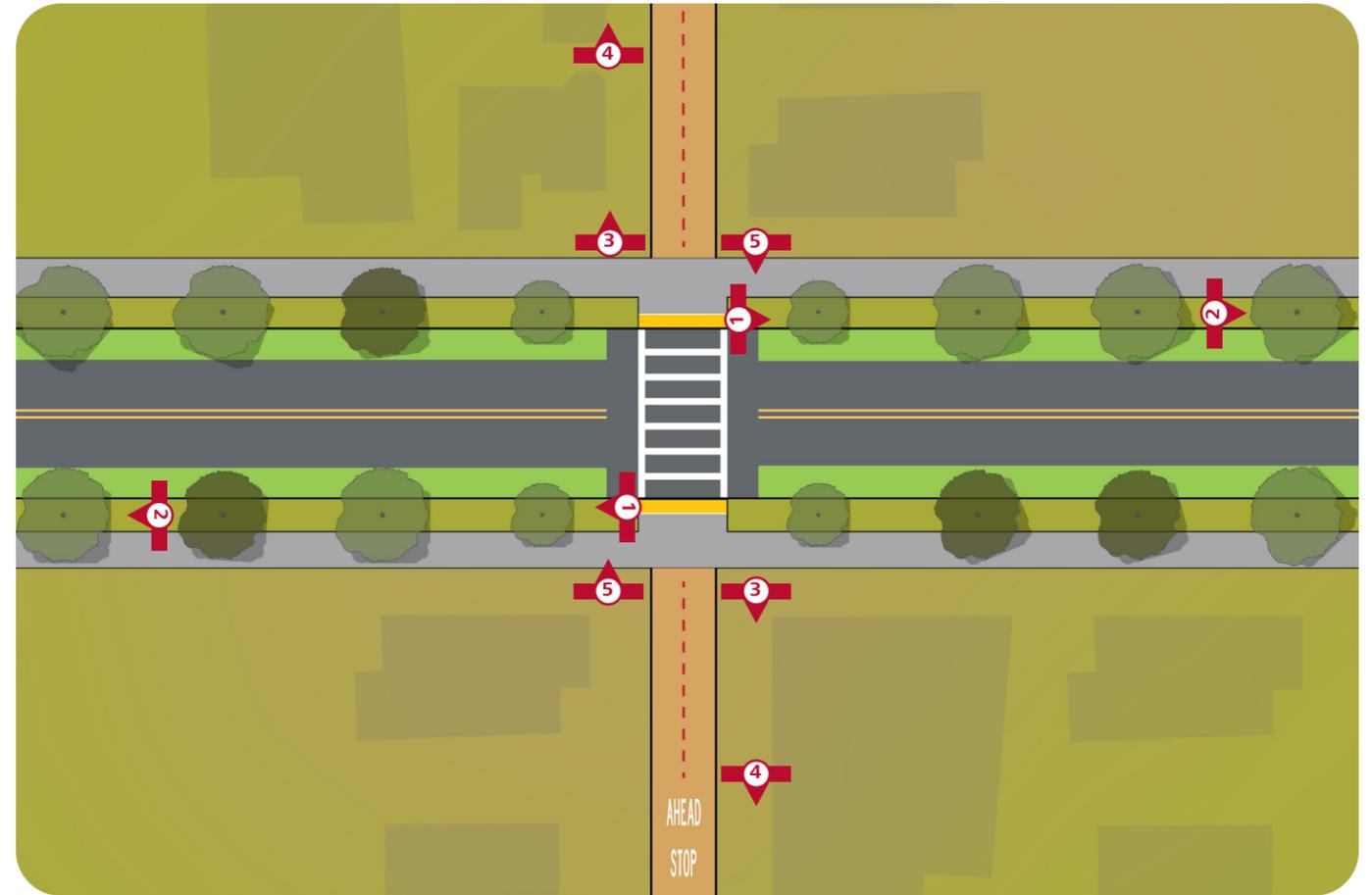
1. Sign clutter detracts and dilutes the importance of information needing to be conveyed.



2. A maximum of two (2) posts at any given location. This allows for 4-6 panels of information depending on panel sizes. 3. If more panels are required, it is recommended that additional posts are used, where possible, at a minimum of 10 feet and a maximum of 25 feet away so that they can still be easily seen.



AASHTO Right-of-Way Signage Guidance for Crosswalk Markings



- ① Bicycle and Pedestrian Crossing and Arrow
- ② Bicycle and Pedestrian Crossing, Trail Crossing Ahead
- ③ Street Name and Yield
- ④ Yield Ahead and Street Name
- ⑤ No Motor Vehicles

- ① W11-15/W16-7P
Bicycle and Pedestrian Crossing and Arrow
- ② W11-15/W11-15P/W169P
Bicycle and Pedestrian Crossing, Trail Crossing Ahead
- ③ D3-1/R1-2
Street Name and Yield
- ④ W3-2/W16-8P
Yield Ahead and Street Name
- ⑤ R5-3
No Motor Vehicles

Other Infrastructure

a. Physical Barriers and Controls

- i. Use place-based treatments to prioritize pedestrian and MMV safety. Examples of physical barriers and controls include raised planters, bollards, fences, landscape buffers, curbs, chicanes, rumble strips, and speed bumps.
 - > Use barriers at points of conflict with automobiles like intersections, crossings, and dedicated bike lanes to protect pedestrians and MMV users.
 - > Use specialty pavement treatments and path alignment strategies to delineate paths and intersections of different mobility modes and to reduce speeds.
 - > Use barriers like planters and fences to direct pedestrians and MMVs to safe crossing facilities, prevent dangerous midblock crossings, and improve visibility.
- ii. Ensure smooth flow and safety: Ensure the designs of barriers and controls consider space limitations, fire lanes, service access, and existing obstructions.
- iii. See also Access Control section for infrastructure recommendations specific to the controlled access of vehicles within pedestrians and MMV facilities.
- iv. An example of a physical barrier or control is the installation of fencing within the center median on University Blvd to eliminate jaywalking by funneling pedestrians and MMVs to a new signalized crossing just north of Copper Ave and the existing signalized crossings at Central Ave and Dr Martin Luther King Jr Blvd.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus infrastructure upgrade locations and associated costs, inclusive of physical barriers and controls.

b. Pavement Replacement and Repairs

Pavement condition plays an important role in campus mobility by directly impacting the safety, efficiency, and accessibility of roadways and paths. Improperly maintained paving can lead to increased travel times and vehicle maintenance costs, safety hazards, and decreased accessibility for pedestrians, MMV users, and those who require the use of mobility devices for assistance. Poor pavement can also be an impediment to increased active transportation use. Injuries sustained on campus facilities due to poorly maintained infrastructure is a financial liability for UNM.

- i. Prioritize surfaces flagged as a trip hazard for pedestrians and as flip hazard for MMVs.
- ii. Prioritize surfaces located on high priority routes and where there are proposed pathway delineation treatments and crosswalk treatments.
- iii. Ensure proper funding is in place for ongoing paving repairs.
- iv. An example of poor pavement conditions in a shared roadway are Campus Blvd and Las Lomas Rd, from Girard Blvd to University Blvd.

✓ **ACTION:** Complete a thorough Pavement Condition Assessment to evaluate the current state of roadway and pathway surfaces to determine their functionality, structural integrity, and safety.

✓ **ACTION:** Repair and/or replace pavement surfaces identified with poor or below average conditions and those that are not compliant with current accessibility guidelines when constructing associated infrastructure improvements proposed by this plan. Refer to Priority Matrix for an inventory of all Main Campus locations and associated costs.

✓ **ACTION:** Implement a pavement maintenance program to regularly assess and renew pavements that are not in optimal condition.

c. Accessibility Upgrades

Ensure that all routes are fully accessible to all modes.

