NORTH LAS VEGAS
CITYWIDE
PEDESTRIAN & BICYCLE PLAN

DECEMBER 2019

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This Plan was prepared for the City of North Las Vegas by Alta Planning + Design and Purdue Marion & Associates, with funding and planning assistance from the Regional Transportation Commission of Southern Nevada, Steering Committee, and local staff.

CITY OF NORTH LAS VEGAS

RTC

alta PLANNING + DESIGN

PURDUE MARION & ASSOCIATES
PUBLIC RELATIONS

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ACRONYMS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS
ACS	AMERICAN COMMUNITY SURVEY
ADA	AMERICAN WITH DISABILITIES ACT
ADT	AVERAGE DAILY TRAFFIC
APBP	ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS
APWA	AMERICA PUBLIC WORKS ASSOCIATION
BRT	BUS RAPID TRANSIT
CCSD	CLARK COUNTY SCHOOL DISTRICT
CEDS	COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY
CDSN	CONSERVATION DISTRICT OF SOUTHERN NEVADA
CMAQ	CONGESTION MITIGATION AND AIR QUALITY
CIP	CAPITAL IMPROVEMENT PROGRAM
CLV	CITY OF LAS VEGAS
CPTED	CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN
DMV	DEPARTMENT OF MOTOR VEHICLES
EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
FHWA	FEDERAL HIGHWAY ADMINISTRATION
GIS	GEOGRAPHIC INFORMATION SYSTEM
HAWK	HIGH-INTENSITY ACTIVATED CROSSWALK
HOA	HOMEOWNERS ASSOCIATION
HOV	HIGH OCCUPANCY VEHICLE
HUD	U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ITE	INSTITUTE OF TRANSPORTATION ENGINEERS
LEED	LEADERSHIP IN ENERGY EFFICIENT DESIGN
LOC	(BICYCLIST) LEVEL OF COMFORT
LWCF	LAND AND WATER CONSERVATION FUND
MPH	MILES PER HOUR
MPO	METROPOLITAN PLANNING ORGANIZATION
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MSA	METROPOLITAN STATISTICAL AREA
NACTO	NATIONAL ASSOCIATION OF CITY TRANSPORTATION OFFICIALS
NDEP	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
NHTS	NATIONAL HOUSEHOLD TRAVEL SURVEY
OHV	OFF-HIGHWAY VEHICLE
PROWAG	PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES
RDA	REDEVELOPMENT AUTHORITY
RRFB	RECTANGULAR RAPID FLASH BEACON
RTC	REGIONAL TRANSPORTATION COMMISSION OF SOUTHERN NEVADA
RTP	REGIONAL TRANSPORTATION PLAN
RTCA	RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM
SNHD	SOUTHERN NEVADA HEALTH DISTRICT
SNPLMA	SOUTHERN NEVADA PUBLIC LANDS MANAGEMENT ACT
SNRHA	SOUTHERN NEVADA REGIONAL HOUSING AUTHORITY
SNRPC	SOUTHERN NEVADA REGIONAL PLANNING COALITION
SNS	SOUTHERN NEVADA STRONG
SNWA	SOUTHERN NEVADA WATER AUTHORITY
SRTS	SAFE ROUTES TO SCHOOL
STP	SURFACE TRANSPORTATION PROGRAM
TAP	TRANSPORTATION ALTERNATIVES PROGRAM
TDM	TRANSPORTATION DEMAND MANAGEMENT
TIP	TRANSPORTATION IMPROVEMENT PROGRAM
TIGER	TRANSPORTATION INVESTMENT GENERATING ECONOMIC RECOVERY
TOD	TRANSIT ORIENTED DEVELOPMENT
TRB	TRANSPORTATION RESEARCH BOARD
UNLV	UNIVERSITY OF NEVADA, LAS VEGAS
USDA	U.S. DEPARTMENT OF AGRICULTURE
USDOT	U.S. DEPARTMENT OF TRANSPORTATION
VOC	VOLATILE ORGANIC COMPOUND

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

01

INTRODUCTION

In cities that are walkable and bikeable, people walk or bike for transportation and recreation because these are convenient, safe, and healthy ways to get around. Such cities make it possible for people of all ages and abilities to rely on walking and biking for their everyday trips to work, grocery stores, schools, parks, recreation, transit, and other civic destinations. The 2019 North Las Vegas Citywide Pedestrian and Bicycle Plan (CPBP) aspires to encourage and accommodate people who need or want to get around on foot, wheelchair, bike, or other means that fall under the umbrella of active transportation, which is defined as personal transportation by which people move under their own power.

There are several reasons for improving conditions for pedestrians and bicyclists in North Las Vegas:

- **Community Health.** Providing more opportunities for walking and biking allows people to incorporate physical activity into their daily routine and can increase access to existing recreational amenities such as regional trails, parks, and recreation centers.
- **Environmental Quality.** A significant impact higher rates of walking and biking have on the environment is improved air quality. The Las Vegas Valley historically rates poorly among U.S. cities for ozone levels, which puts residents at an increased risk of lung problems.
- **Equity.** A transportation system that requires residents to rely on a car for their mobility needs is not an equitable one. Some people, due to age, ability, or economic status, are unable to drive or don't have access to a car.
- **Economic Growth.** Walkable and bikeable communities promote property value appreciation and customer behavior that is advantageous for the local economy.
- **Quality of Life.** More and more people prefer to live in walkable and bikeable communities. A safe, connected pedestrian and bicycle network gives people more transportation choices, promotes stronger place attachment, encourages more social interactions, and increases people's overall enjoyment of their community.

This plan aims to help the City of North Las Vegas to realize these and other benefits of increased investments in active transportation.

EXISTING CONDITIONS

Incorporated as a City in 1946, North Las Vegas has seen development patterns characteristic of many American cities of that era. Mid-twentieth century American urban development was largely influenced by the commodification of the person automobile, enabling low-densities and sprawled land uses, resulting in longer trips and car dependency. This auto-centric influence permeates development practices and culture to the present day in North Las Vegas.

Today, North Las Vegas provides approximately 62 miles of walking and bicycling facilities (excluding sidewalks) to its residents, roughly half of which are off-street trails or sidepaths. Only eleven percent of the City's arterials and collectors have dedicated bicycle facilities.

Under current conditions, the bicycle and pedestrian network in North Las Vegas is made up of several "islands" of low-stress streets (i.e. comfortable enough to ride with or as a child). A half-mile - sometimes quarter-mile - grid of major streets and large intersections is what separates these "islands", disrupting the continuity and connectivity required for a network that is suitable for all ages and abilities.

There are approximately 62 miles of walking and bicycling facilities in North Las Vegas today (excluding sidewalks)

EXECUTIVE SUMMARY

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PUBLIC ENGAGEMENT

Roughly **800 people**, all of whom either visit, live, work, or recreate in North Las Vegas, participated in the public process for the Citywide Pedestrian and Bicycle Plan.

Public outreach efforts were divided into two phases: 1) Existing Conditions and 2) Recommendations. The Existing Conditions phase was focused on learning from locals about opportunities and barriers to walking and biking in North Las Vegas, while the Recommendations phase was geared towards getting feedback on the recommended network, facility types, and proposed policies and programs. In both phases, methods for public input included **Online surveys**, **Online interactive maps**, and **in-person pop-up events** that were coordinated with local community events such as the annual Pirate Festival at Craig Ranch Regional Park.

TOP 3 BARRIERS *to* WALKING & BIKING

- Aggressive drivers
- Unsafe roads, sidewalks, or trails
- Unsafe crossings

Only **45%** of survey respondents said they feel comfortable walking in North Las Vegas

Many North Las Vegas residents expressed a concern for safety, especially at major street crossings. Recommendations that received the most support included those that propose better access to and street crossings along the Upper and Lower Wash Trails and safer connections across I-215.

EXECUTIVE SUMMARY

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RECOMMENDED NETWORK

In concert with the vision and goals of this plan, the recommendations for improving the pedestrian and bicycle network aim to make walking and biking normal and safe everyday activities for people of **all ages and abilities** (AAA). The proposed network achieves this by ensuring connectivity of high-comfort facilities that the majority of North Las Vegas residents will feel safe using. Facilities that are considered high-comfort are characterized by physical separation from traffic or, in the case of neighborhood byways, the use of low-volume, low-speed streets. Separated bike lanes, shared use paths, sidepaths, wide and/or buffered sidewalks, and neighborhood byways are all examples of high-comfort facilities proposed in this plan. Of the approximately **239 miles** of newly proposed facilities, roughly **163 miles** provide either physical separation or routes along low-volume, low-speed streets.

A handful of primary themes for future recommendations were established in the existing conditions analysis and public outreach. While not all recommendations fall in to these improvement categories, proposed routes and facilities generally aim to:

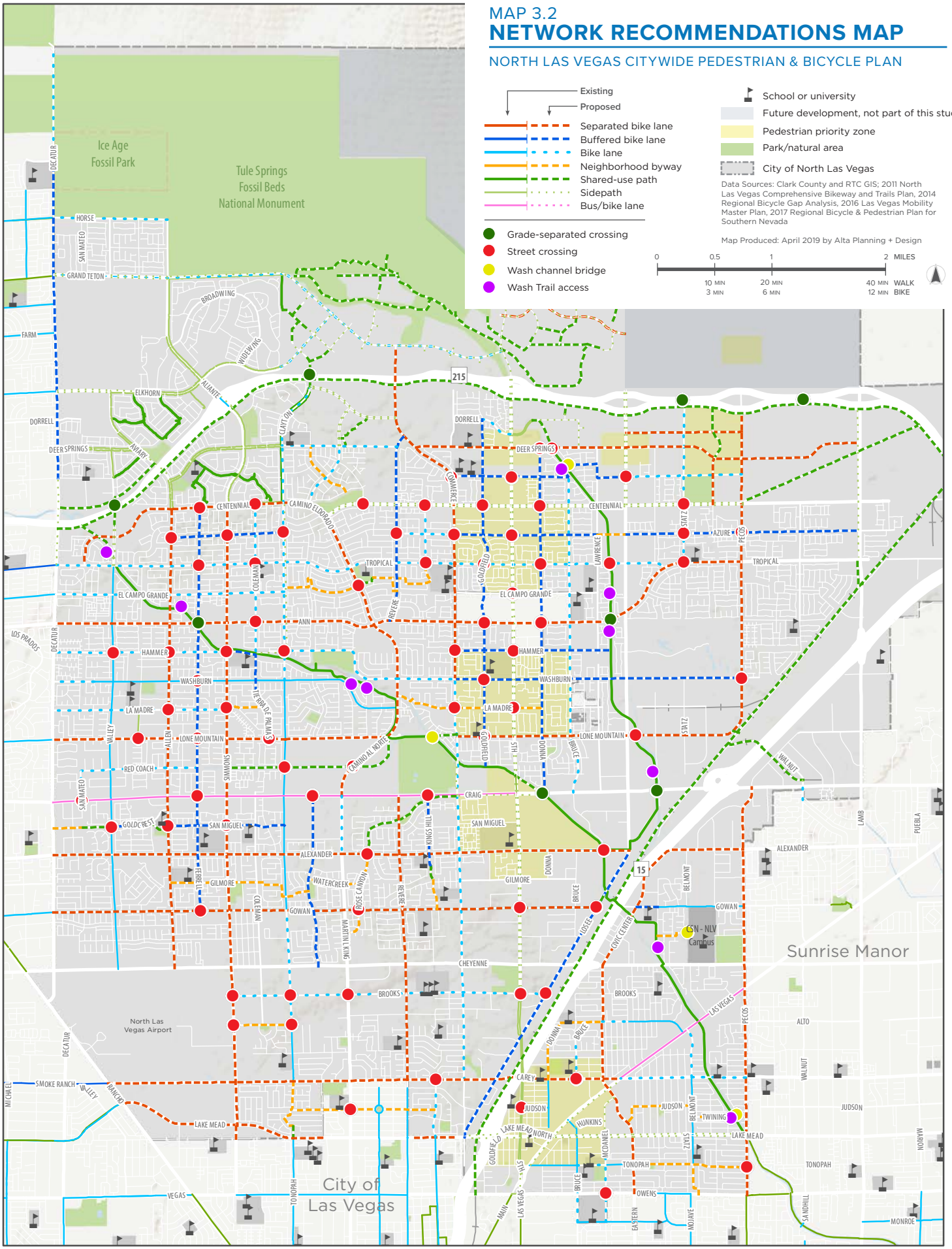
- **Make regional connections**
- **Provide better access to the Upper and Lower Wash trails**
- **Establish better North-South connectivity**
- **Utilize low-volume, low-speed streets, and**
- **Ensure safe crossings at major streets and intersections.**

239 miles of newly recommended pedestrian and bicycle infrastructure

MAP 3.2

NETWORK RECOMMENDATIONS MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



EXECUTIVE SUMMARY

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RECOMMENDED POLICIES & PROGRAMS

This chapter recommends the adoption or implementation of policies and programs in the City's codes, guidelines, and standards that are derived from best practices in active transportation infrastructure design. Several modifications to and new recommendations for the City's development standards, code, and roadway design standards are also included in these recommendations. Outlined in more detail in Chapter 4, recommendations include:

- Enhanced standards for **street and pedestrian connectivity**, including increased connectivity index requirements, shorter maximum block lengths, enhanced cul-de-sac standards, and better pedestrian access to regional trails and neighborhoods
- Unified **wayfinding and branding** system
- Enhanced **Complete streets** standards that can be incorporated into standard street cross sections
- Better accommodation of bicyclists with **end-of-trip facilities** through enhanced building code and land development standards
- Allowing **bicycles on sidewalks** except in areas designated as priority pedestrian zones
- Measuring the success of active transportation investments through **performance tracking**, including applying for Bicycle Friendly America status with the League of American Bicyclists and establishing bicycle and pedestrian counting programs.
- Establishing **priority pedestrian zones** near commercial, employment, or transit centers that have heightened standards for pedestrian comfort
- Considerations for **emerging mobility trends**

EXECUTIVE SUMMARY

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IMPLEMENTATION STRATEGIES

By establishing a prioritization method and identifying "quick wins", the City of North Las Vegas can get a strong start to implementing the recommendations in this plan. This chapter outlines the criteria for prioritizing projects and highlights a handful of projects or policies that are considered "quick wins" - low hanging opportunities that can easily be implemented early on to generate momentum for the implementation of the plan.

Prioritization Criteria

The table below categorizes and briefly describes the criteria to be used in prioritizing recommended projects, which are outlined in more detail in Chapter 5. The prioritization criteria established in this chapter will enable the City to rank projects based on the goals and objectives of the plan. By giving each criteria a weight and scoring each project accordingly, the City can use this tool as a general guide to determine where investments will be best spent.