- i. Physical features such as stairs, non-compliant ramps, and long inclines along important circulation routes are an impediment to a successful mobility network and may reduce the use of active transportation. MMVs and those who require use of a mobility device for assistance cannot navigate stairs and narrow ramps.
- ii. To the extent possible, all major mobility routes should have gentle inclines and compliant ramp systems that are easy to navigate to allow all users equal access to efficient circulation.
- iii. Crossings and intersections, particularly those with automobiles, present unique challenges to those with vision impairment and persons who require use of a mobility device for assistance. These facilities along key mobility routes must include features such as curb ramps, detectable surfaces, accessible pedestrian signals (beacons), and tactile maps.
- iv. Examples of existing accessibility barriers include:
 - > The grade change between Clinical Neurosciences Center lower level to Clinical & Translational Science Center upper level south of Fitz Hall which is planned to be decommissioned and removed in 2030. Grade changes should be addressed during the decommissioning of Fitz Hall.
 - > Domenici Center upper level to Domenici Center lower level at Happy Heart Bistro.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus infrastructure upgrade locations and associated costs, including existing barriers to accessibility.

d. Lighting enhancements

- i. Heavily trafficked corridors should be well lit to reduce the risk of conflicts between pedestrians and MMV users.
- ii. Adhere to the Campus Safety Plan and recommendations from safety audits that have identified lighting gaps on campus.
- iii. Refer to internal inventory on lighting deficiencies.

✓ **ACTION:** As infrastructure updates proposed by this plan are implemented, incorporate updated lighting relative to those improvements. Refer to Priority Matrix for an inventory of all proposed Main Campus improvements and associated costs, inclusive of lighting enhancements.

✓ **ACTION:** Implement improved site lighting at locations with insufficient lighting as identified by the Campus Safety Plan and Integrated Campus Plan.

e. Security Cameras

- i. Coordinate with the Police Department on installing security cameras at Mobility Hubs and secure MMV storage locations.
- ii. Prioritize installing security cameras at MMV storage locations to reduce the risk of theft and vandalism.
- iii. Follow the [Crime Prevention Through Environmental Design \(CPTED\)](https://www.cpted.net/) approach to address crime prevention and improve safety through urban and architectural design practices. <https://www.cpted.net/>

✓ **ACTION:** As infrastructure updates proposed by this plan are implemented, incorporate updated security cameras relative to those improvements. Refer to Priority Matrix for an inventory of all proposed Main Campus improvements and associated costs, inclusive of security camera components. Implement improved security locations with insufficient security camera infrastructure as identified by the Campus Safety Plan and Integrated Campus Plan.

PHYSICAL BARRIERS - ROADWAY PATHWAY DELINEATION ELEMENTS



Figure 124. Roadway Path Delineation with GSI feature, Indianapolis Cultural Trail

PHYSICAL BARRIERS - ROADWAY PATHWAY DELINEATION ELEMENTS

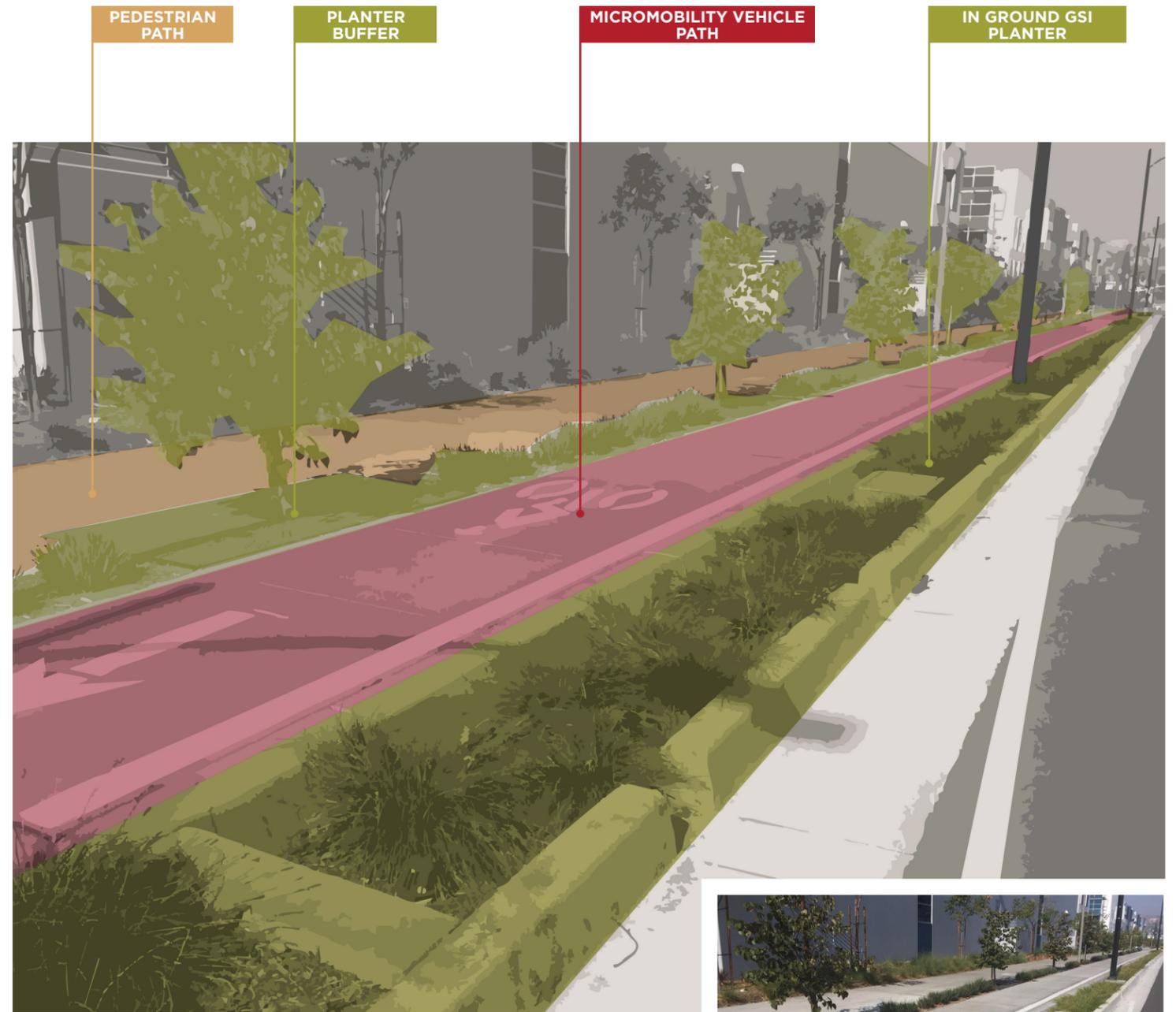


Figure 125. Path Definition with GSI feature, Hollywood, California

PHYSICAL BARRIERS - MEDIAN & MID-BLOCK CROSSING ELEMENTS

GREEN MEDIAN

FENCE AS BARRIER



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Figure 126. Midblock Crosswalk in Orlando, Florida

Strategies for Promoting Safe & Responsible Use

With thousands of new students, staff, and faculty arriving each school year, continuous education is critical to ensure that the university community safely navigates UNM's mobility infrastructure. Not all who arrive on campus have experience participating in active transportation or navigating a busy urban campus environment. And having an open campus that also welcomes the broader community increases the challenge and need for educating everyone about the "rules of the road".

a. Education Campaigns

- i. **Education and outreach:** Develop a strong communication strategy to educate the campus community about new policies, emphasizing positive engagement and ongoing education, especially for new students.