Quick Wins

"Quick wins" are projects the City can implement within six months of plan adoption that require minimal planning and modest investment of time and resources. The following initiatives have been identified as quick wins:

- Revise the ordinance prohibiting bicycle riding on sidewalks
- Incorporate a multimodal approach into the upcoming North Las Vegas Master Streets and Highways update
- Screen the City's capital improvement projects list for opportunities to coordinate with infrastructural recommendations from this plan

Transportation choice	Provides access to transit	Project improves direct access to transit
	Addresses a network gap	Project was identified as a high priority project in the RTC Bike Gap Analysis
	Connects to destinations	Connects to neighborhoods, recreation opportunities, education, and employment/commercial centers.
	Regional connection	Connects to existing facilities and adjacent jurisdictions
Comfort & Safety	Addresses bicycle/pedestrian crashes	Project will address corridors and intersections with high rates of bicycle or pedestrian crashes
	Provides a high comfort facility	Projects provides a facility of high comfort that appeals to users of all ages and abilities (LOC 1 or 2)
Implementation	Public support	Project received a high level of public support throughout the planning process
	Potential for near-term implementation synergy	Ability for projects to share resources or leverage other near-term planned construction projects
	Quick wins	Project requires a modest investment, has few barriers to implementation, and could be constructed within six months
	High visibility	Project is located in an area with high public visibility or visitation
Equity & Health	Serves areas with low equity / high inequality	Project serves areas with low equity, high inequality (dark blue on "Equity" map)
	School connection	Connects to schools

PROJECT GOALS & OBJECTIVES

TRANSPORTATION CHOICE

- Develop a connected, convenient active transportation network that links up neighborhoods, recreation opportunities, education, and employment centers
- Develop regional active transportation connections to adjacent jurisdictions
- Develop first-last mile connections to transit to promote transportation choices for North Las Vegas residents

COMFORT & SAFETY

- Develop active transportation facilities that are safe and appeal to all ages and abilities
- Maintain roadways and other bicycling and walking facilities, like sidewalks, trails, and crossings, so that they are safe and comfortable
- Address safety concerns expressed by residents and visitors to encourage more people to walk and ride
- Reduce the number and severity of crashes involving pedestrians and bicyclists

IMPLEMENTATION

- Leverage and build on North Las Vegas' Complete Streets Policy to improve policies and procedures so that active transportation is adequately considered in all City processes
- Plan for emerging technology trends that may impact active transportation
- Standardize funding practices and mechanisms for bicycle and pedestrian improvements as an essential piece of recreation and transportation planning
- Reduce infrastructure costs by completing improvements in conjunction with routine maintenance, construction, and roadway redesign or reconstruction projects
- Adhere to industry best practices for the design of active transportation facilities

PROGRAMS

- Encourage healthy lifestyles and active transportation though community activities and educational outreach centered on the benefits of walking and bicycling, facilities and programs, traffic laws, and proper etiquette
- Educate and encourage school age children and younger so that bicycling and walking are normal parts of their lives
- Advise decision makers and community stakeholders about the benefits of walking and bicycling
- Develop education programs to promote empathy for vulnerable users

EQUITY & HEALTH

- Prioritize access for traditionally underserved populations, including minorities, low-income, older adults, and children
- Ensure that all children can safely walk and bike to school
- Promote active transportation as a way to improve air quality and provide environmental benefits
- Ensure that all active transportation facilities accommodate people with disabilities

01

INTRODUCTION & EXISTING CONDITIONS

THE IMPORTANCE OF WALKING AND BIKING IN NORTH LAS VEGAS

Walking and bicycling are the most common forms of active transportation - personal transportation where people move under their own power. Active transportation includes walking or riding a bike to school, walking to the store or church, going on a bike ride or skating on a local trail, or bicycling to work. This is an important part of overall mobility, complementing and enhancing transit and vehicular-based transportation.

Planning for and expanding pedestrian and bicycle infrastructure, programming, and policy in North Las Vegas not only benefits those who choose to walk and bike, but also those who cannot or choose not to use an automobile for transportation. And many of the benefits to health, safety, and the local economy are experienced by all in the community, regardless of whether they personally choose to walk and bike.

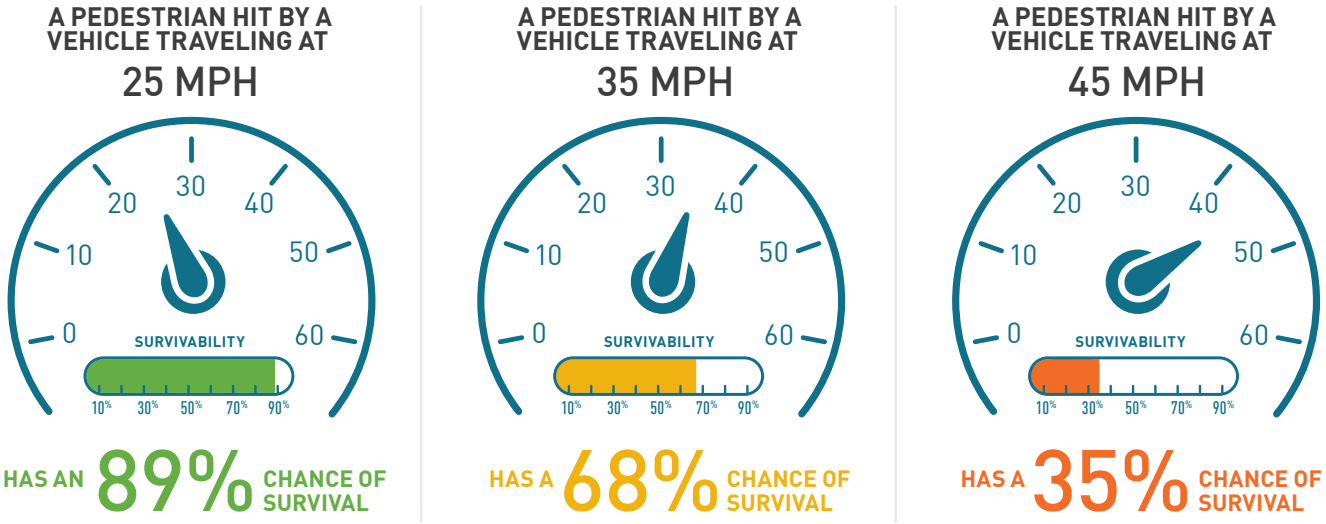
SAFETY

PLANNING FOR SAFETY

Streets with pedestrian and bicycle infrastructure not only improve safety for people walking and riding bikes but also for those driving. Incorporating pedestrian and bicycle infrastructure improves safety by increasing predictability, slowing motor traffic speeds in some cases, increasing separation between cars and more vulnerable users, and encouraging a more deliberate and attentive use of the roadway system. (Ewing & Dumbaugh, 2010) These safety improvements require a multi-modal planning approach that accommodates pedestrians, bicyclists, and motorists as they share the street.

Studies have shown slower motor vehicle speeds exponentially increase survival rates for both pedestrians and people riding bicycles involved in collisions with motor vehicles. In a collision with a vehicle traveling 25 mph, a pedestrian or bicyclist has an 89 percent survival rate. Survival rates drop to 68 percent at 35 mph and 35 percent at 45 mph.

As the pedestrian and bicycle network expands to attract more active transportation participation, pedestrians and bicyclists experience increased safety due to the "safety in numbers" effect. Studies across the world suggest that the risk of injury or death in a collision with motor vehicles declines as more people walk and bicycle. One study showed that when walking and bicycling rates double, per-mile pedestrian-motorist collision risk can decrease by as much as 34 percent. (Jacobson, 2010) Policies and infrastructure that increase the numbers of people walking and bicycling appear to be an effective method of improving safety for all roadway users.



Tefft, B. C. *Impact speed and a pedestrian's risk of severe injury or death*. Accident Analysis & Prevention 50 (2013) 871-878.

HEALTH AND WELLNESS

WALKING & BICYCLING COMMUNITIES ARE HEALTHY COMMUNITIES

Encouraging walking and bicycling through improved infrastructure and programs can improve the physical and mental health of residents by allowing people to incorporate physical activity into their daily routines. Residents of walkable communities are twice as likely to meet minimum physical activity levels as compared to those who do not live in walkable neighborhoods. (Frank, 2005) These facilities also provide improved access to parks and recreation facilities, which are also linked to increased physical activity.

Meeting minimum levels of daily physical activity lowers risk of heart disease, stroke, Type 2 diabetes, depression, some cancers, obesity (CDC, 2015), and even Alzheimer's disease and dementia (Erickson, 2013). Cities with higher levels of walking and bicycling also have lower rates of obesity and diabetes. (Ogden, 2013) Despite the inherent risks tied to bicycling, studies have shown that the health benefits of bicycling to an individual outweigh the risks 9 to 1, even when accounting for higher exposure to air pollution and risk of traffic collisions, and that the net benefit to the community is even larger. (de Hartog, 2010)

ENVIRONMENTAL QUALITY

Walking and bicycling can also improve environmental quality in North Las Vegas and the surrounding area. As more residents choose active transportation modes for their daily needs and drive their cars less, the biggest improvement in environmental quality will be seen in the form of reductions in air pollution derived from motor vehicles. Air pollution is an area of concern in the Las Vegas Valley, as the area ranks in the worst 5% of U.S. cities for ozone levels, with the 12th highest levels in 2018. High ozone levels increase health issues among the young and old, those who exercise, people with asthma, lung disease, or heart disease, and also has been linked to higher rates of asthma among children. (American Lung Association, 2016)

IMPROVED QUALITY OF LIFE

As people are able to more easily get around by walking or bicycling they experience a higher quality of life, including factors such as freedom of choice, health, and safety. Bike commuters consistently report lower stress levels compared to auto commuters (New Economics Foundation) and youth who engage in 60 minutes of moderate to vigorous physical activity daily have better cognitive processing, attention spans, academic performance, and self-esteem (National Academy of Medicine).

Nearly two-thirds (62 percent) of Millennials prefer to live in mixed-use, walkable communities due to increased quality of life (Millennials: Breaking the Myths, 2014) and Americans over 50 are increasingly concerned about retaining independence through "aging in place" or remaining in their homes and active in their communities for as long as possible. Walkable and bikeable communities enable people to age in place and continue contributing to their communities. (Kaye, et. al., 2010)

EMPATHY

While bicycling is not an inherently dangerous activity, many safety concerns arise from the risk of harm posed by sharing the road with automobile drivers. Research continues to emerge on the topic of drivers' attitudes towards cyclists and behaviors behind the wheel based on those attitudes.

As one would assume, studies find that drivers who also walk or ride bicycles on a frequent basis (once a week) for utilitarian purposes (e.g. commuting to work, as opposed to recreational trips) are more aware of pedestrians and bicyclists when they are driving and are more understanding of why pedestrians and bicyclists behave how they do. This awareness and understanding influences driver behavior, such as giving wider berth when passing bicyclists, checking for cyclists when making a right turn, or stopping in advance of crosswalks to keep it clear for pedestrians. (Goddard, 2017)

Increasing empathy between all street users through education, enforcement, and mode change will make the community's streets safer and more equitable for all users.

EQUITY

GROUPS LESS LIKELY TO DRIVE

Typically minorities, the elderly, and those living near the poverty line are less likely to have access to a vehicle, making them more reliant on walking, biking, or public transit for transportation needs. Three percent of North Las Vegas households have no vehicle, and another 20 percent of households have one vehicle, increasing their reliance on other transportation modes.

ETHNIC DIVERSITY

North Las Vegas is ethnically diverse, with more than four out of ten residents (40.4 percent) identifying as Hispanic or Latino in the 2016 American Community Survey. Only 29 percent of the population is non-Hispanic White, less than half the national average of 62 percent. The 2016 ACS also reports that 57.0 percent of North Las Vegas' population is White, 22.1 percent Black or African American, 8.2 percent Asian, 1.8 percent Pacific Islander, 1.5 percent American Indian or Alaskan Native, and 15.2 percent other races.

AGE DISTRIBUTION

North Las Vegas also has a very young community, with a median age of 31.5. This is 6.2 years younger than the national median age, and 5.2 years younger than the median age of Clark County residents. This is mostly due to a large portion of the population under 15 and smaller population over 65. Together these populations make up one-third (33.8 percent) of North Las Vegas residents. This gives North Las Vegas a larger than average population that either cannot or is statistically less likely to drive, increasing the importance of providing high-quality walking and bicycling infrastructure and connecting that infrastructure to transit.

NEED

The median household income in North Las Vegas is $53,565, slightly higher than the Clark County median income, but the mean household income is $64,600 compared to $70,383 in Clark County. This indicates lower wage disparity but lower average incomes. Nearly 1 in 6 (15.8 percent) of people in North Las Vegas live in households with incomes below the national poverty level and are less likely to have access to an automobile.

FREEDOM OF CHOICE

Investing in and improving the walking and bicycling system in North Las Vegas will increase individual freedom, allowing people to drive to work one day, walk or take the bus the next, or to ride a bike to the park, store or school without driving or being driven. Some residents are too young or too old to drive, while other residents have disabilities or impairments that make driving difficult or impossible. Investments in active transportation increase freedom and for these groups and those that would otherwise be required to drive them around the community. Beyond these groups, many residents would like to be able to spend less on transportation, feel safer on their community's streets, and be confident allowing their children to walk to school, the park, or to friends' houses. Additionally, younger people are choosing to drive 23 percent less, biking 24 percent more and taking transit 40 percent more, making walking and bicycling increasingly important. (Frontier Group and PIRG)

HEALTH AND SAFETY

In addition to limited vehicle access, investment in under-served neighborhoods makes sense for health and safety reasons. People living at up to four times the poverty line display obesity levels seven to ten percentage points higher than those who earn more. Additionally, pedestrian and bicycle safety issues are often exacerbated in these under-served communities. A 2014 study on governing.com found that pedestrian fatalities were higher in neighborhoods with lower per capita income and in census tracts with high poverty.

3% of households in North Las Vegas have no vehicle, and another 20% of households have only one vehicle available

ECONOMIC GROWTH

LOCAL ECONOMY

Not only does walking and bicycling infrastructure improve the resiliency of the transportation network, it also helps build a more thriving and resilient economy. Studies show that while customers who arrive by automobile spend more in a single visit, those arriving by bicycle have been shown to make more frequent visits and spend 124 percent more per month, an overall benefit to the local economy. (Clifton, Morrissey, and Ritter, 2012) And a national study of Complete Streets projects found that employment levels, business starts, and property values were higher near completed projects when compared to pre-improvement levels and unimproved areas.

PROPERTY VALUES

Nationally, people prefer walkable communities. (Racca & Dhanju, 2006) Bicycling and walking facilities also often improve property values. Americans say that having bike lanes or paths in their community is important to them, and 2/3 of home buyers consider the walkability of an area in their purchase decision, (BTS Annual Report, 2010) this is shown by homes in walkable neighborhoods having property values $4,000 to $34,000 higher than houses in areas with only average walkability. (Cortwright, 2009)

DIVERSIFIED INVESTMENT

Active transportation will help the city diversify its transportation system investment. Like an effective stock portfolio or a well-designed computer system, fiscal diversification and network redundancy, respectively, are key to resilience and prosperity. A transportation network designed for people of all ages and abilities will improve flexibility and cost-efficiency when repairs, natural disasters, or other closures reduce one or more parts' utility. Households in automobile dependent communities have fewer ways to reduce their transportation costs in response to unexpected events, such as a job loss or fuel price spikes. The 2008 mortgage collapse took place on the auto-dominated suburban fringe, while walkable communities, whether in the city or the suburbs, held their value. (Walk, Don't Drive, to Real Estate Recovery, 2011)

BUILDING ON EXISTING PLANS AND POLICIES

Local and regional planning establish a community's vision for the future and the steps needed to advance towards that vision. To date, there are ten recent plans that are relevant to the goals and objectives of North Las Vegas' *Citywide Pedestrian & Bicycle Plan*. These are spelled out in Table 1.1 below. The five most relevant plans and policies are discussed in this chapter; all existing studies that were reviewed are outlined in further detail in the appendices. This plan builds upon these prior local and regional planning efforts.

SUMMARY OF FINDINGS

- The bicycle and pedestrian projects in the *Regional Bicycle and Pedestrian Plan* (RBPP) provide context to ensure connectivity within a regional network.
- A majority of *Complete Streets Policy* performance measures relate directly to active transportation facilities, including bike and pedestrian Level of Service and miles of facilities.
- *Access2040* includes three "key projects" that are prioritized for improvements: Main Street, Bridge Street, Court Street, and Company Street.

1.1 PREVIOUS RELEVANT PLANNING EFFORTS

PLAN	AGENCY	YEAR
Southern Nevada Strong (SNS) Regional Plan	Southern Nevada Regional Planning Coalition (SNRPC)	2015
Regional Bicycle and Pedestrian Plan for Southern Nevada	Regional Transportation Commission of Southern Nevada (RTC)	2017
Complete Streets Policy	City of North Las Vegas	2017
Comprehensive Trails and Bikeways Master Plan	City of North Las Vegas	2011
Access2040 - Regional Transportation Plan for Southern Nevada 2017-2040	RTC	2017
Modeling and Analysis of Walkability in Suburban Neighborhoods in Las Vegas	Mineta National Transit Research Consortium	2017
Regional Schools Multimodal Transportation Access Study	RTC	2015
Regional Bicycle Network Gap Analysis	RTC	2013
Transportation Investment Business Plan	RTC	2016
SNS Downtown North Las Vegas Implementation Strategies Report	SNRPC	2014

**see Appendix ## for more information.*

SNS REGIONAL PLAN

The purpose of Southern Nevada Strong (SNS) is to develop regional support for long-term economic success and stronger communities by integrating reliable transportation, quality housing for all income levels, and job opportunities throughout Southern Nevada. The plan envisions safe and convenient walking, biking, and transit, emphasizing walkable and bikeable communities near schools.

Active transportation was included in goals relating to all three of the plan's priorities, one of which is to increase transportation choices. The SNS Regional Plan recognizes that Southern Nevadans' desired increase in transportation choice is dependent on improving transit and active transportation facilities and programs alongside improvements to land-use and development patterns.

RTC REGIONAL BICYCLE AND PEDESTRIAN PLAN

The RTC Regional Bicycle and Pedestrian Plan provides a framework for improving the bicycle and pedestrian environment throughout the urbanized area of Southern Nevada. The plan envisions Southern Nevada developing a safe, connected, and convenient walking and bicycling system that serves as a viable transportation and recreation asset while advancing the region's economic, educational, health, and environmental goals.

The actions and investments identified in the plan advance the vision through new bicycle and pedestrian infrastructure, maintenance, end-of-trip facilities, and programs to enhance safety for all roadway users.

NLV COMPLETE STREETS POLICY

The Complete Street Policy requires the City of North Las Vegas to approach every public and private transportation improvement project as an opportunity to create a safer, more accessible multimodal transportation network for all users. The policy aims to reduce traffic congestion, improve air quality, and increase quality of life for residents by providing safe, convenient and comfortable routes for all modes.

Performance measures include total miles of bicycle lanes built or striped, miles of trails built, linear feet of new pedestrian accommodations, ADA accommodations built, crosswalk and intersection improvements built, and bicycle and pedestrian Level of Service (roughly equivalent to the Level of Comfort included in this plan).

NLV COMPREHENSIVE TRAILS AND BIKEWAYS MASTER PLAN (2011)

As the previous active transportation plan for North Las Vegas, this plan identified existing and proposed active transportation facilities in North Las Vegas and established design criteria, guidelines, goals, objectives, and policies to ensure that the trails and bikeways are properly developed and maintained. The Master Plan contains an implementation plan which defined priorities for the location, development, and maintenance of trails and bikeways, and included both short- and long-term action plans.

The Master Plan sought to create a continuous network of trails and bikeways that emphasize recreational trail experience, expand transportation options, and enhance community pride and livability.

RTC REGIONAL TRANSPORTATION PLAN - ACCESS2040

Access2040 is the comprehensive plan for the transportation system in the Las Vegas Valley. It details transportation investments anticipated for the next 20 years. The plan aims to provide a safe, convenient, and effective transportation system that enhances mobility and air quality.

Goals related to active transportation include implementing transportation systems that improve air quality and protect the environment, developing fully integrated modal options, improving access to mass transportation facilities and services, and improving safety for all users.

The plan specifies key projects, including intersection improvements at Cheyenne Ave and Commerce Street, and bike, pedestrian, and transit improvements on both Lake Mead Blvd and North Las Vegas Blvd in downtown North Las Vegas.

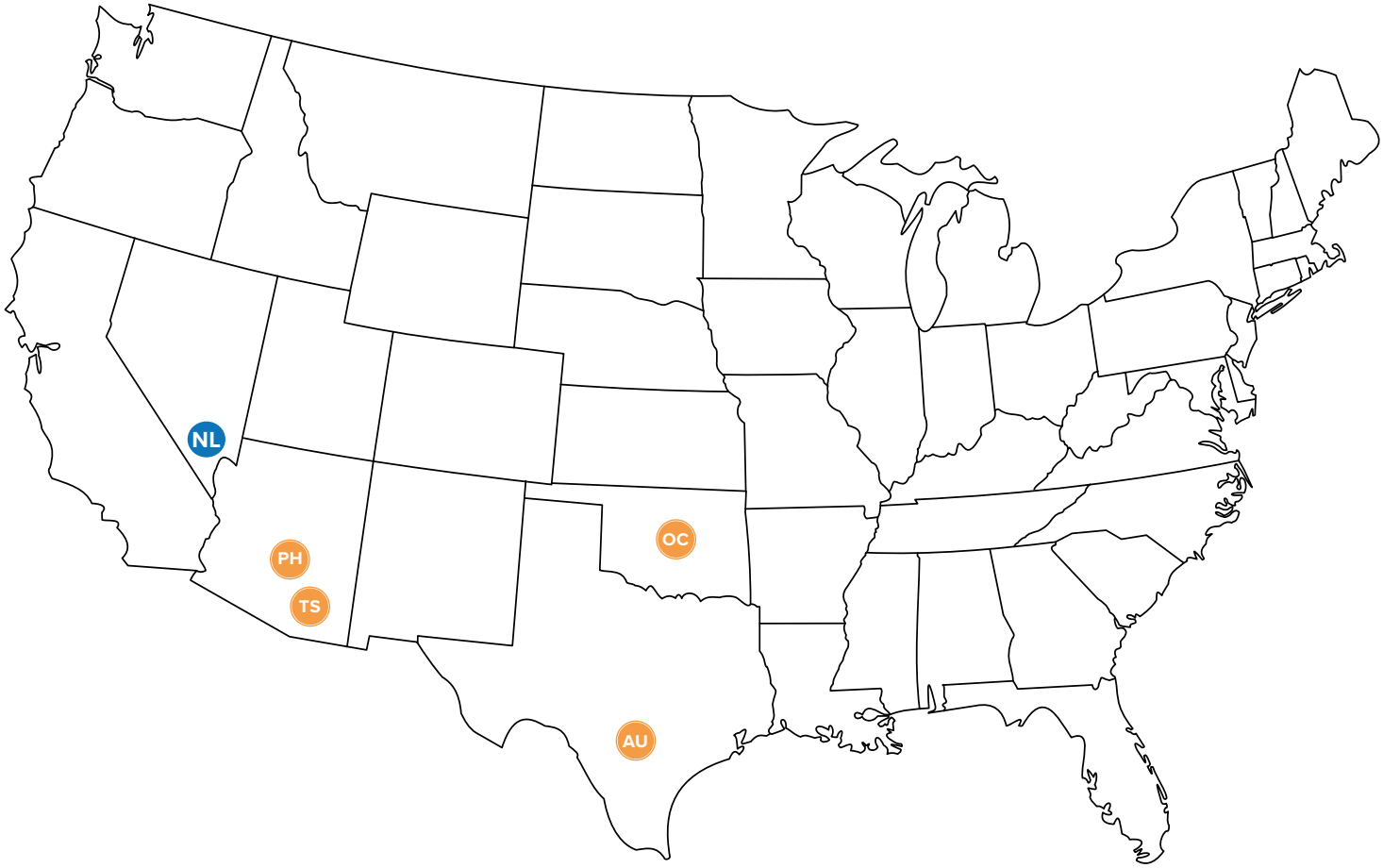
PEER CITIES AND BEST PRACTICES

As part of the existing conditions assessment, the project team reviewed existing practices, policies, and infrastructure in four American cities with similarities to the City of North Las Vegas. The purpose of this review was to identify best practices for implementation, funding strategies, maintenance, facility design, planning, and programs.

Peer Cities:

- TS — Tucson, AZ = TS
- PH — Phoenix, AZ = PH
- AU — Austin, TX = AU
- OC — Oklahoma City, OK = OC

NL — North Las Vegas, NV = NL



SUMMARY

The Peer Cities Review identifies **four peer cities** to make comparisons between similar cities in the southwest and southern Midwest.

The goals for this review are as follows:

- To understand how peer cities compare across various metrics for biking and walking
- To evaluate how peer cities have created targets and metrics for improvements
- To highlight program and policy trends that have proven successful
- To identify potential goals and targets for improvement in North Las Vegas
- To incorporate findings as a factor for identifying plan recommendations

SELECTION CRITERIA

The four peer cities featured here were identified as cities that share similar geography, climate, culture, and political structure. The southwest region was the focal point for selecting cities based on the following specific criteria:

- Geography and climate
- Population demographics
- Population size
- Population growth
- Population density
- Metropolitan area land area
- Government structure

In addition to the data used to narrow the list of cities, the plan Steering Committee assisted with qualitative data to assist the selection process. Due to North Las Vegas' warm summers, perceived high summertime heat was an important factor in selection. Peer cities were selected based on real and perceived notions of similar environments for biking and walking.

1.2 HOTTEST MONTH HEAT INDEX COMPARISON

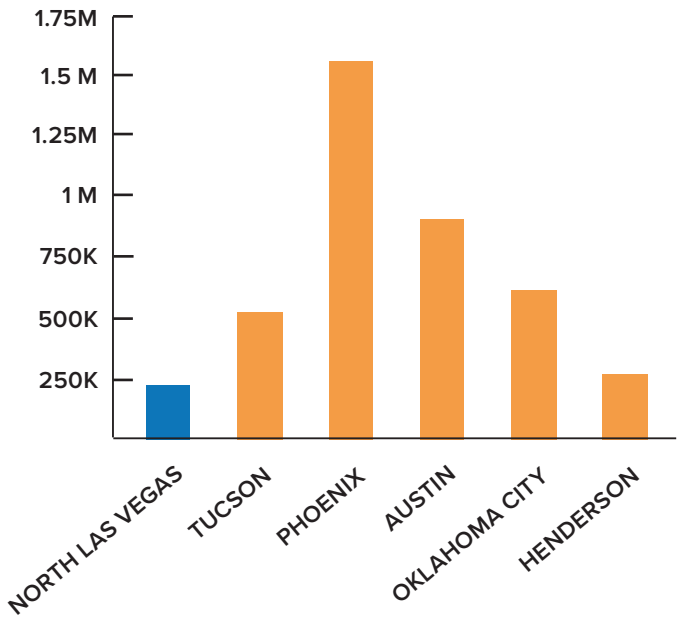
City	Hottest Month[1]	Average Daily High Temp.[1]	Average Afternoon Relative Humidity[1]	Heat Index[2]	Bicycle Mode Share[3]	Pedestrian Mode Share[3]
North Las Vegas, NV	July	104.2 °F	15%	101 °F	0.1%	0.1%
Tucson, AZ	July	100.2 °F	29%	102 °F	2.9%	3.3%
Phoenix, AZ	July	106.1 °F	21%	107 °F	0.7%	1.8%
Austin, TX	August	97.0 °F	49%	109 °F	1.4%	2.3%
Oklahoma City, OK	July	93.9 °F	51%	103 °F	0.2%	1.5%
Henderson, NV	July	104.2 °F	15%	101 °F	0.2%	1.3%

1. 2015 NOAA Comparative Climate Data
2. NOAA/NWS Heat Index Calculator
3. 2016 American Community Survey (ACS)

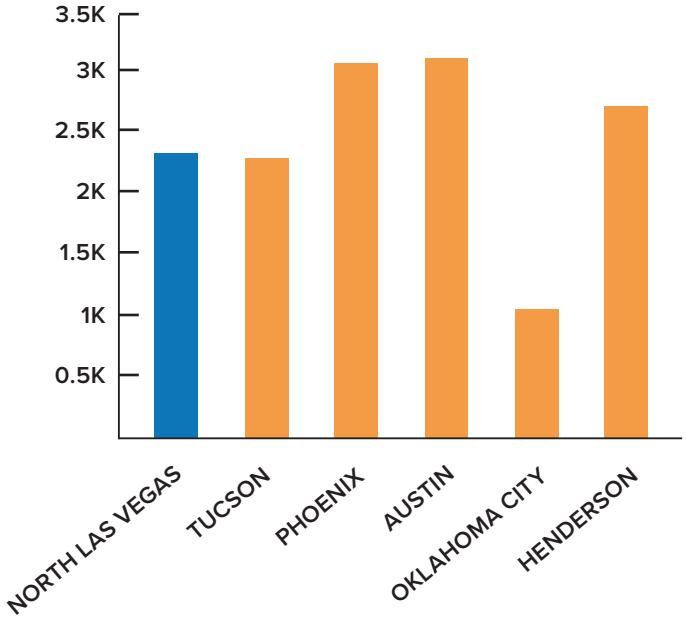
POPULATION COMPARISONS

NORTH LAS VEGAS
PEER CITY

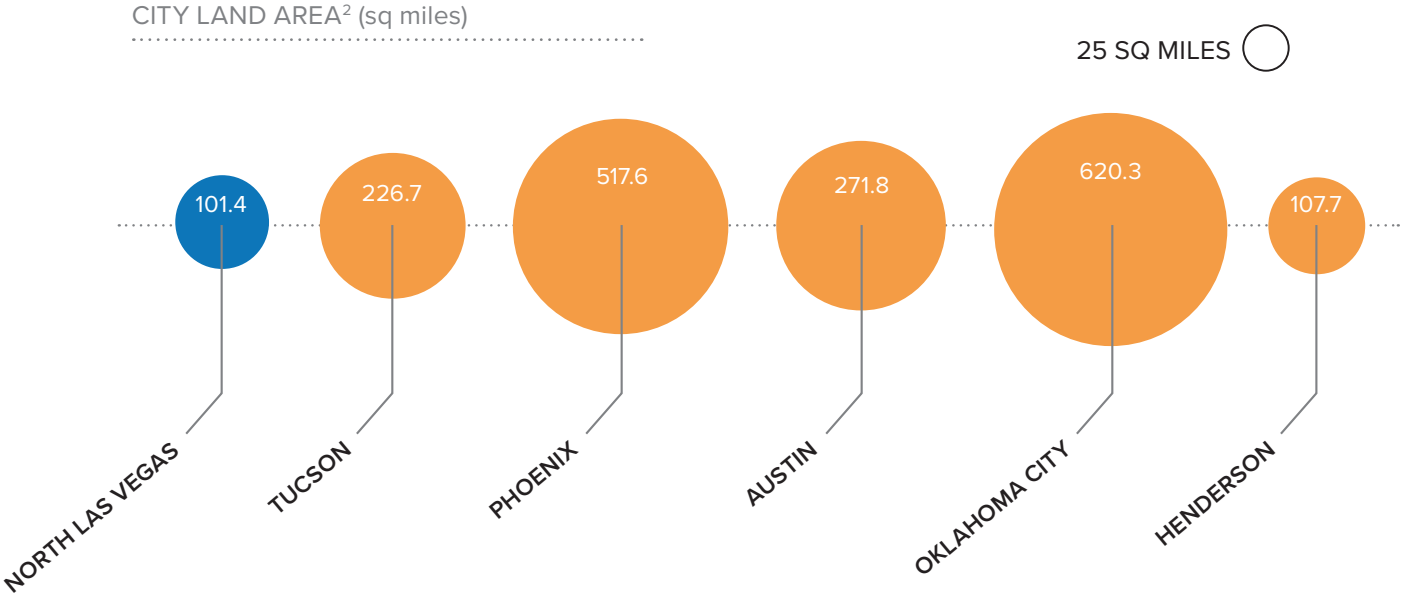
CITY POPULATION[1]



POPULATION DENSITY (people per sq mile)



CITY LAND AREA[2] (sq miles)



1. 2016 American Community Survey
2. 2017 U.S. Gazetteer Place Files

NORTH LAS VEGAS, NEVADA

NL

The City of North Las Vegas has a population of approximately 252,000 people on 101.4 sq. miles of land. Currently, it is not a member of the National Association of City Transportation Officials (NACTO) and has not been ranked by the League of American Bicyclists (LAB) as a Bicycle Friendly Community. North Las Vegas has a Citywide Walk Score of 33.2 and a Citywide Bike Score of 41.9.