b. Safety Training Seminars

- i. Host regular training seminars or courses throughout the year that are focused on safe campus mobility.
 - > Topics can include pedestrian safety, automobile and MMV driver safety, bike repair, safe storage and charging, MMV policy, first aid, and others.
 - > Offer seminars or courses online and in person and provide incentives for those who complete them.

c. New Student/Faculty/Staff Orientation

- i. Incorporate educational resources, campus maps, and MMV registration information in new student, faculty, and staff on-boarding and orientation processes.
- ii. Host group tours of campus for new students and their families using MMVs. Guides can lead participants on an orientation of the campus mobility infrastructure, including designated routes, secure storage locations, dismount zones, etc.

d. Incentive Program

- i. Create an incentive program that uses positive reinforcement to encourage safe mobility. This may include product giveaways for individuals who register their MMVs, participate in training seminars, and use of positive reinforcement to encourage safety.

e. Campus Events

- i. Campus wide events like Welcome Back Days are a great way to promote safe mobility and to engage with campus users about UNM's mobility resources and policies. Consider organizing a Mobility Fair in April, which is Active Transportation Month, or combine it with the existing Sustainability Fair also held during the month. Consider organizing a "Day of Action" focused on safe campus mobility with outreach events spread throughout the day and across all of UNM's campuses. Finally, promote Bike to Work/School Days and organize "car free" events similar to open streets or CiQlovía. Regular exposure to safe mobility is a great way to encourage more active transportation, connect people with resources, and develop awareness and good habits around MMV use.

f. Community Partnerships

- i. Collaborate with local mobility safety advocacy organizations to host safe mobility events every month on campus.
- ii. Invite design input and stakeholder feedback from local cycling organizations on proposed improvements for campus pathways, roadways, and crosswalks.

Safety Measures

This section addresses measures to reduce negative interactions between MMVs and pedestrians to enhance personal safety. When using safe mobility practices and designated spaces for their mode of transportation, travel on campus should be easy and enjoyable for everyone.

a. Mobility Mapping

- i. Create and maintain up-to-date interactive and static campus mobility maps in digital format.
 - > Include all elements of the mobility infrastructure, including accessible routes, MMV pathway types, secure storage and charging locations, transit and shuttle stops, bike repair locations, etc.
 - > Include connections and a link to the CABQ Bikeway and Trail Facilities Plan.
 - > Consider a route planning feature to suggest the safest route between destination inputs.
 - > Mapping can be integrated into or as a supplement to UNM's current interactive campus map.
 - > Use QR codes on campus signage to link to the most up-to-date digital map.

b. Route Designation

- i. Identify dedicated routes for MMVs that provide efficient movement between key destinations and linkages to the greater mobility network while minimizing conflicts with pedestrians and service vehicles.
- ii. Focus on clear pathway delineation and crosswalk treatments for prioritized designated routes to reduce pedestrian-vehicle and pedestrian-MMV conflict.
- iii. For shared pathways, designated routes and crosswalk treatments should be clear to minimize confusion.

c. Geofencing

- i. Implement geofences on shared fleet MMVs to control location access, enforce speed limits, and regulate parking.

d. Dismount Zones

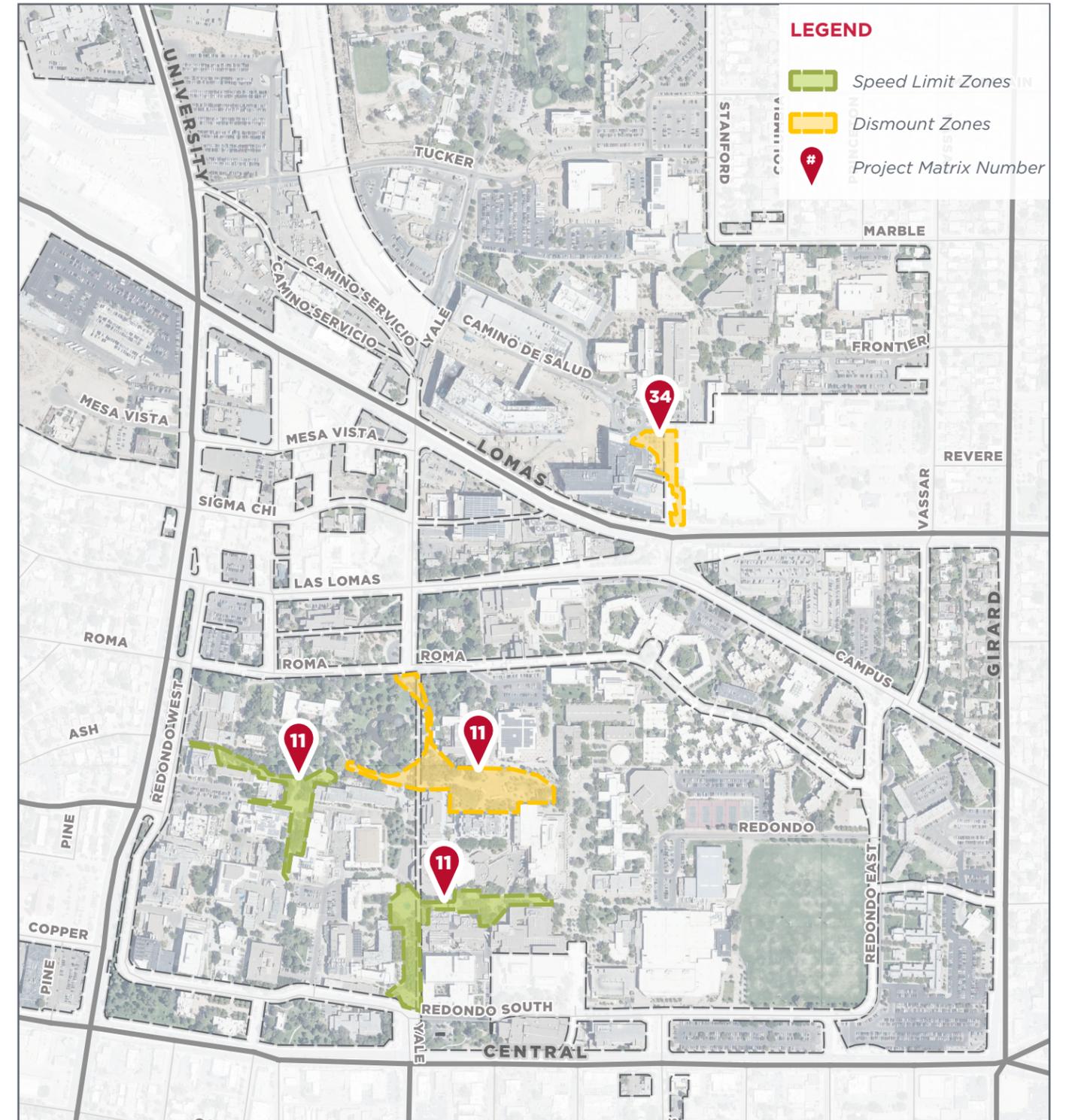
- i. Implement dismount zones near critical conflict areas and shared paths that are congested, have heavy cross traffic, or have limited space to accommodate all modes safely.
 - > Use signage, physical controls, and education campaigns to promote dismount zone awareness for public and private MMVs.
 - > Use geofencing to enforce dismount zones within designated zones for all shared fleet MMVs.
 - > Where appropriate, consider timed dismount zones that vary based on the time of day or congestion level.
 - > Update policy regarding enforcement of dismount zones.
- ii. An example of a proposed dismount zone is the shared path adjacent to the south and east edges of the Duck Pond and throughout Smith Plaza, where there are periods of very heavy pedestrian, MMV, and service vehicle traffic and limited space to accommodate wider or delineated paths.