TRAIL SYSTEM

The City of North Las Vegas has over 32 miles of trails for non-motorized users. These trails were primarily constructed for recreational purposes.

BEST PRACTICES

NOTABLE FUNDING & PARTNERSHIPS

- The Regional Transportation Commission of Southern Nevada (RTC)'s Pedestrian Safety Awareness campaign will allocate approximately $90 million across all of Clark County to enhance streets for pedestrians.

REGIONAL PROGRAMS AND POLICIES

Street Safety

- RTC's Complete Streets Initiative

Education & Enforcement Programs

- ZERO Fatalities program
- Active in the SRTS program
- National Bike Month Activities

TUCSON, ARIZONA

TS

Of the selected peer cities, Tucson is the closest in size, population, and population density to North Las Vegas. It is also the closest match in perceived summertime heat, or Heat Index.

Tucson has a Citywide Walk Score of 42.4, Citywide Bike Score of 63.7, and a Gold Bicycle Friendly Community rating. Among commuters, 2.9 percent bicycle and 3.3 percent walk to work, making Tucson the peer city with the greatest number of bicycle and pedestrian commuting trips.

TRAIL SYSTEM

The City of Tucson has a trail network plan intended to retrofit the existing regional trail network system into the Central Core of Tucson while connecting existing neighborhoods, employment centers, schools, commercial areas, etc. Trails are open to be used by all non-motorized users.

BEST PRACTICES

REGIONAL PROGRAMS AND POLICIES

- Tucson's MPO, the Pima Association of Governments, has 4 staff members dedicated to walking and bicycling planning and programs

NOTABLE FUNDING & PARTNERSHIPS

- Regional Transportation Authority (RTA) Category 41: Greenways, Pathways, Bikeways and Sidewalks – matched local tax revenue with Federal Transportation Enhancement Funds

LOCAL PROGRAMS AND POLICIES

Street Safety

- Bicycle Pedestrian Safety Program

Open Streets Events & Tactical Urbanism

- Cyclovia Tucson: Annual Open Streets Event hosted by the Living Streets Alliance

Education & Enforcement Programs

- Mayors' Challenge for Safer People, Safer Streets
- Walk Safe, Drive Safe Campaign
- Active in the SRTS program
- Tugo Bike Share Program

PHOENIX, ARIZONA

PH

The City of Phoenix is home to 1,555,324 people, making it the greatest in population of the selected peer cities. Its average high temperature is also slightly higher than the North Las Vegas average.

Phoenix is a member of NACTO and holds Bronze status as a Bicycle Friendly Community. Phoenix has a Citywide Walk Score of 40.8 and a Citywide Bike Score of 52.4, the second highest scores of the selected peer cities.

TRAIL SYSTEM

The City of Phoenix has over 200 miles of trails open to non-motorized users.

BEST PRACTICES

REGIONAL PROGRAMS AND POLICIES

- Arizona's Complete Streets Policy
- MAG, the Mariposa Association of Governments, has an Active Transportation Committee

NOTABLE FUNDING & PARTNERSHIPS

- Implementation incorporated into five-year Capital Improvement Program
- Phoenix Street Transportation Department grants
- Section 402 State and Community Highway Safety grants
- TIGER Discretionary Grants Program

LOCAL PROGRAMS AND POLICIES

Street Safety

- Street Light Program

Open Streets Events & Tactical Urbanism

- Annual Phoenix Urban Design Week

Education & Enforcement Programs

- Active in the SRTS program
- GRID Bike Share program
- Fix PHX's WalkPHX program

AUSTIN, TEXAS

AU

The City of Austin has a 2.3 percent pedestrian and 1.4 percent bicycle mode share, making it second best city for active transportation commuters out of the peer cities selected to review. The city is made up of 271.8 sq. miles of land.

The City of Austin is a member of NACTO and has a Gold Bicycle Friendly Community rating. Austin has a Citywide Walk Score of 40.3 and Bike Score of 51.2. The city also has seven dedicated staff members that specialize in active transportation.

TRAIL SYSTEM

Currently, the City of Austin has 30 miles urban trails though the Public Work's Urban Trails Program. The trails are constructed to accommodate non-motorized users.

BEST PRACTICES

NOTABLE FUNDING & PARTNERSHIPS

- The 2016 Local Mobility Bond allocated $137 million to local mobility projects, including SRTS, bikeways, Vision Zero, as well as street and sidewalk renewal
- $20,000 grant from Green Lane Project
- Federal Highway Administration's Safety Grant

LOCAL PROGRAMS AND POLICIES

Street Safety

- Pedestrian Safety Action Plan/Priority Network
- Transportation Safety Improvement Program
- Vision Zero Program
- Complete Streets Program
- Mitigation Ordinance (No. 20170302-077)

Open Streets Events & Tactical Urbanism

- Annual VIVA! Streets, Austin event
- Think Bike

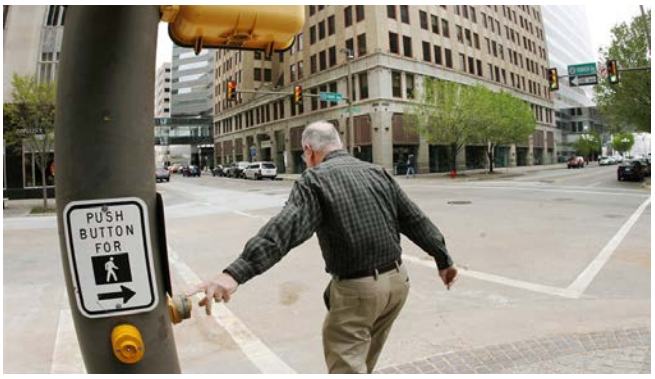
Education & Enforcement Programs

- Don't Block the Box program
- Ride Report and Bicycle Route Comfort App
- Active SRTS program
- Creative Crosswalks program
- Austin B-Cycle Bike share program
- Austin Big Jump program
- Love to Ride program
- Great Street program

OKLAHOMA CITY, OKLAHOMA

OC

Oklahoma City is the largest peer city by land area and the least densely populated. It has a low bike mode share rate of 0.2 percent and a pedestrian mode share rate of 1.0 percent, while North Las Vegas has a bike mode share rate of 0.1 percent and a pedestrian mode share rate of 1.5 percent; making them similar in active transportation commute share. Oklahoma City is not a member of NACTO and does not hold Bicycle Friendly Community status. It has a Citywide Walk Score of 33.1 and Citywide Bike Score of 39.5, the lowest of all peer cities.



TRAIL SYSTEM

Oklahoma City has over 80 miles of trails made up of 10 connected trails that can take people to many places within the city. The trails are open to non-motorized users.

BEST PRACTICES

NOTABLE FUNDING & PARTNERSHIPS

- Implemented a 27-month penny sales tax increase through OKC's Capital Improvement Program to generate $240 million for street resurfaces, streetscapes, trail systems, sidewalks, and bicycle infrastructure.

LOCAL PROGRAMS AND POLICIES

Street Safety

- Better Streets, Safer City

Open Streets Events & Tactical Urbanism

- Annual Open Streets OKC event
- Full Moon Bike Ride event

Education & Enforcement Programs

- Bike to Work Day
- Watch for Me OKC
- Spokies Bike Share program
- Active in the SRTS program

BEST PRACTICES

North Las Vegas should consider the following key actions based on the peer city review:

- Develop more robust bicycle parking requirements for new development, including long-term parking
- Provide dedicated training and resources related to active transportation for North Las Vegas planning and engineering staff
- Develop and adopt complete street cross-sections within the Uniform Standard Drawings for North Las Vegas
- Develop and track key measures of performance related to active transportation

METRICS OF SUCCESS

METRIC	DEDICATED STAFF PER 250K RESIDENTS[1]	CITYWIDE WALK SCORE[2]	CITYWIDE BIKE SCORE[2]
NORTH LAS VEGAS	0	33.2	41.9
TUCSON	1.89	42.4	63.7
PHOENIX	0.16	40.8	52.4
AUSTIN	1.93	40.3	51.2
OKLAHOMA CITY	0	33.1	39.5
HENDERSON	1	29.6	36.9

METRIC	NACTO MEMBERSHIP[3]	BICYCLE FRIENDLY COMMUNITY DESIGNATION[4]
NORTH LAS VEGAS	No	None
TUCSON	No	Gold
PHOENIX	Yes	Bronze
AUSTIN	Yes	Gold
OKLAHOMA CITY	No	None
HENDERSON	No	Silver

1. Dedicated staff
2. 2018 Walk Score (as of Aug. 2018)
3. 2018 NACTO Member Cities
4. LAB Bicycle Friendly Communities - Spring 2018

1.3 FUNDING STRATEGIES

City	Local Funding	Innovative Funding & Partnerships
North Las Vegas, NV	Southern Nevada Public Land Management Act funding for Parks, Trails, and Natural Areas	The RTC has allocated approximately $90 million towards assisting Clark County's pedestrian environment.
Tucson, AZ	Various local public and private grant opportunities will be pursued in order to finance prioritized projects	Regional Transportation Authority (RTA) Category 41: Greenways, Pathways, Bikeways and Sidewalks - matched local tax revenue with Federal Transportation Enhancement Funds to implement prioritized projects.
Phoenix, AZ	Initial phase of implementation was incorporated into a five-year Capital Improvement Program	Phoenix Street Transportation Department grants, Section 402 State and Community Highway Safety grants, TIGER Discretionary Grants Program
Austin, TX	The 2016 Local Mobility Bond placed $137 million to local mobility projects, including SRTS, bikeways, Vision Zero, and street and sidewalk renewal	$20,000 grant from Green Lane Project Federal Highway Administration's Safety Grant
Oklahoma City, OK	Initiated a temporary 27-month penny sales tax increase through the City's Capital Improvement Program to generate $240 million for street resurfaces, streetscapes, trail systems, sidewalks, and bicycle infrastructure	Surface Transportation Block Grant Set-Aside Program, Congestion Mitigation and Air Quality, TIGER Discretionary Grants Program

1.4 CITY POLICIES & PROGRAMS

City	Street Safety	Open Streets & Tactical Urbanism	Education & Encouragement Programs	Bicycle Parking Requirement
North Las Vegas, NV	• North Las Vegas Complete Streets Policy	• None	• NDOT Zero Fatalities Program	• Yes, See Development Standards 17.24.040-G
Tucson, AZ	• Bicycle Pedestrian Safety Program	• Cyclovia Tucson: Annual Open Streets Event hosted by the Living Streets Alliance	• Mayors' Challenge for Safer People, Safer Streets • Walk Safe, Drive Safe Campaign • Active SRTS program • Tugo Bike Share Program	• Yes; in new development, buildings and parking garages
Phoenix, AZ	• State Complete Streets Policy • Vision Zero Program • Street Light Program	• Annual Phoenix Urban Design Week	• Active SRTS program • Recent implementation of GRID Bike Share program • FitPHX's WalkPHX Program	• Conditional in infill development district
Austin, TX	• Pedestrian Safety Action Plan/ Priority Network • Transportation Safety Improvement Program • Vision Zero Program • Complete Streets Program • Transportation Impacts Mitigation Ordinance	• Annual VIVA! Streets, Austin event • Think Bike event	• Don't Block the Box Program • Ride Report and Bicycle Route Comfort App • Active SRTS program • Creative Crosswalks Program • Austin B-Cycle Bike Share program • Austin Big Jump program • Love to Ride program • Ride Report App • Great Streets Program	• Yes; in new development, in buildings and parking garages, and at public schools
Oklahoma City, OK	• Better Streets, Safer City	• Annual Open Streets OKC event • Full Moon Bike Ride event	• Bike to Work Day • Watch for Me OKC • Spokies Bike Share Program • Active SRTS	• Yes

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EXISTING CONDITIONS: EXISTING FACILITIES

The City of North Las Vegas currently has approximately 62 miles of facilities that are designated to accommodate pedestrians and bicyclists, including conventional bike lanes, shared bus/bike lanes, and off-street facilities such as shared use paths and sidepaths (excludes sidewalks).

SHARED BUS/BIKE LANES

Shared bus/bike lanes are paved facilities that are designed to accommodate both bicycle users and buses in a single lane of a vehicular roadway. They are differentiated from other lanes by striping, pavement markings, and signage. Buses and people on bicycles both tend use space near the curb, making these facilities an option where separate facilities cannot be provided. Proper user education is important to ensure that buses are discouraged from passing and bicycles pass only at stops. Although not a preferred facility type, bus/bike lanes are an option on streets where buses travel at low speeds and moderate-to-low volumes. They may also be used as a low-cost retrofit to improve safety for bicyclists where dedicated bus lanes already exist. The City of North Las Vegas has implemented 5.4 miles of shared bus/bike lanes.

BIKE LANES

Bike lanes can be described as facilities that accommodate bicycle traffic by designating a portion of a primarily vehicular roadway to bicycle users. This is done by striping, or highlighting, a portion of a roadway to indicate that the space is intended for bicycle use. In some instances, the entire width of the bike lane is painted with a differentiating color to indicate its separation. Bike lanes are also accompanied by painted symbols and signage to communicate its use. The width of the bike lane should be between 4ft and 7ft in width. If there is no adjacent curb or gutter present, the bike lane can be as narrow as 4ft. It is recommended to accommodate a 6.5ft wide lane to allow bicyclists to pass each other or ride side by side. There are a total of 24 miles of existing bike lanes in North Las Vegas.

BUFFERED BIKE LANES

Buffered bike lanes are similar to bike lanes; however, they increase the level of comfort and safety for bicyclists by having an additional buffer space between bicyclists and vehicular traffic or parked cars. Generally, buffered bike lanes follow the general guidance provided in MUTCD guidelines for preferential vehicle lanes. The buffer zone is indicated by two solid longitudinal lines, and should have a minimum width of 1.5ft. If the buffer exceeds 4ft, diagonal, or chevron, stripes are recommended. North Las Vegas has no existing buffered bike lanes, but they do exist in Southern Nevada.

SEPARATED BIKE LANES

Separated bike lanes are also known as protected bike lanes, or cycle tracks, which are bicycle facilities that are physically separated from the vehicular roadways. Barriers such as bollards, curbs, and landscaping, can be used to divide the bicycle lane from vehicular travel lanes. In addition, separated bike lanes can also be implemented by raising the level of the bike lane. These types of bike lanes can accommodate one- or two-way travel, however, two-way travel requires greater intersection controls to ensure that turning movements are completed safely.

SHARED USE PATHS

Shared use paths are paved facilities that are designed to accommodate non-motorized users and are detached from primary vehicular roadways. They are intended to serve bicyclists, pedestrians, and other non-motorized user groups. These facilities are typically between 10ft and 12ft in width, and have shoulders of about 2ft on either side of the path. The anticipated type and volume of users should be used to determine the width of the path. When large volumes of users are anticipated, a center line stripe is recommended to help organize traffic. If a mixed user environment is anticipated, signage should be used to help educate path users about proper yielding etiquette. When the path crosses a vehicular right of way, high-visibility crosswalks should be implemented to mitigate potential collisions. In this region, it is common to implement shared use paths along naturally formed washes, or drainages. The City of North Las Vegas has implemented 26.4 miles of shared use paths. The most successful implementations of shared use paths are the Upper and Lower Las Vegas Wash Regional Trails.

SIDEPATHS

Sidepaths can be defined as pathways parallel to roadways that separated from the main roadway. They function as sidewalks, yet have a buffer between the pathway and the road and can accommodate two-way pedestrian and bicycle travel. These pathways can include an added physical separation, such as landscaping, a railing, or other medium. These facilities accommodate non-motorized users and help ease the comfort level of its users. Side street crossings of sidepaths should have a 16.5’ setback from the travel lane of the main right of way, allowing a turning car to yield to path users without hindering traffic flow on the main street. Additionally, a highlighted crosswalk is recommended to increase the visibility of the sidepath user.

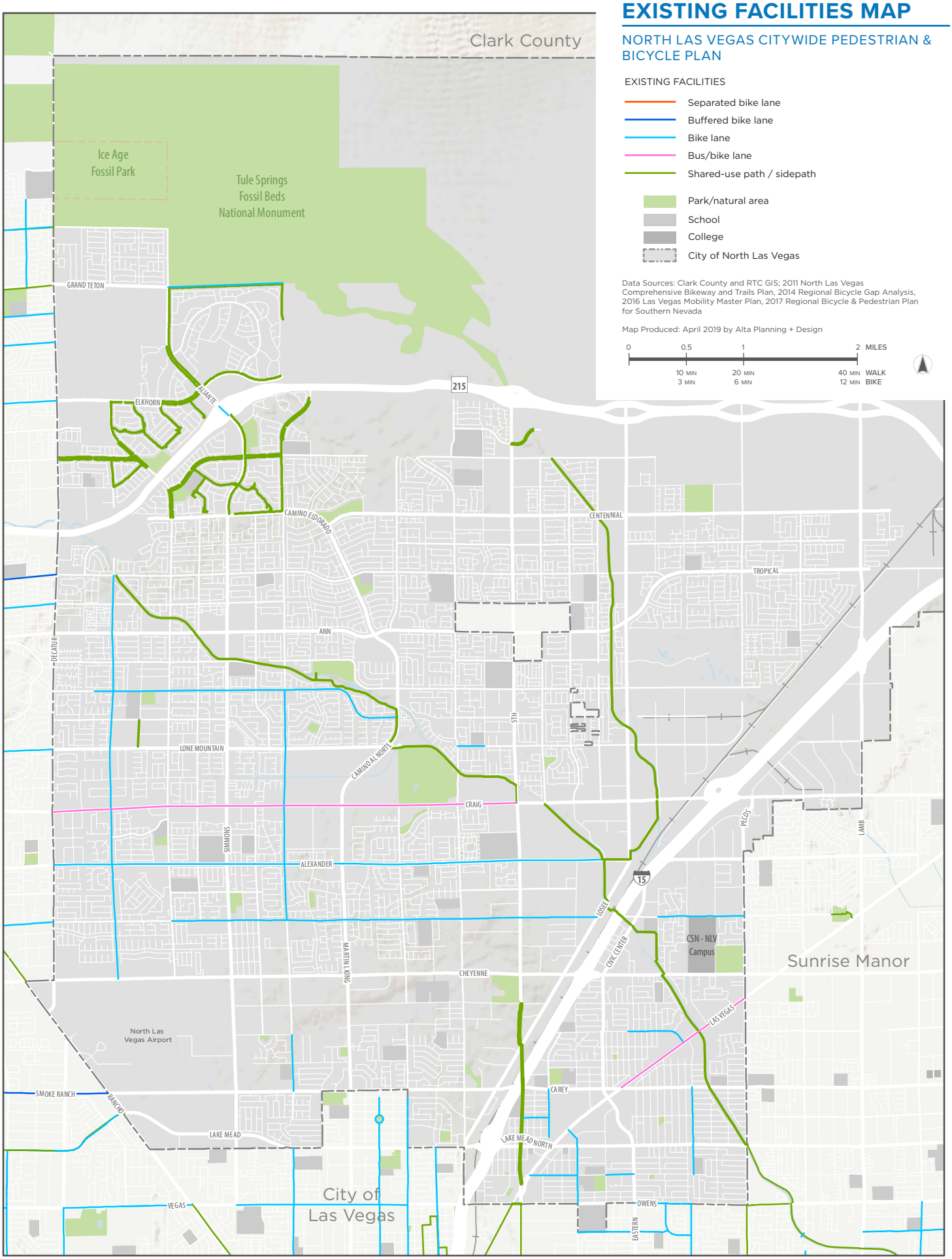
SIDEWALKS

A sidewalk network is critical to pedestrian accessibility by allowing space for pedestrian movement alongside roadways. It is recommended that the pedestrian right of way be approximately 6ft in width to allow for people to walk alongside each other while meeting ADA turning requirements. To enhance the comfort level and attractiveness of the sidewalk network, a furnishing zone and frontage zone are recommended. A frontage zone can be defined as the space between the sidewalk and the neighboring property line, this zone should be between 1ft and 2ft in width. Additionally, a furnishing zone is also recommended and may be between 8ft and 12ft wide to create a highly attractive and safe pedestrian environment. This zone should be used for mailboxes, street lighting, signage and landscaping, which are found to otherwise encroach on the ADA required minimum sidewalk width.

MAP 1.1

EXISTING FACILITIES MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



EXISTING CONDITIONS: EQUITY ANALYSIS

For some residents of North Las Vegas, walking, biking, and taking transit is not a choice, but rather a function of their socio-economic situation or age. An equity analysis provides insight into the areas where these populations are concentrated, and to bring attention to neighborhoods that may be most in need of active transportation improvements. Social equity and transportation policies can ensure that harmful effects of environmental injustice and disinvestment to do not disproportionately impact low income populations, minorities, children, older adults, or disabled people.

The quantitative analysis provided here is a starting point for identifying areas that may require extra attention for access and safety enhancements. However, the plan's recommendations are based on multiple factors including the equity analysis, crash analysis, current best practices, public and stakeholder input, and demand analysis.

WHAT THE EQUITY ANALYSIS SHOWS

The equity analysis map (Map 1.2) shows high concentrations of inequity on the southern border of North Las Vegas. The remainder of North Las Vegas also has relatively high levels of inequity when compared to the Las Vegas metropolitan region as a whole.

People that live in areas of the map shown as darker blue are less likely to be able to drive or have access to a household car, leading to a greater propensity and need to walk, bike, or take transit to get to work and other daily destinations. Targeting investment in walking and biking safety improvements within these areas can help address this discrepancy in transportation safety, and improve accessibility for those that need it the most.

METHODOLOGY

This section describes the equity analysis process in more detail, and includes a summary of equity analysis methodology and results.

The equity analysis incorporated the following five socioeconomic criteria:

- **Seniors**
- **Youth**
- **Access to Vehicle**
- **Non-White Populations**
- **Income**

The analysis is based on a regional equity analysis included in the 2017 Regional Bicycle and Pedestrian Plan, which utilized quartiles for each of the indicator criteria. Each census tract was assigned a score for each variable based on the percentile the data represents. The scores for all indicators were then combined into a composite score. Tracts that scored higher have a higher identified need and typically represent low-income, minority neighborhoods who rely more heavily on bicycling, walking, and transit for transportation. A regional basis of analysis helps highlight the regional context of equity issues in North Las Vegas.

The measure and rationale for each criteria are described in detail in the following paragraphs.

Seniors

Metric: Senior citizens are defined as those who are over 64 years of age. This follows the 2010 Census Brief - The Older Population.

Rationale: Walkable neighborhoods help seniors to remain active, healthy, and social. Older adults socialize more when living in walkable neighborhoods, because regular social interaction is possible, convenient and more frequent.

According to Center for Disease Control and Prevention survey, 32.5 percent of Americans over the age of 65 don't have regular physical activity. Older adults who walk are less likely to suffer mental deterioration or dementia.

Youth

Metric: Youth are defined as individuals 18 years old and younger. This threshold was determined based on the legal definition of adulthood and recent trends away from driving.

Rationale: The U.S. has been experiencing a growing trend in youth obesity—approximately one in three children are overweight or obese. Greater access to physical activity options, connected street networks, and walkable neighborhoods are correlated to lower obesity rates and healthier lifestyles. In addition, a recent study of national trends in driver licensure by the University of Michigan Transportation Research Institute showed that youth are also getting drivers licenses later, if at all.

Vehicle Access

Metric: Vehicle access is provided by the American Community Survey that asks whether a household has access to a car, truck, or van of 1-ton capacity or less.

Rationale: Access to private vehicles can be an indicator of economic mobility and access to healthy food options and active spaces. Additionally, vehicle access shows where demand is greater for active transportation options due to a higher proportion of people relying on walking, biking, or transit to access daily goods and services.

Non-White Populations

Metric: Non-white is measured as the percentage of all races, excluding those that identified as white. This includes Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or some other race.

Rationale: Communities with a higher proportion of racial and ethnic minorities are statistically less likely to have infrastructure that supports walking, such as well-maintained sidewalks, vibrant storefronts, and safe streets.

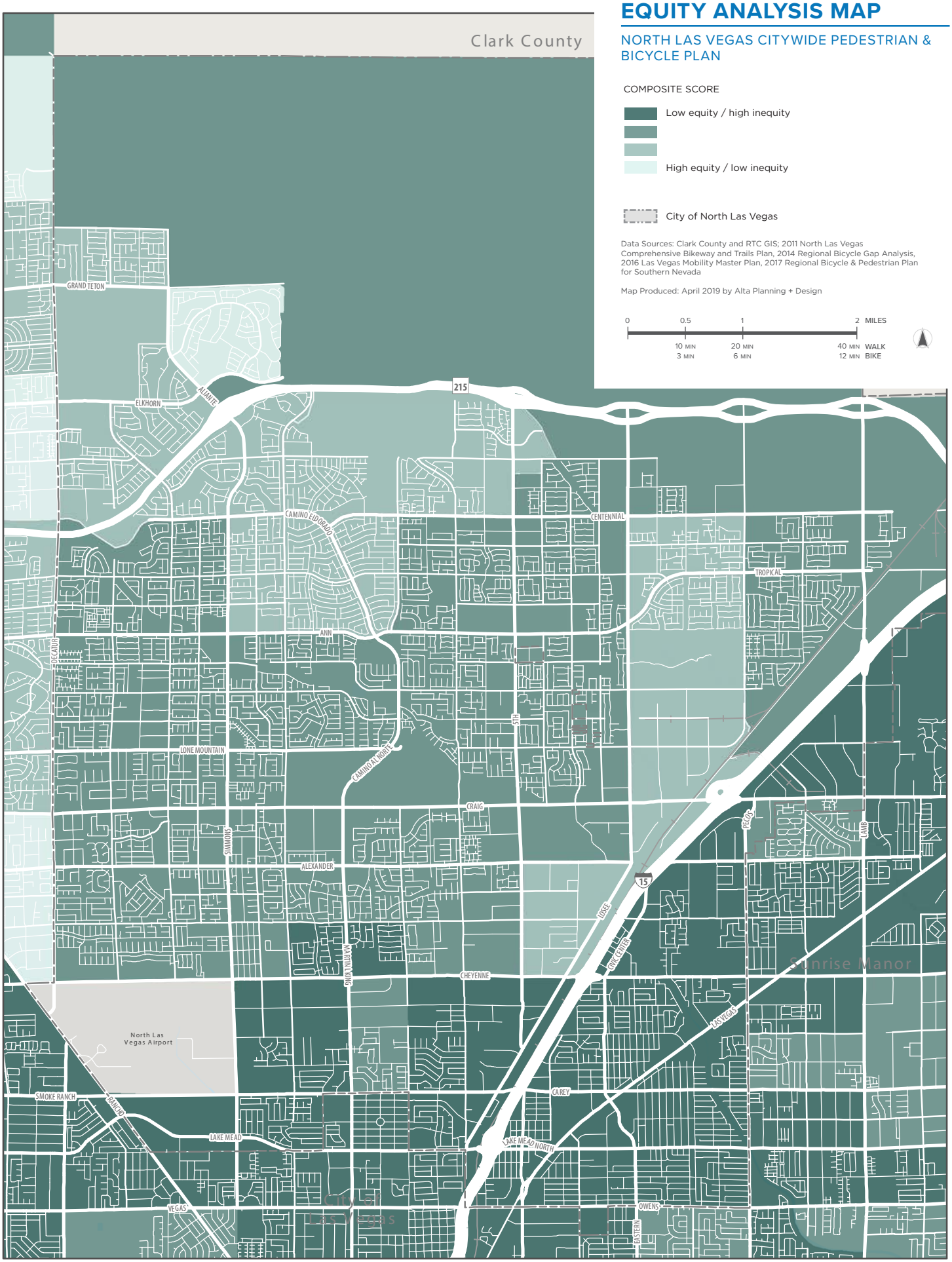
Income

Metric: The income factor is measured as the percent of the population living below 200 percent of the federal poverty level as defined by the U.S. Census Bureau.

Rationale: Low-income populations are less likely to have access to a car and may depend on walking or bicycling to reach work, school, public transportation, or other destinations.

MAP 1.2
EQUITY ANALYSIS MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



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EXISTING CONDITIONS: GAP ANALYSIS

There are many gaps in the North Las Vegas active transportation network. Many of these gaps are due to large block sizes, a history of automobile-oriented development, and disconnected land uses as discussed in the 2015 Southern Nevada Strong Regional Plan.