✓ **ACTION:** Refer to Priority Matrix for an inventory of all proposed Main Campus dismount zones. Install signage at entry points and regular intervals within designated dismount zones. For all new signage, refer to Signage recommendations.

e. Speed Limits

- i. Implement speed limits for shared paths that are congested or have limited space to accommodate all modes safely without reduced speeds.
- ii. Use signage, physical controls, and education campaigns to promote speed limit awareness for private MMVs.
- iii. Use geofencing to enforce speed limits within designated zones for all shared fleet MMVs.
- iv. Where appropriate, consider timed speed limits that are active only during the most congested times.

Dismount Zones and Speed Limit Zones (Central And North Campus)



Map 38. Proposed Dismount and Speed Limit Zones Map



Policies

While the recommendations in this plan prioritize educational outreach and good design to influence desired human behaviors rather than rely on enforcement, it is critical that UNM maintains a clear policy for the proper use and storage of MMVs. The following is general list of considerations and topics to include when updating UNM's current policies on non-motorized and small motorized vehicles. These are not intended to be suggestions for policy language or directives.

a. Obey speed limits and other posted signs

b. Walk MMVs through Dismount Zones

c. Register personal MMVs

Require the registration of private MMVs. Consider offering incentives such as free repairs and accessories, priority access to secure storage, etc. to encourage registration. Integrate the registration process into campus orientation programs for students, faculty, and staff.

d. Complete an online safety training course

e. Sign the safety policy and guidelines acknowledgment

f. Store and charge MMVs in designated areas only

- i. Ban indoor charging: UNM will soon move to adopt a policy that will ban indoor charging for MMV batteries on campus.
- ii. Provide access to free battery storage bags as an incentive of MMV registration or participation in safety courses.

g. Comply with separate MMV Charging Policy

h. Wear a helmet while operating MMVs

i. Clarify list of allowable MMVs and MMV features

General Recommendations

a. Institutional Review

- i. Final design and implementation of all infrastructure improvements recommended by this plan shall follow all pertinent UNM review processes, including the Governing Processes: Decision-Making and Design Guidelines: Review Process sections contained in the ICP.
- ii. All infrastructure improvements recommended by this plan that fall within Historic Zones or that may impact historic buildings or landscapes identified in the Campus Heritage Preservation Plan shall consult with the UNM Historic Preservation Committee (HPC) for review. Refer to Priority Matrix for an inventory of all proposed Main Campus improvements that may require HPC consultation.
- iii. Develop design guidelines for bicycle/MMV facilities and pedestrian facilities.
- iv. Create a Safe Mobility Advisory Committee.

b. Create Mobility Safety Officer Position

- i. Duties shall include:
 - > Administer education campaigns, safety and incentives programs
 - > Administer MMV fleet contracts
 - > Manage secure storage valet program
 - > Manage MMV registration
 - > Participate in committees related to policy, campus infrastructure planning and design, campus safety
 - > Act as liaison with state and local governments related to mobility
 - > Write grant applications for mobility funding
 - > Conduct safety audits
 - > Maintain all campus mobility mapping

- ii. University department housing this position to be determined.
- iii. Funding source(s) for this position to be determined, but could include student fees, MMV registration fees, permit fees, and grants.

c. Partner with MMV Fleet Provider(s)

Partnering with one or more MMV fleet providers can be a great way to encourage participation in active transportation that is safe, sustainable, and equitable. Shared MMVs can be a more affordable option for students compared to traditional car ownership and eliminate the cost of entry to private MMV ownership. They can help fill the gap between existing public transit or campus shuttles and the final destinations on campus (last-mile connectivity), making mobility more seamless for more people. They include more safeguards than privately-owned vehicles, such as speed governors and the ability to establish geofencing for speed and location controls. Finally, they can be charged off-site, reducing the potential for battery fires and the need for costly infrastructure upgrades.

- i. Partner with one or more MMV fleet operators to provide e-scooters and e-bikes.
 - > Manage fleet contracts to take advantage of geofencing for access and speed control, to establish appropriate parking and staging locations, charging protocols, and safety regulations.
 - > Collaborate with fleet operators on the development of education campaigns and safety training.
 - > Use tracking data from fleet MMVs to prioritize infrastructure improvements based on heavily used routes and user demographics.
- ii. Consider partially or fully subsidizing the cost of MMV rental for UNM students, faculty, and staff.

d. Bicycle Friendly University

- i. Apply for the "[Bicycle Friendly University](#)" certification after implementing short-term and mid-term projects on campus.

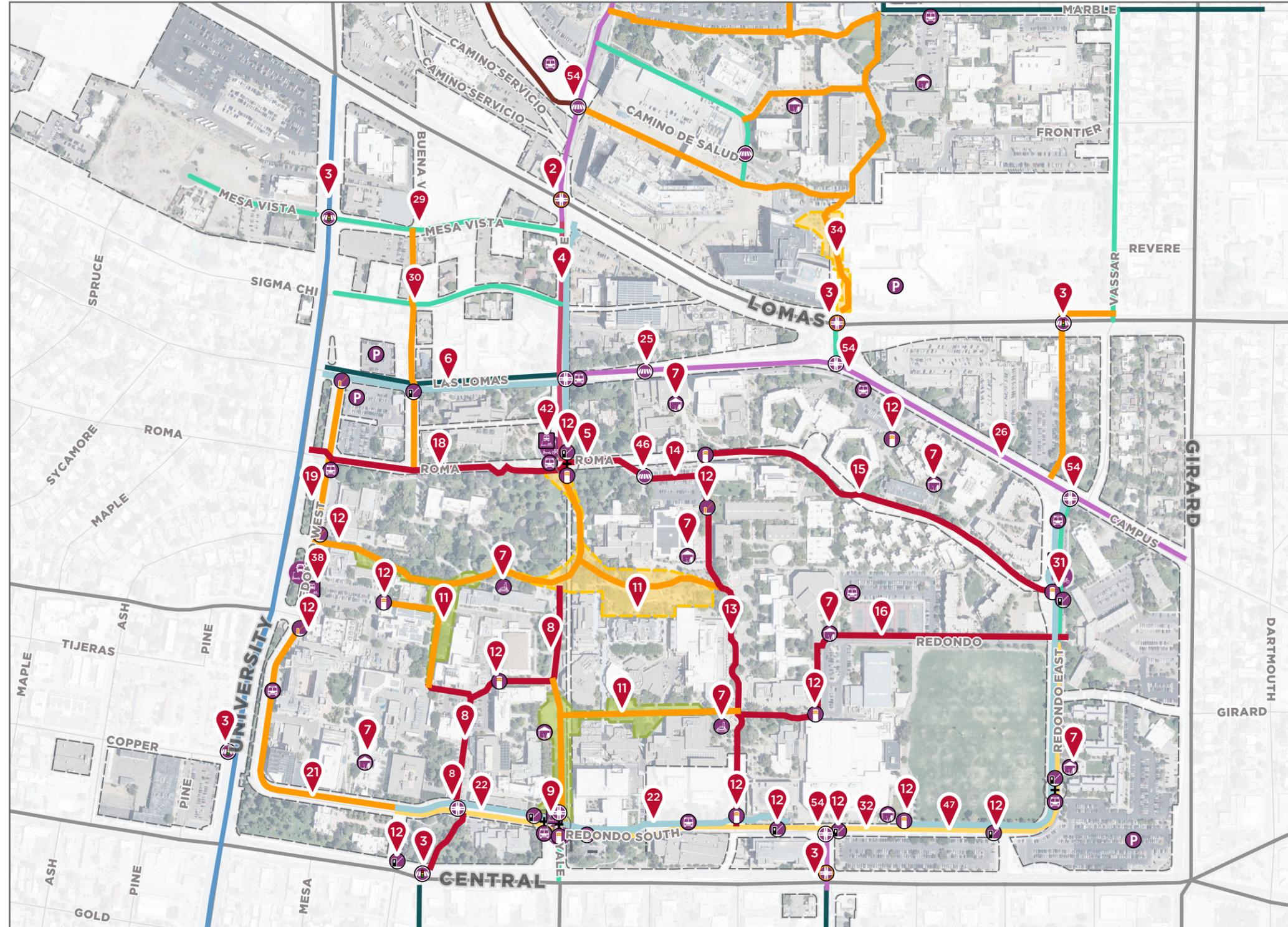
e. Adopt a Complete Streets Policy approach to Infrastructure