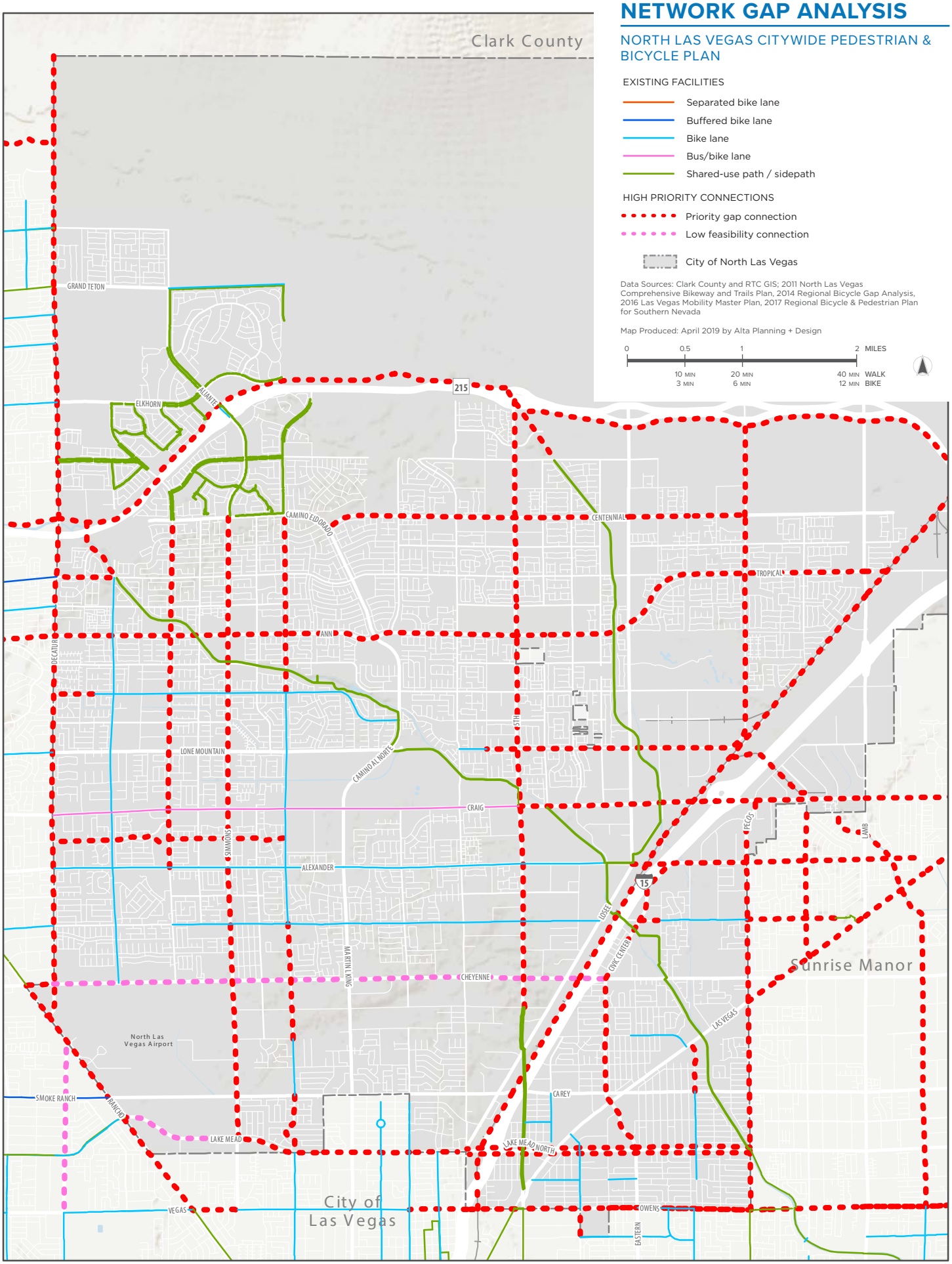
The gap analysis included here builds on previous network gap analyses in the 2014 RTP Regional Bicycle Network Gap Analysis and the 2017 RTP Regional Bicycle and Pedestrian Plan. The gaps analysis also utilizes existing facilities and the composite demand analysis discussed later in this chapter in order to account for current conditions in North Las Vegas.

The gaps identified are primarily gaps in the bicycle network between high demand areas, such as high density residential areas, schools, parks, regional malls, high density employment, or low wage employment areas.

MAP 1.3

NETWORK GAP ANALYSIS

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



EXISTING NETWORK ANALYSIS: COMFORT

WHY COMFORT MATTERS

Active transportation connections that are "high comfort" are an important factor in encouraging people of all ages and abilities to walk and ride a bicycle throughout North Las Vegas. Connected networks of high comfort facilities, like shared use paths, separated bike lanes, and bicycle boulevards appeal to people of all ages and abilities, especially on or as alternatives to high volume and/or high speed streets. Many streets that have bike lanes, such as Alexander and Gowan, are also low-comfort; as implementing traditional bike lanes on 35 mph, multi-lane streets simply isn't enough to get more people riding bikes. Low comfort streets can also act as barriers to bicycling, with easy crossings only possible at intersections with traffic lights.

METHODOLOGY AND CRITERIA

The Level of Comfort (LOC) analysis utilized in the map on the following page was adapted from the 2012 Mineta Transportation Institute (MTI) Report 11-19: Low-Stress Bicycling and Network Connectivity. LOC is specifically designed to objectively assess how comfortable roadway conditions are but does not assess conditions on sidewalks. The LOC analysis uses roadway network data (i.e. posted speed limit, street width, number of travel lanes, intersection condition, presence and character of bike lanes, and land use context) as a proxy for bicyclist comfort level.

The combination of these criteria creates four levels of traffic stress for the existing roadway network. The lower the number, the higher the level of comfort for people on bicycles.

- LOC 1: Low-stress roadways suitable for all ages and abilities (69 percent of total North Las Vegas roadways)
- LOC 2: Roadways that are comfortable enough that the mainstream adult population would ride a bicycle on them (3 percent of total roadways)
- LOC 3: Roadways that would probably only be comfortable ridden by an experienced, confident bicyclist (6 percent of total roadways)
- LOC 4: Roadways ridden only by strong or fearless bicyclists (22 percent of total roadways)

COMFORT SUMMARY

Although North Las Vegas possesses a significant number of roadways categorized as LOC 1, their transportation benefit to bicyclists is relatively limited. Most neighborhoods contain a circuitous system of comfortable local streets with low speeds and volumes, however their connectivity to local destinations is often limited by high speed, high volume arterials and collectors that serve as barriers.

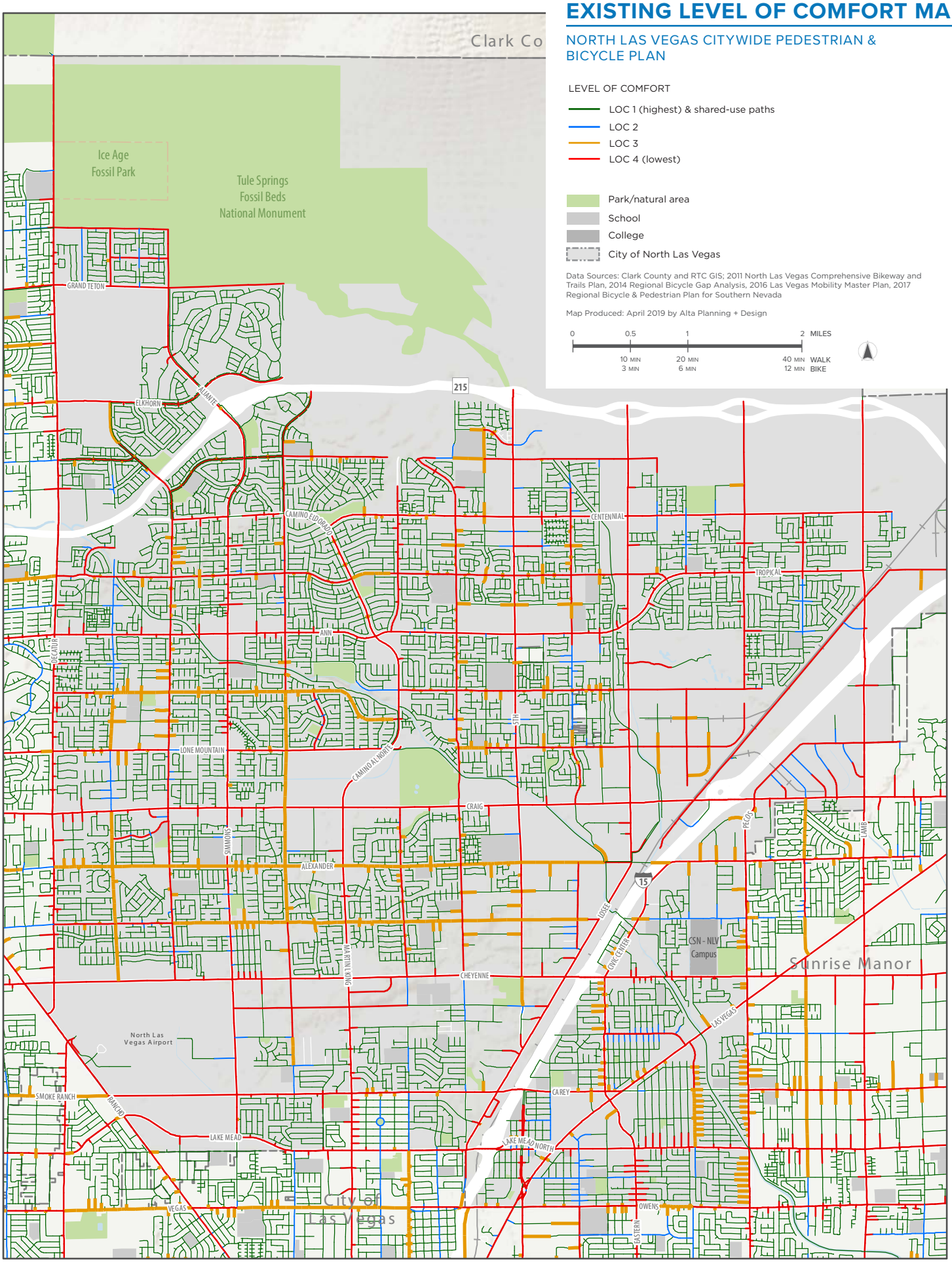
Improvement Opportunities

- Make implementation of high-comfort facilities a key focus to "move the needle" and get more people out bicycling
- Seek to improve comfort of bicyclists and pedestrians by revising standard street cross-sections

MAP 1.4

EXISTING LEVEL OF COMFORT MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



EXISTING NETWORK ANALYSIS: COHESION

MEASURING COHESION

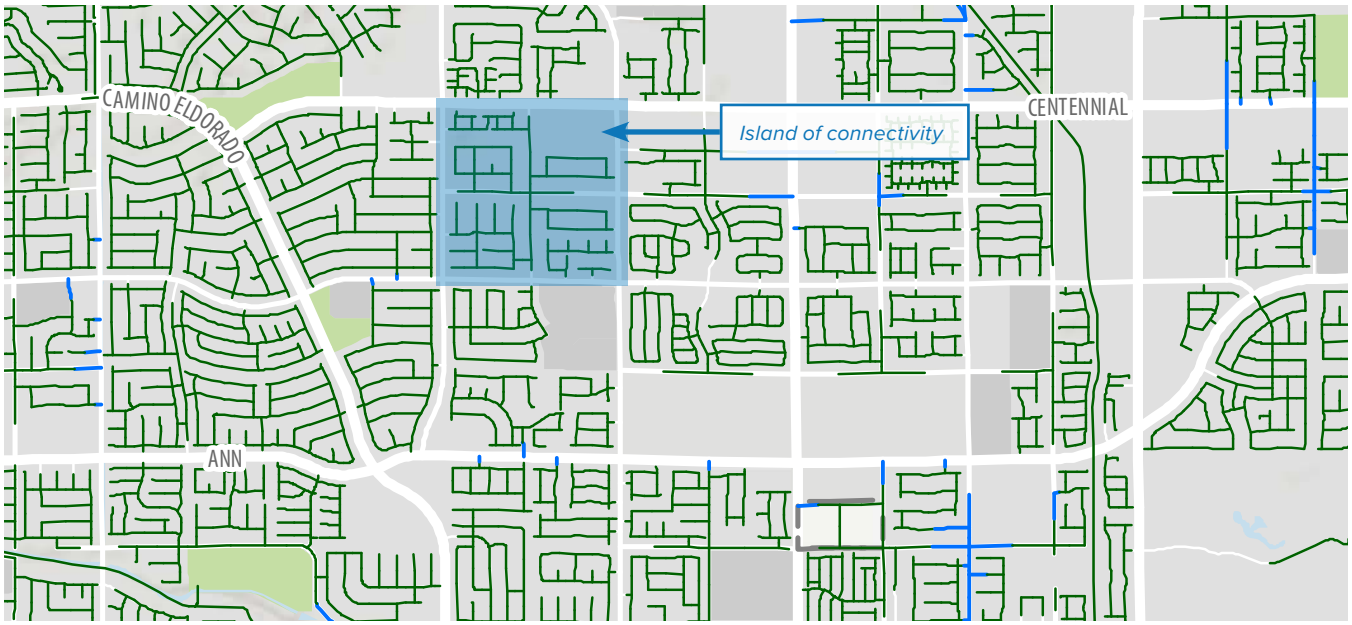
Network cohesion references the degree to which a network is continuously connected, which directly translates into its usefulness as a transportation option. In order to measure the usefulness of the existing bicycle system, the results of the level of comfort analysis were displayed as "islands of connectivity" for LOC 1 and LOC 2 clusters of streets that are connected and accessible to each other. This representation illustrates areas that are navigable by the majority of users possessing limited tolerance for high traffic volumes and vehicular speeds. Breaks in connectivity create "islands" and denote the lack of comfortable crossings such as traffic signals, mid-block crossings, or grade-separated crossings.

COHESION SUMMARY

Connectivity of LOC 1 and LOC 2 street networks in North Las Vegas results in the creation of numerous "islands of connectivity". Most islands are defined by the half-mile grid of arterial or collector streets that make up much of Southern Nevada. Larger clusters of LOC 1 and LOC 2 networks that do exist are often linked by shared use paths such as the Lower Las Vegas Wash Trail, the Upper Las Vegas Wash Trail, or numerous paths within the Aliante neighborhood.

Improvement Opportunities

- Focus improvements on creating key linkages between clusters of high-comfort roadways such as mid-block crossings or pedestrian signals
- Require a higher degree of street connectivity from future development

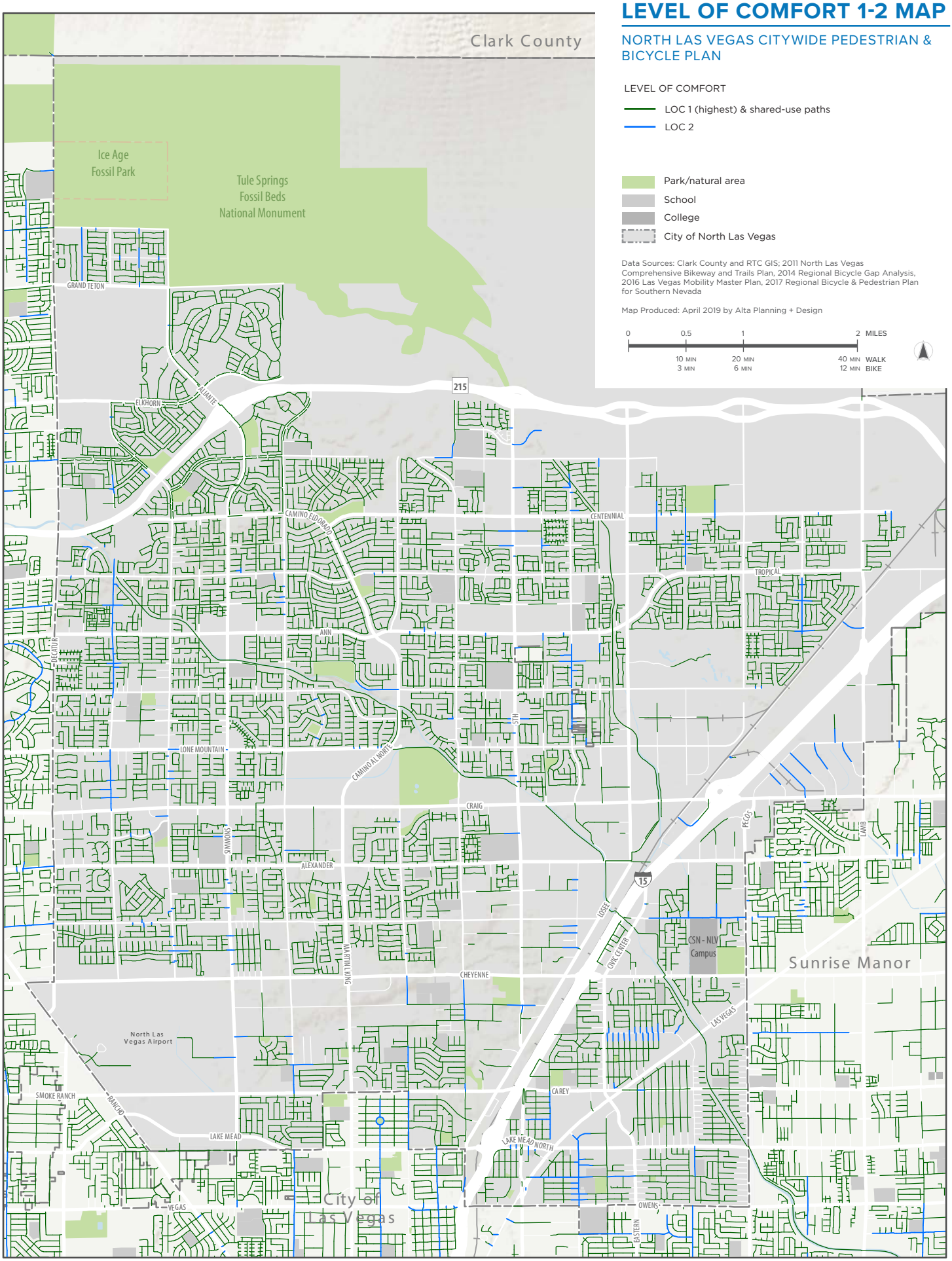


Example of an island of connectivity created by breaks in high-comfort streets

MAP 1.5

LEVEL OF COMFORT 1-2 MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



EXISTING NETWORK ANALYSIS: ACCESSIBILITY

WHY ACCESSIBILITY MATTERS

Active transportation networks that serve local destinations such as schools, parks, and grocery stores have the potential to improve walking and bicycling rates. Accessibility refers to the degree to which the network provides these connections. These non-commute trips are often shorter in distance and present less logistical challenges than traveling to work on foot or by bike. Shorter trips are less likely to require travel on a high-speed, high traffic roadway. The following analysis depicts areas with high latent (unmet) demand for pedestrian and bicycle facilities that could realize actual increases in biking and walking activity if comfortable and convenient infrastructure improvements were made.