- i. Amend or add as supplement to the ICP a Complete Streets policy. Complete streets is a multimodal approach to roadway design and safety that considers all users of mobility infrastructure. A facility is considered "complete" if it facilitates safe, convenient, and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. As policy, all planning and design of mobility infrastructure improvements should be reviewed against the Complete Streets approach.

f. Adopt a Vision Zero Policy as a Mobility Safety Initiative

- i. Amend or add as supplement to the ICP a Vision Zero policy. Vision Zero is a world-wide initiative that focuses on reducing the number and severity of crashes on the transportation system with the goal of zero deaths or serious injuries. As policy, all planning and design of mobility infrastructure improvements should be reviewed against the Vision Zero approach.

Proposed Projects Map (Central Campus)



Proposed Non-Roadway Paths

- Delineated Path
- Enhanced Pedestrian Way
- Shared Path
- Multi-Use Trail

Proposed Roadway Paths

- Bike Boulevard
- Bike Lane, Buffered
- Bike Lane, Separated
- Bike Lane, Standard
- Cycle Track
- Shared Street

MMV Infrastructure

- MMV Shelter, Charging
- MMV Valet
- MMV Shelter
- Mobility Hub
- Shuttle Stop

Proposed Crossings

- Crossing, Not Signalized
- Crossing, Signalized
- Enhanced Non-Signalized Intersection
- Enhanced Signalized Intersection
- Parking Garage

Bollard/Gates

- Bollard
- Gates, Automatic
- Gates, Manual

Zones

- Speed Limit Zones
- Dismount Zones

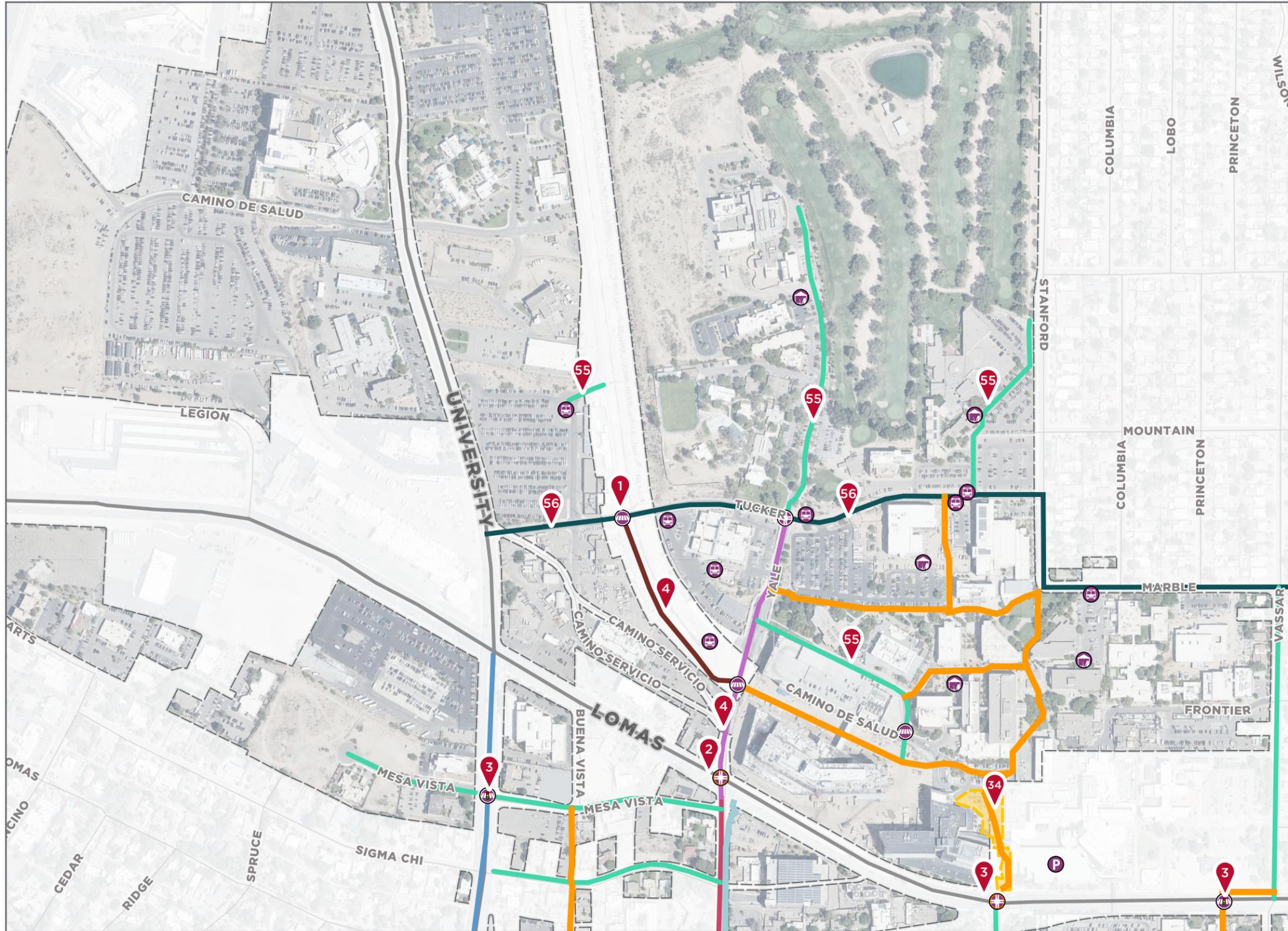
Proposed Project IDs

- Project Matrix Number

Map 39. Project Phasing Map (Central Campus)



Proposed Projects Map (North Campus)



Proposed Non-Roadway Paths

- Delineated Path
- Enhanced Pedestrian Way
- Shared Path
- Multi-Use Trail

Proposed Roadway Paths

- Bike Boulevard
- Bike Lane, Buffered
- Bike Lane, Separated
- Bike Lane, Standard
- Cycle Track
- Shared Street

MMV Infrastructure

- MMV Shelter, Charging
- MMV Valet
- MMV Shelter
- Mobility Hub
- Shuttle Stop

Proposed Crossings

- Crossing, Not Signalized
- Crossing, Signalized
- Enhanced Non-Signalized Intersection
- Enhanced Signalized Intersection
- Parking Garage

Bollard/Gates

- Bollard
- Gates, Automatic
- Gates, Manual

Zones

- Speed Limit Zones
- Dismount Zones

Proposed Project IDs

- Project Matrix Number

Map 40. Project Phasing Map (Central Campus)

Proposed Projects Map (South Campus)



Proposed Non-Roadway Paths

- Delineated Path
- Enhanced Pedestrian Way
- Shared Path
- Multi-Use Trail

Zones

- Speed Limit Zones
- Dismount Zones

Proposed Roadway Paths

- Bike Boulevard
- Bike Lane, Buffered
- Bike Lane, Separated
- Bike Lane, Standard
- Cycle Track
- Shared Street

Proposed Project IDs

- Project Matrix Number

MMV Infrastructure

- MMV Shelter, Charging
- MMV Valet
- MMV Shelter
- Mobility Hub
- Shuttle Stop

Proposed Crossings

- Crossing, Not Signalized
- Crossing, Signalized
- Enhanced Non-Signalized Intersection
- Enhanced Signalized Intersection
- Parking Garage

Bollard/Gates

- Bollard
- Gates, Automatic
- Gates, Manual

Map 41. Project Phasing Map (Central Campus)



FUNDING SOURCES

Federal

There are various opportunities to apply directly to USDOT/ FHWA for competitive grant funding as well as congressional earmarks. The following list highlights several funding opportunities to seek implement recommendations from this Plan.

a. USDOT Safe Streets For All (SS4A)

USDOT SS4A Planning and Demonstration Grants provide Federal funds to develop, complete, or supplement an Action Plan. The goal of an Action Plan is to develop a holistic, well-defined strategy to prevent roadway fatalities and serious injuries in a locality, Tribal area, or region. Planning and Demonstration Grants also fund supplemental planning activities in support of an Action Plan and demonstration activities in support of an Action Plan.

USDOT Safe Streets For All Planning and Demonstration Grants are funds meant to develop a Safe Mobility Action Plan. The focus of these Action Plans are to prevent fatalities and serious injuries on roadways. Money spent on developing these Action Plans are essential, as the Action Plans are required for applying to further grants.

USDOT SS4A Implementation Grants provide Federal funds to implement projects and strategies identified in an Action Plan to address a roadway safety problem. Eligible projects and strategies can be infrastructural, behavioral, and/or operational activities.

- > Low-Cost Safety Treatments
- > Network Risk Reduction
- > Complete Streets
- > Pedestrian Safety Enhancements
- > Bike Network Development
- > Speed Management
- > Safe Routes to School and Transit

- > Safety Technologies and Strategies
- > Education Initiatives
- > Roadway Departure Reduction
- > Intersection Improvements
- > Safety Strategies Identified in Other Plans

USDOT Safe Streets for All Implementation Grants is where projects identified in an Action Plan get funded. There are many infrastructure and policy projects that can get implemented through the SS4A Implementation Grant. These include roadway safety treatments, pedestrian experience enhancements, safe routes to school programming, education initiatives, intersection improvements, and more.

b. BUILD Grants

BUILD Grants are for surface transportation infrastructure projects with significant local or regional impact. The eligibility requirements of BUILD allow project sponsors, including state and local governments, counties, Tribal governments, transit agencies, and port authorities, to pursue multi-modal and multi-jurisdictional projects that are more difficult to fund through other grant programs. 2025 application is closed, but more applications will likely open in the future.

c. Surface Transportation Block Grant Program

If an entity believes they have a project that may be eligible under the STBG program, they should contact their respective State Department of Transportation (DOT) or local Metropolitan Planning Organizations (MPO) for additional information on projects and project funding.

07 IMPLEMENTATION

d. CMAQ Improvement Program

Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). BIL directs FHWA to apportion funding as a lump sum for each State then divide that total among apportioned programs. Mention of transferability to and from Other Federal-aid Apportioned Programs.

Non-Federal

The New Mexico Department of Transportation (NMDOT), in collaboration with the Mid Region Council of Governments (MRCOG), manages federal funding for transportation projects, including those designated for pedestrian and bicycle infrastructure. Programs such as the Transportation Alternatives Program (TAP) and the Surface Transportation Enhancement funding provide support specifically for non-motorized transportation facilities. At the state level, the New Mexico Legislature may allocate additional funds for bicycle projects through special appropriations or memorials during its legislative sessions.

Local funding mechanisms also play a key role in supporting bicycle infrastructure. The Capital Implementation Program (CIP) utilizes General Obligation (GO) bonds—5% of which are earmarked for bicycle projects in Albuquerque and Bernalillo County—to match federal funds or fund standalone projects. Additionally, the City’s Parks and Recreation Department benefits from GO bonds and tax revenues dedicated to trail development. The 1999 voter-approved gross receipts tax contributes \$1.65 million biennially to trail construction, though it lacks specific allocation for on-street bikeways. Finally, land development policies allow for collaboration with private entities to fund and implement bicycle infrastructure through dedications, improvements, and fees.

e. Additional Funding Sources

Other funding opportunities to seek in collaboration with the local governments on the appropriate right of ways include:

- > Public/Private Partnerships
- > Tax Increment Financing (TIFs), Special Investment Districts (SIDs), and Public Investment Districts (PIDs)
- > City Council set aside funds
- > Municipal bonds
- > Metropolitan Redevelopment Area projects

PHASING

Introduction

This section outlines proposed phasing for improvements to Safe Mobility on Main Campus. A Project Implementation Matrix is provided with a detailed improvement list to be implemented in the near-, mid-, and long-term. The phasing recommendation accommodate the guiding principles from the Integrated Campus Plan for mobility and connectivity while allowing for a phased approach to development.

The Project Implementation Matrix is divided into three distinct phases to help guide its execution.

a. Near-Term (1-3 yrs)

Near-Term 1 (1-3 years) prioritizes smaller, cost-effective goals. These are essential upgrades that can be accomplished soon and improve the safety and mobility function for high priority projects on campus in the short term. These projects provide a stepping stone for piloting and testing the successes of safe mobility improvements that can inform the development of larger projects.

b. Mid-Term (4-6 yrs)

Mid-Term (4-6 years) sets mid-term safe mobility projects for the campus that build off the infrastructure set in place in the near-term projects.

Long-Term (7-10 yrs)

Long-Term (7-10 years) explores the long-term goals for safe mobility on campus. It expands mobility hubs, creates delineated pathways, and modernizes additional safety measures in appropriate spaces on campus.

These proposed improvements should be combined with future developments and improvements on campus. These recommendations are intended to be used as a roadmap to improve the safe mobility on campus pragmatically and systematically, building towards the larger vision of the Integrated Campus Plan and Vision 2040.

Each project will require in-depth analysis, detailed studies, and complete design efforts before implementation. An Project Implementation Matrix with rough cost estimates is provided at the end of this section to assist in the future planning for these phased projects.

PROJECT IMPLEMENTATION MATRIX

The following Project Implementation Matrix and cost estimates were prepared in May 2025 for the Safe Mobility Action Plan. Design fees are not included and should be calculated on a project by project basis depending on scope, complexity and other factors. Design fees should assume an additional 10% contingency per project for future budgeting. These costs exclude contractor general requirements, overhead & profit, performance & payment bond, and New Mexico Gross Receipts Tax. Cost escalation should assume 4-6% per year beyond 2025.

Factors Influencing Prioritization

The Project Implementation Matrix calculates scoring for infrastructure improvements and administrative projects. Factors influencing the scoring include project locations on UNM landholdings and conflict areas, crash and injury locations, site assessment considerations, stakeholder input, and ease of implementation.

Project Implementation Matrix

Disclaimer: Costs included in the following matrix are intended to be general and used for long-range planning purposes. The estimates do not include UNM's internal administrative costs, right-of-way acquisition, surveying, tax or contingency. Construction costs will vary based on the ultimate project scope (i.e. combination with other projects) and economic conditions at the time of construction. These costs were prepared in the Spring of 2025. An escalation rate of 4-6% should be applied for each calendar year beyond 2025.