METHODOLOGY AND CRITERIA

In order to determine how well existing destinations and demand are served by the existing active transportation system, the Planning Team conducted a latent demand analysis for North Las Vegas. Data for six categories that correlate with increased active transportation rates were processed.

Data Inputs

Data inputs for six categories (live, work, play, learn, access to transit, shop) were incorporated into the demand analysis. “Live” input data was sourced from the 2016 American Community Survey 5-year population estimates and then reclassified by quartiles. “Work” and “Shop” data was from the Longitudinal Employer-Household Dynamics (LEHD) Data; accessed via On The Map, 2016. “Play”, “Learn”, and “Access to Transit” inputs are based on geographic locations of features, including parks and trails, schools, and bus stop locations.

Scoring Method

The demand model’s scoring method is a function of density and proximity. Areas that have more features and features that are closer together will have higher scores. Low feature density areas and areas where features are further apart will receive lower scores.

Composite demand is calculated by summing all six categories: Live, Work, Play, Learn, Access to Transit, and Shop. All categories are given the same weight in the composite map.

ACCESSIBILITY SUMMARY

Latent demand analysis shows that North Las Vegas has distinct areas with high latent demand for active transportation facilities, especially where schools and parks or work and shopping areas are close to each other.

Improvement Opportunities

- The Latent Demand Analysis has identified the following high priority areas that demonstrate high latent demand for improved bicycling and walking infrastructure. Specific bicycle and pedestrian recommendations will be developed for these sites.
    - Lake Mead Couplet (Lake Mead Blvd from I-15 to Las Vegas Blvd)
    - North Las Vegas Blvd from Tonopah to Carey Ave
    - Cheyenne Ave from Civic Center Dr to Pecos Rd
    - Simmons St from Tropical Pkwy to Washburn Rd
    - San Miguel Ave from Allen Ln to Clayton St
    - Craig Rd from Revere St to Commerce St
    - Craig Rd from Arcata Way to Losee Rd
    - Deer Springs Way from Goldfield St to Lawrence St

MAP 1.6

COMPOSITE DEMAND MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN

EXISTING NETWORK ANALYSIS: DIRECTNESS

WHY ROUTE DIRECTNESS MATTERS

Route directness is a key criterion in creating a functional bicycle and pedestrian system that can be effectively used as a viable transportation alternative. Per the NACTO Urban Bikeway Design Guide, bicyclists are often only willing to deviate from the most direct route by two to three short blocks. When compared to the average bicycle trip of approximately three miles, this equates to a maximum tolerance of 10 percent for out of direction travel.

In North Las Vegas' street network, local streets offer limited direct connections to local destinations due to numerous dead ends and circuitous street patterns. Therefore, collector and arterial streets need to accommodate vehicles and non-motorized users looking for efficient routes to local destinations.

DIRECTNESS SUMMARY

Only 11 percent of North Las Vegas collector and arterial streets currently possess dedicated bicycle facilities such as bike lanes or sidepaths. Due to the lack of facilities, many users would be required to travel extensively out of direction to ride on a dedicated bikeway. In some situations, travel by bicycle may not even be an option if the user is not comfortable mixing with vehicular traffic.

Improvement Opportunities

- Seek to modify standard cross-sections to standardize the implementation of bicycle facilities on higher order roads
- Seek out road-diet opportunities that re-purpose roadways with excess vehicular capacity to provide more accommodation for bicyclists and pedestrians

Only 11% of North Las Vegas collector and arterial streets have dedicated bicycle facilities

EXISTING NETWORK ANALYSIS: ALTERNATIVES

WHY NETWORK DENSITY AND ROUTE CHOICE MATTERS

Network density assesses whether the street grid provides options for travel between locations by pedestrians and bicyclists. Cities with a high density of active transportation infrastructure create a more accessible network with greater trip options. Higher-density networks are also more resilient – a closure of one street will be less likely to inhibit travel.

METHODOLOGY AND CRITERIA

Network density for active transportation facilities is calculated by dividing the total mileage of active transportation facilities in North Las Vegas by the area of the city. North Las Vegas currently possesses 0.5 miles of bikeways/per square mile. This stands in comparison to local region and peer cities such as Henderson, NV and Phoenix, AZ with densities of 2.3 and 1.3 per square mile, respectively.

NETWORK DENSITY SUMMARY

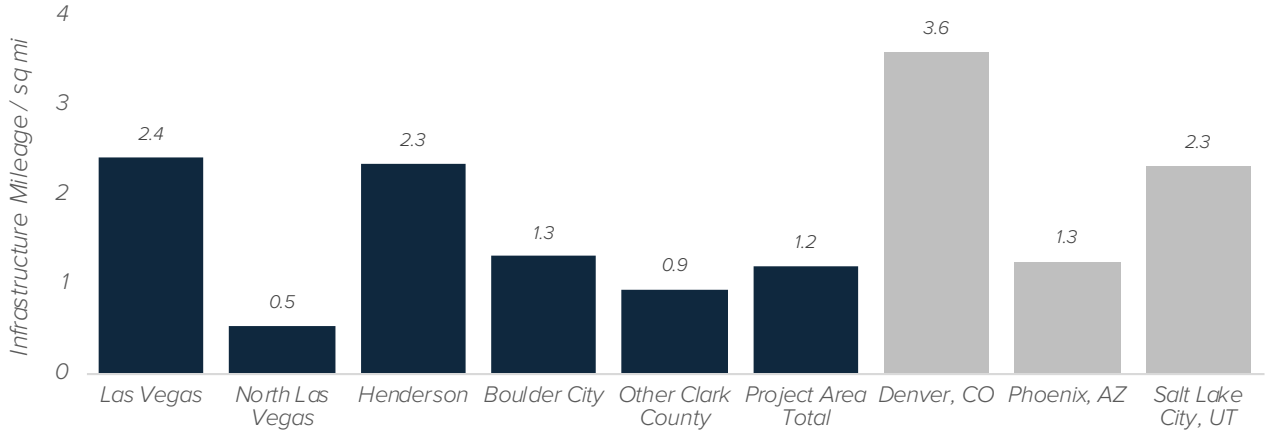
The existing active transportation network in North Las Vegas currently provides a few important core routes, but lacks sufficient density to ensure the network is resilient, reliable, and widely accessible to attract a wide user base.

Improvement Opportunities

- Seek to implement "quick win" projects that take advantage of under-utilized parking lanes or new mid-block crossings that link low-volume, low-speed streets to local destinations
- Seek to modify standard cross-sections to standardize the implementation of bicycle facilities on higher order roads

BICYCLE FACILITY DENSITIES FOR CITIES IN THE REGION AND SIMILAR CITIES IN THE WESTERN U.S., FROM THE 2017 RTC REGIONAL BICYCLE AND PEDESTRIAN PLAN FOR SOUTHERN NEVADA

Note: These densities do not reflect the highest mileage/developed square miles because most jurisdictions have at least some land that is not suitable for bicycling and walking facilities.



EXISTING NETWORK ANALYSIS: SAFETY

WHY SAFETY MATTERS

Safety is a major concern for residents when making the choice to use active modes of transportation. Southern Nevada has one of the highest rates of pedestrian-automobile crashes for metropolitan areas in the United States. NDOT provided data summarizing motor vehicle collisions with pedestrians and bicyclists from January 2013 to December 2017, representing five years of crash data.

METHODOLOGY AND CRITERIA

Analysis of the 598 collisions involving pedestrians and bicyclists from 2013 to 2017 provides a variety of measurements for the safety for active transportation modes. In addition to mapping which indicates areas of high collision concentrations, the safety analysis included comparison of relative frequency of collisions based on:

- year of occurrence, to account for any improvements,
- intersections,
- speed and severity,
- existing active transportation facilities,
- roadway type.

The pedestrian calculations given here include individuals walking, skating, or in a wheelchair and bicyclist collision calculations include people on bicycles, tricycles, unicycles, and in pedal cars.

SAFETY ANALYSIS SUMMARY

Collisions Over Time. Between 2013 and 2017, North Las Vegas recorded annual collisions as low as 97 incidents and as high as 128 incidents (2016).

Intersections. Nearly half (44 percent) of collisions occurred at intersections, while 56 percent of collisions occurred at non-intersections. Intersection collisions are less likely to involve a fatality.

Collision Speed and Severity. The majority of collisions occur on higher speed roadways - 71 percent of the 598 collisions occurred on roadways with posted speeds of 35 mph or higher. There were 29 collisions that resulted in fatalities, 24 of which were on roadways with a posted speed limit of 35 mph or higher. The majority of collisions resulted in some form of bodily injury to the pedestrian or bicyclist (92 percent) and five percent of collisions were fatal. In total there were 30 fatalities and 587 injuries involving pedestrians or bicyclists.

Dedicated Facilities. Twelve percent of collisions that involved bicycles occurred on roads with dedicated active transportation facilities or shared bus/bike lanes, while 88 percent, occurred on roads without.

Collisions By Road Type. Over half (54 percent) of the collisions recorded occurred on arterial roads. Collector and local roads experienced similar numbers of collisions, with 141 collisions on collector and 135 collisions on local roads.

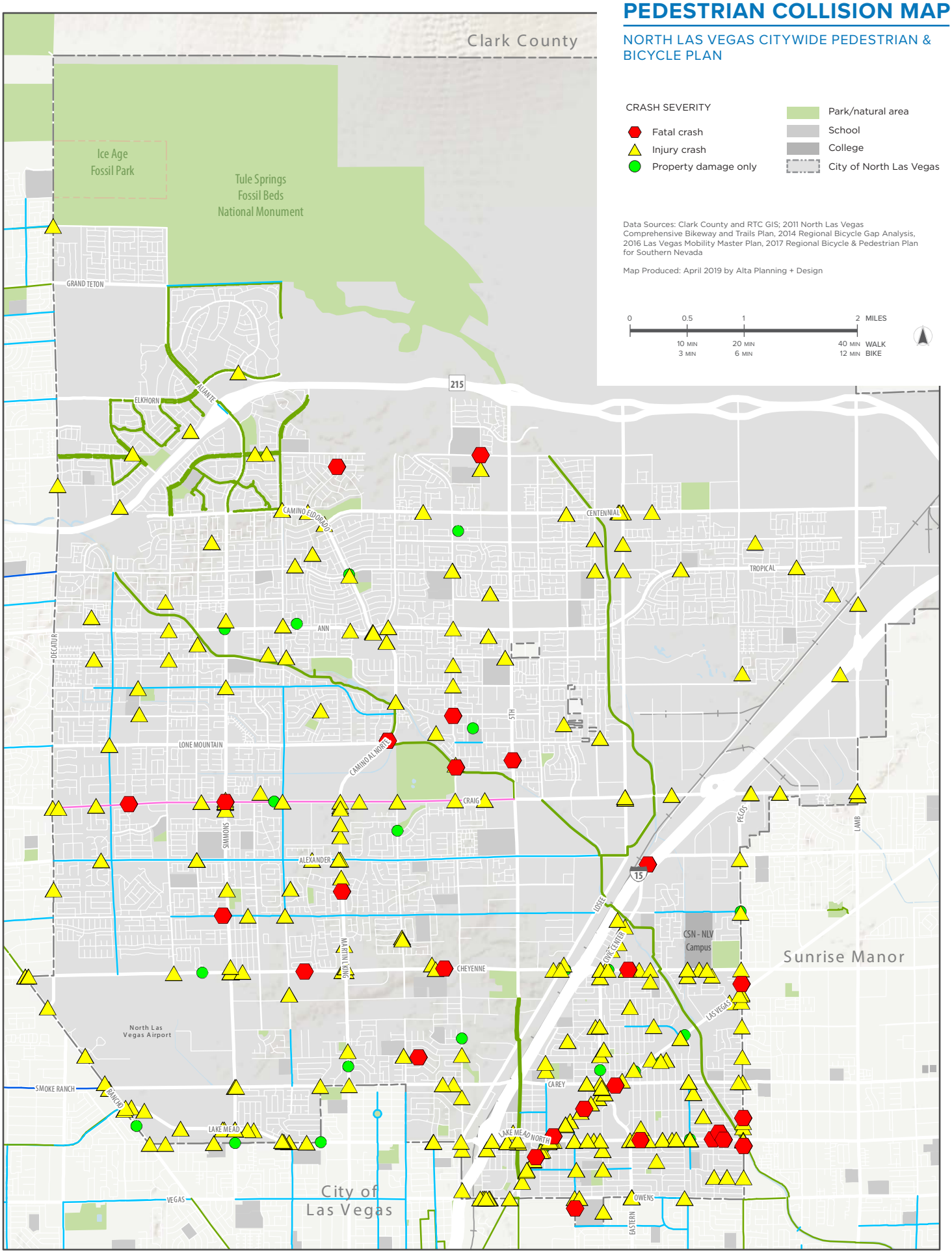
Improvement Opportunities

- Pedestrian facility improvements at crash hot spots for pedestrians
  - Lake Mead Blvd east of I-15
  - Las Vegas Blvd south of Carey Ave
  - Cheyenne Ave east of I-15
- Dedicated bicycle facility installation or improvements at crash hot spots for bicyclists
  - Lake Mead Blvd east of I-15
  - Cheyenne Ave east of I-15
  - Commerce St between Washburn Rd and El Campo Grande Ave
  - Deer Springs Way between Allen Ln and Clayton St