Project Implementation Matrix

#	Category	Project Type	Campus Location	Project Description	Priority (Low, Medium, High)	Near-Term (1-3 yrs)	Mid-Term (4-6 yrs)	Long-Term (7-10 yrs)	Priority Score	Infrastructure Improvement Project Scoring Only							Administrative Project Scoring Only				Planning Level Cost Estimate	
										Located on UNM landholding	Flagged as conflicts by taskforce	Flagged as conflict by mobility survey	Crash location	Flagged as conflict by other jurisdictions	No additional planning required	Roadway	Relatively easy to implement	Aligned w/ National Best Practices	Relatively easy to implement	Supportive survey response		Existing Dept. to manage
1	Infrastructure Improvements	Intersection Enhancement - Non-signalized	North Campus	Crossing Enhancement at Tucker Ave and North Diversion Channel Trail.	High	x			6	0	1	1	1	0	1	1	1	N/A	N/A	N/A	N/A	\$ 175,000
2	Planning and Analysis	Intersection Enhancement - Signalized	Central + North Campus	Signalized Intersection Enhancements at Yale and Lomas Blvd - Additional Planning and Analysis Study for safe pedestrian and MMV enhancements.	High	x			5	0	1	1	1	1	0	1	0	N/A	N/A	N/A	N/A	\$ 75,000
3	Planning and Analysis	Intersection Enhancement - Signalized	Central Campus	Proposed and Enhanced Crossings, Intersection Enhancements at Campus Perimeter including Central and Buena Vista (existing crossing), Central & Stanford (existing crossing), University north of Copper (proposed crossing), University north of Mesa Vista (proposed crossing), Lomas west of Vassar (proposed crossing)	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 200,000
4	Infrastructure Improvements	Pathway	Central + North Campus	Path Construction, Yale Blvd and North Diversion Channel Trail from Tucker Ave to Roma Ave: Construction of Multi-use Trail, Buffered Bike Lane, Bike Lane, and Enhanced Pedestrian Way paths.	High	x			6	1	1	1	1	1	0	1	0	N/A	N/A	N/A	N/A	\$ 950,000
5	Infrastructure Improvements	Intersection Enhancement - Non-signalized	Central Campus	Non-Signalized Intersection Enhancements at Yale Blvd and Las Lomas Rd for safe pedestrian and MMV enhancements.	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 225,000
6	Infrastructure Improvements	Pathway	Central Campus	Path Construction, Las Lomas Rd from Yale Blvd to University Blvd: pavement reconstruction, Bike Boulevard, and Enhanced Pedestrian Way paths.	High	x			6	0	1	1	1	1	0	1	1	N/A	N/A	N/A	N/A	\$ 700,000
7	Infrastructure Improvements	Secure Storage w/ Safe Charging	Central + North Campus	Install Secure and Safe Exterior Charging Stations at multiple Main Campus locations. First prepare feasibility study, then implement priority locations identified by study.	Medium	x			4	1	1	1	0	0	0	0	1	N/A	N/A	N/A	N/A	Varies, \$100,000 to \$250,000 per location
8	Infrastructure Improvements	Pathway	Central Campus	Path Construction, Central Ave and Buena Vista Dr (south terminus) to the Duck Pond (north terminus): Delineated path and non-signalized road crossing enhancement.	High	x			5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 400,000
9	Infrastructure Improvements	Intersection Enhancement - Non-signalized	Central Campus	Non-Signalized Intersection Enhancements at Yale Blvd and Redondo Dr: safe pedestrian and MMV enhancements.	High	x			5	1	1	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 215,000
10	Administrative (General Recommendations)	Education/Outreach	Central, North, and South Campus	Create Safe Mobility Officer Position and Safe Mobility Advisory Committee	Medium	x			3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	0	1	\$ -	
11	Infrastructure Improvements	Safety Measures	Central Campus	Establish Dismount Zone at Smith Plaza and Duck Pond, Speed Limit Zone at Yale Mall and Shared Pathway between Woodward and Popejoy.	High	x			6	1	1	1	1	0	1	0	1	N/A	N/A	N/A	N/A	\$ 30,000
12	Infrastructure Improvements	Access Controls	Central + North Campus	Install Access Controls at multiple Central Campus Locations to protect MMVs and Pedestrians from automobiles. Priority locations as identified on the "High Priority Projects Map" and "Proposed Access Control Map." (4 total locations)	High	x			6	1	1	1	0	0	1	1	1	N/A	N/A	N/A	N/A	\$ 30,000

Project Implementation Matrix

Project Implementation Matrix

Disclaimer: Costs included in the following matrix are intended to be general and used for long-range planning purposes. The estimates do not include UNM's internal administrative costs, right-of-way acquisition, surveying, tax or contingency. Construction costs will vary based on the ultimate project scope (i.e. combination with other projects) and economic conditions at the time of construction. These costs were prepared in the Spring of 2025. An escalation rate of 4-6% should be applied for each calendar year beyond 2025.

#	Category	Project Type	Campus Location	Project Description	Priority (Low, Medium, High)	Near-Term (1-3 yrs)	Mid-Term (4-6 yrs)	Long-Term (7-10 yrs)	Priority Score	Infrastructure Improvement Project Scoring Only							Administrative Project Scoring Only				Planning Level Cost Estimate	
										Located on UNM landholding	Flagged as conflicts by taskforce	Flagged as conflict by mobility survey	Crash location	Flagged as conflict by other jurisdictions	No additional planning required	Roadway	Relatively easy to implement	Aligned w/ National Best Practices	Relatively easy to implement	Supportive survey response		Existing Dept. to manage
13	Infrastructure Improvements	Pathway	Central Campus	Cornell Mall between Redondo Drive and Union Square; Union Square to Roma Ave West. Construct delineated path.	Medium		x		3	1	1	1	0	0	0	0	0	N/A	N/A	N/A	N/A	\$ 700,000
14	Infrastructure Improvements	Pathway	Central Campus	Construct Delienated Path from Union Square, along east side of Zimmerman to Roma Ave, west to future Mobility Hub at Duck Pond and Yale Blvd.	High		x		5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 450,000
15	Infrastructure Improvements	Pathway	Central Campus	Construct Delineated Path along Roma Way from Redondo Dr future Mobility Hub at Casas del Rio west to Zimmerman	Medium		x		4	1	1	1	0	0	0	0	1	N/A	N/A	N/A	N/A	\$ 300,000
16	Infrastructure Improvements	Pathway	Central Campus	Redondo Court between Redondo Dr East and Cornell Mall near SHAC. Construct Delineated Path.	Medium		x		4	1	1	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 625,000
17	Infrastructure Improvements	Access Controls	Central Campus	Install Access Controls at multiple Central Campus Locations to protect MMVs and Pedestrians from automobiles. Second Priority Locations (6 total locations)	High	x			5	1	1	0	0	0	1	1	1	N/A	N/A	N/A	N/A	\$ 45,000
18	Infrastructure Improvements	Pathway	Central Campus	Construct Delienated Path from Duck Pond Mobility Hub west along Roma to Redondo West.	Medium		x		3	1	0	0	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 575,000
19	Infrastructure Improvements	Pathway	Central Campus	Redondo Dr between Las Lomas to Ash. Conversion of Redondo from roadway to Shared Path.	Low			x	2	1	0	0	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 800,000
21	Infrastructure Improvements	Pathway	Central Campus	Redondo Dr between MLK Jr. Ave and Art Annex. Conversion of Redondo from roadway to Shared Path.	Medium			x	3	1	0	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 1,500,000
22	Infrastructure Improvements	Pathway	Central Campus	Redondo Dr between Art Annex and Yale. Construct Cycle Track and Enhanced Pedestrian Way.	Medium			x	4	1	1	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 425,000
23	Infrastructure Improvements	Pathway	Central Campus	Redondo Dr between Yale and Stanford. Construct Cycle Track and Enhanced Pedestrian Way.	Medium			x	4	1	0	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 700,000
24	Infrastructure Improvements	Pathway	Central Campus	Las Lomas Rd between Yale Blvd and Stanford Dr; Install Bike Lane, Buffered.	High	x			5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 600,000
25	Infrastructure Improvements	Non-signalized Crossing	Central Campus	Las Lomas Rd between Yale Blvd and Stanford Dr; Install Bike Lane, Buffered.	Low	x			1	1	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	\$ 25,000
26	Infrastructure Improvements	Pathway	Central Campus	Campus Blvd between Stanford Dr and Girard Blvd. Install Bike Lane, Buffered. (recently improved to Shared Street w/ reverse in angled parking	High		x		5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 950,000
27	Infrastructure Improvements	Pathway	Central Campus	Buena Vista, from Las Lomas to Roma, Construct Shared Path	Low		x		2	1	0	0	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 325,000
28	Infrastructure Improvements	Access Controls	Central Campus	Buena Vista at Las Lomas, associated with conversion of Buena Vista to Shared Path	Low		x		2	1	0	0	0	0	0	0	1	N/A	N/A	N/A	N/A	\$ 40,000
29	Infrastructure Improvements	Pathway	Central Campus	Mesa Vista Rd NE between University Blvd NE and Yale Blvd NE. Construct Shared Street	Medium		x		3	1	0	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 30,000
30	Infrastructure Improvements	Pathway	Central Campus	Sigma Chi Rd NE between University Blvd NE and Yale Blvd NE. Construct Shared Street	Medium		x		3	1	0	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 30,000
31	Infrastructure Improvements	Pathway	Central Campus	Redondo East from Campus Blvd to Redondo Court. Construct Shared Roadway. Includes 1 associated Auto Lift Gate	Medium		x		4	1	0	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 350,000
32	Infrastructure Improvements	Pathway	Central Campus	Redondo East from Redondo Court to Standord. Construct Cycle Track and Enhanced Pedestrian Way. Includes 3 associated Auto Lift Gates.	High		x		5	1	1	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 1,200,000
33	Infrastructure Improvements	Pathway	Central Campus	Stanford, from Central to Redondo, Construct Buffered Bike Lanes.	High		x		5	1	1	1	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 30,000

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34	Infrastructure Improvements	Safety Measures	North Campus	Establish Dismount Zone for path cutting through UNM Hospital at Stanford, north through hospital drop off loop.	Low		x		2	1	0	1	0	0	0	0	0	N/A	N/A	N/A	N/A	\$ 10,000
35	Infrastructure Improvements	Access Controls	Central Campus	Redondo and Ash, Manual gate, associated with conversion of Redondo from roadway to Shared Path.	Low			x	2	1	0	0	0	0	0	0	1	N/A	N/A	N/A	N/A	\$ 20,000
36	Infrastructure Improvements	Access Controls	Central Campus	Redondo and Las Lomas, Manual gate, associated with conversion of Redondo from roadway to Shared Path.	High	x			6	1	1	1	1	1	0	0	1	N/A	N/A	N/A	N/A	\$ 20,000
37	Infrastructure Improvements	Mobility Hub	Central Campus	Redondo at Casas del Rio roundabout.	Medium			x	3	1	0	1	1	0	0	0	0	N/A	N/A	N/A	N/A	\$ 2,000,000
38	Infrastructure Improvements	Mobility Hub	Central Campus	Redondo W between MLK and Ash	Low			x	2	1	0	1	0	0	0	0	0	N/A	N/A	N/A	N/A	\$ 2,000,000
39	Infrastructure Improvements	Safety Measures	Central Campus	In between the Science and Math Learning Center and the UNM department of Chemistry and Biology, east to Duck Pond- Establish Speed Limit Zone.	Low			x	2	1	0	0	0	0	1	0	0	N/A	N/A	N/A	N/A	\$ 10,000
40	Infrastructure Improvements	Access Controls	Central Campus	Redondo south of MLK. Manual gate, associated with conversion of Redondo from roadway to Shared Path	Medium			x	4	1	1	1	0	0	0	0	1	N/A	N/A	N/A	N/A	\$ 20,000
41	Infrastructure Improvements	Access Controls	Central Campus	Auto Lift Gate on the southern border of UNM along Central Ave NE, in between the Art Annex and Sara Reynolds Hall	Medium		x		4	1	0	0	0	0	1	1	1	N/A	N/A	N/A	N/A	\$ 40,000
42	Infrastructure Improvements	Mobility Hub	Central Campus	At the intesection of Redondo Dr NE and Yale Blvd NE, at the start of the Speed Zone located on the western side of the Physics and Astronomy Building. Includes Shared Path on Yale, from Central to Redondo.	Medium		x		4	1	1	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 1,350,000
43	Infrastructure Improvements	Mobility Hub	Central Campus	The roundabout outside of Dane Smith Hall	Medium	x			4	1	1	1	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 1,200,000
44	Infrastructure Improvements	Access Controls	Central Campus	The roundabout outside of Dane Smith, at the pedestrian intersection across Roma Ave NE. Associated with Mobility Hub at Dane Smith Hall.	High	x			5	1	1	1	1	0	0	0	1	N/A	N/A	N/A	N/A	\$ 40,000
45	Infrastructure Improvements	Access Controls	Central Campus	In between Zimmerman Library and the Education Classrooms. Manual Gate, associated with Delineated Path.	Medium		x		3	1	1	0	0	0	0	0	1	N/A	N/A	N/A	N/A	\$ 20,000
46	Infrastructure Improvements	Non-signalized Crossing	Central Campus	Roma Ave north of Zimmerman	High		x		5	1	1	1	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 70,000
47	Planning and Analysis	Pathway	Central Campus	Collaborate with CABQ to procure traffic engineering study of converting portion of Redondo to one-way shuttle and service vehicle only and one portion to shared use path only.	High	x			5	0	1	1	1	0	0	1	1	N/A	N/A	N/A	N/A	\$ 250,000
48	Planning and Analysis	General Recommendation	Central, North, and South Campus	Collect more crash data	Medium	x			2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	0	0	1	\$ -
49	Planning and Analysis	General Recommendation	Central, North, and South Campus	For future policy development, additional research and outreach to peer universities is recommended. This additional planning effort will help inform UNM's policy development and enforcement strategies	High	x			3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	0	1	\$ -

Project Implementation Matrix

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50	Infrastructure Improvements	Pathway	South Campus	Bradbury Dr SE between The MTTC Building and Avenida Cesar Chavez, Construct Shared Street	Low			x	2	1	0	0	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 50,000
51	Infrastructure Improvements	Pathway	South Campus	Construct Shared Path from Bradbury running east along the southside of the MTTC, turning north between the MTTC and Park North, ending at Basehart SE.	Low			x	2	1	0	0	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 30,000
52	Infrastructure Improvements	Pathway	South Campus	Construct a Bike Boulevard along Buena Vista SE	Medium		x		4	0	1	0	1	1	0	1	0	N/A	N/A	N/A	N/A	TBD w/ CABQ
53	Infrastructure Improvements	Non-signalized Crossing	South Campus	Enhance crossings across South Campus, including Avenida Cesar Chavez and Buena Vista, Sunshine Terrace south of the Lobo Fields, and Avenida Cesar Chavez to Bradbury Dr SE.	Low			x	2	0	0	0	1	0	0	1	0	N/A	N/A	N/A	N/A	\$ 210,000
54	Infrastructure Improvements	Non-signalized Crossing	Central and North Campus	Enhanced crossings across Central and North Campus, including Tucker and Yale, Campus and Stanford, Stanford and Redondo, and Campus and Redondo.	High		x		5	1	0	1	1	0	0	1	1	N/A	N/A	N/A	N/A	\$ 420,000
55	Infrastructure Improvements	Pathway	North Campus	Shared Street enhancements on North Campus	Low			x	3	1	0	0	0	0	0	1	1	N/A	N/A	N/A	N/A	\$ 300,000
56	Infrastructure Improvements	Pathway	North Campus	Bike Boulevard enhancements on Tucker Ave	Low			x	2	1	0	0	0	0	0	1	0	N/A	N/A	N/A	N/A	\$ 100,000