MAP 1.7

PEDESTRIAN COLLISION MAP

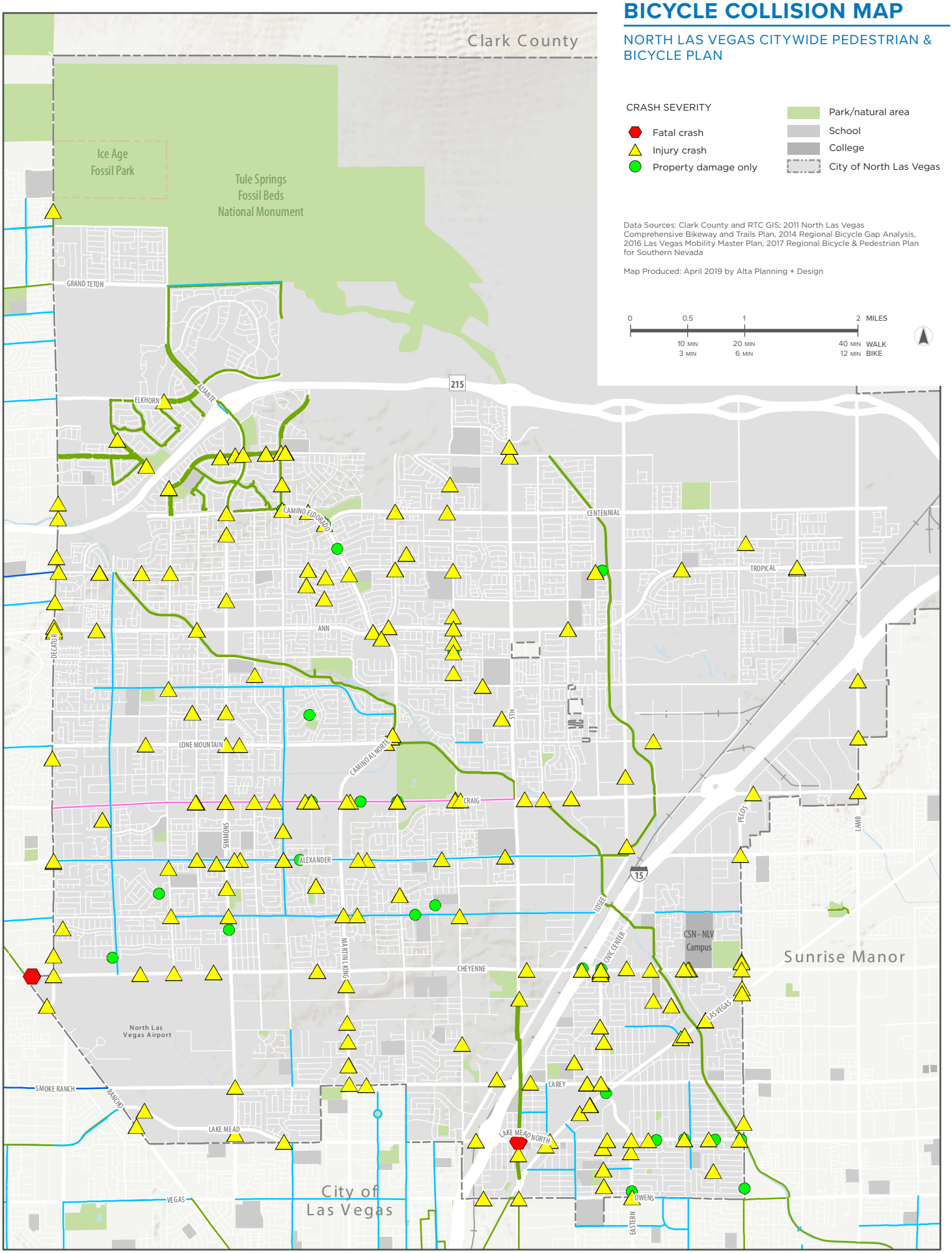
NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



MAP 1.8

BICYCLE COLLISION MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



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02

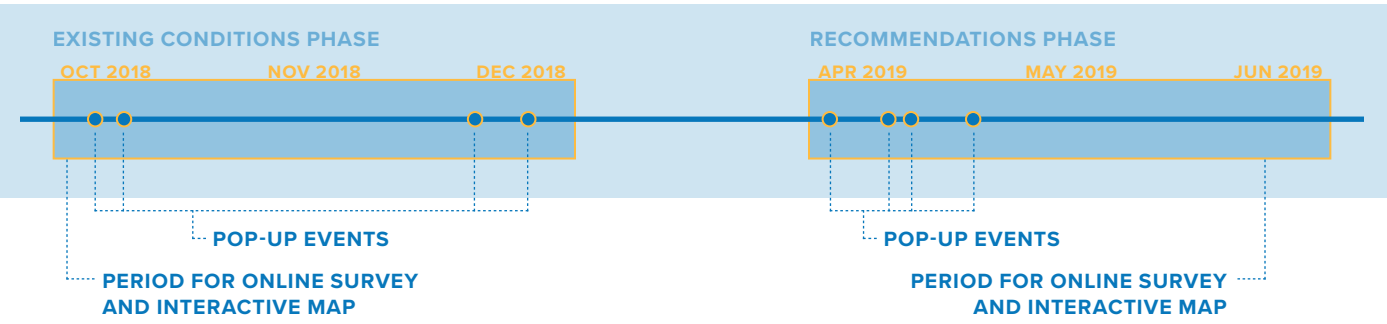
PUBLIC ENGAGEMENT

INPUT AND FEEDBACK FROM LOCAL RESIDENTS

Much of the success of this project relied on input from stakeholders and community members in order to gain an understanding of existing conditions and develop meaningful recommendations. The planning process included a variety of public outreach methods through which the planning team strove to reach as many everyday users of North Las Vegas' streets and trails as possible. Outreach methods included Online surveys, Online interactive maps, in-person pop-up events, and stakeholder interviews.

Public input efforts were divided into two phases: 1) Existing Conditions and 2) Recommendations. The Existing Conditions phase was focused on learning from locals about opportunities and barriers to walking and biking in North Las Vegas, while the Recommendations phase was geared towards getting feedback on the recommended network, facility types, and proposed policies and programs.

PUBLIC INPUT TIMELINE



PUBLIC INVOLVEMENT: ONLINE SURVEY

BACKGROUND, FORMAT, & PURPOSE

During the Existing Conditions phase, North Las Vegas distributed a 7-question Online survey to residents by sending the survey link to Aliante HOA, North Las Vegas Boys & Girls Club, College of Southern Nevada Cheyenne Campus, and Protectors of Tule Springs National Monument with a request for it to be shared with their members via email or newsletters. The purpose of the survey was to gain insights into what discourages people from walking and biking and what some of the public priorities are for improvements.

A similar format and pattern of distribution was followed for the Recommendations phase. This second survey consisted of only four questions focused on getting feedback on the recommended policies and programs and how effective residents think they would be in achieving the projects goals for walking and biking. This survey focused more on pedestrian-related recommendations, while the Online interactive map more heavily stressed bikeway improvements. Both surveys included additional identifying questions regarding demographics.

OUTCOMES & LESSONS LEARNED

Between the two surveys conducted there were 614 people who participated (540 for Existing Conditions, 74 for Recommendations), with particularly strong representation from the Aliante area. The map at right illustrates level of participation for the Existing Conditions survey based on respondents' zip codes. There were a wide range of responses relating to how comfortable people feel walking and biking in North Las Vegas. Forty percent of respondents feel either somewhat or completely uncomfortable walking in North Las Vegas, while 45 percent feel either somewhat or very comfortable. Similarly, 46 percent feel somewhat or completely uncomfortable biking, and 38 percent feel somewhat or very comfortable riding a bike in North Las Vegas. The infographic on page 57 breaks down more of the results from the first public survey.

The following recommendations were voted most effective in reducing aggressive driving, improving pedestrian safety, and encouraging people to walk more:

59% of respondents believe **enhanced enforcement and education programs** would be highly effective in reducing aggressive driving.

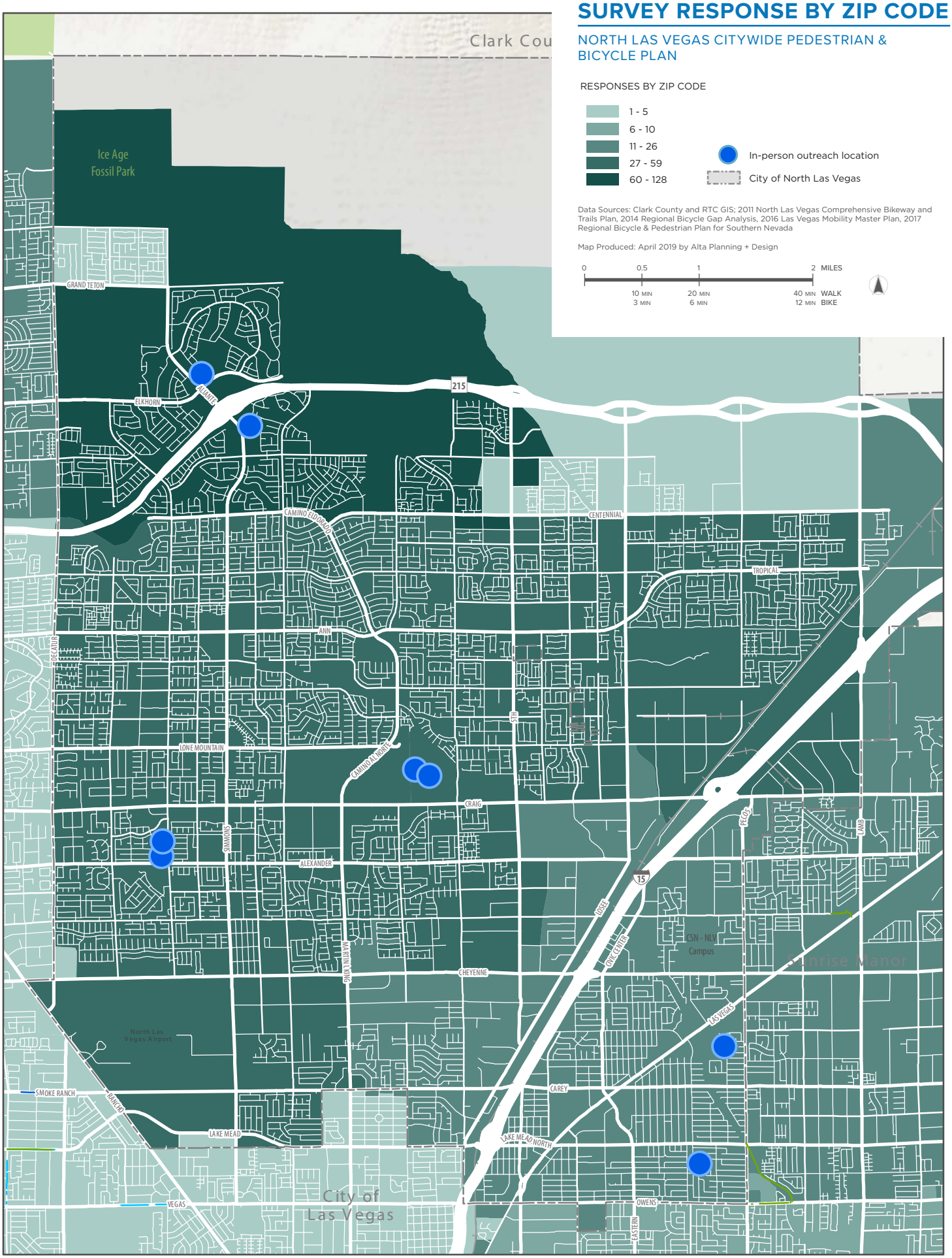
Over 60% of respondents believe **improved landscape buffers**, **wider sidewalks**, and **flashing signals at mid-block crossings** are most effective in making pedestrians feel safer.

Over 70% of respondents agreed that **higher street and sidewalk connectivity**, **better access to regional trails**, and **more mid-block crossings** would all be highly effective measures in encouraging them to walk more.

MAP 2.1

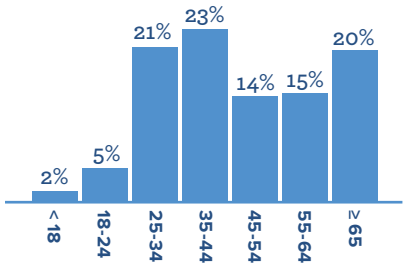
SURVEY RESPONSE BY ZIP CODE

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



Demographics

AGE OF RESPONDENTS



61% FEMALE

39% MALE

73% PRIMARY RESIDENCE IN NORTH LAS VEGAS

36% VISIT OR WORK IN NORTH LAS VEGAS

Why do you walk or bike?

80% OF RESPONDENTS SAID THEY WALK OR BIKE FOR HEALTH AND FITNESS REASONS

50% OF RESPONDENTS WALK OR BIKE FOR PLEASURE, FUN, OR SOCIALIZING

19% OF RESPONDENTS BELIEVE WALKING AND/OR BIKING IS MORE CONVENIENT FOR SOME TRIPS

45% OF RESPONDENTS FEEL COMFORTABLE WALKING AND 38% OF REPSONDENTS FEEL COMFORTABLE BICYCLING IN NORTH LAS VEGAS

Barriers

TOP 3 BARRIERS *to* WALKING & BIKING

- Aggressive drivers
- Unsafe roads, sidewalks, or trails
- Unsafe crossings

Priorities

TOP 3 PRIORITIES *for* FUTURE INVESTMENT

- Better crossings of major streets and highways
- More on-street routes to local destinations
- More paved off-street paths

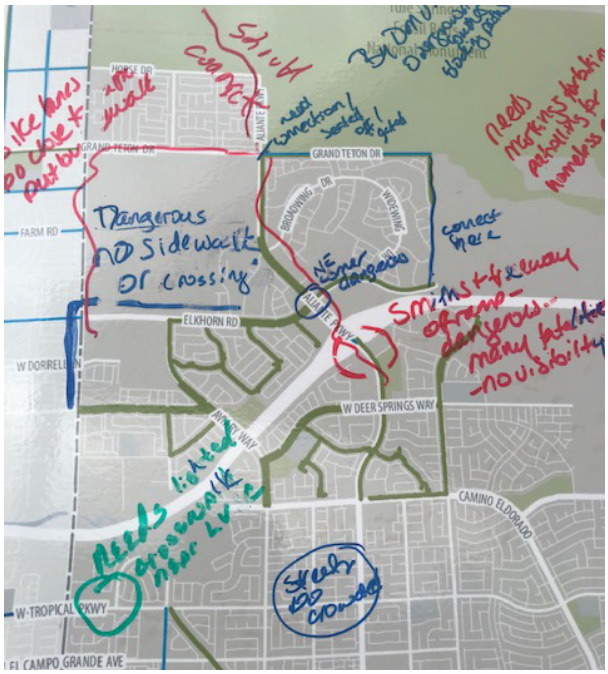
Children

FROM THE RESPONDENTS WITH CHILDREN

20% HAVE CHILDREN THAT WALK OR BIKE TO SCHOOL

THE TOP THREE CONCERNS PARENTS HAVE FOR CHILDREN WALKING AND/OR BICYCLING:

- Perception of crime
- High vehicle speeds
- Too much traffic


GRAND TETON DR
FARM RD
ELKHORN RD
W DEER SPRINGS WAY
CAMINO ELDORADO
W TROPICAL PKWY
EL CAMPO GRANDE AVE
Dangerous
no Sidewalk
or crossing

PUBLIC INVOLVEMENT: ONLINE INTERACTIVE MAP

HOW IT WORKS

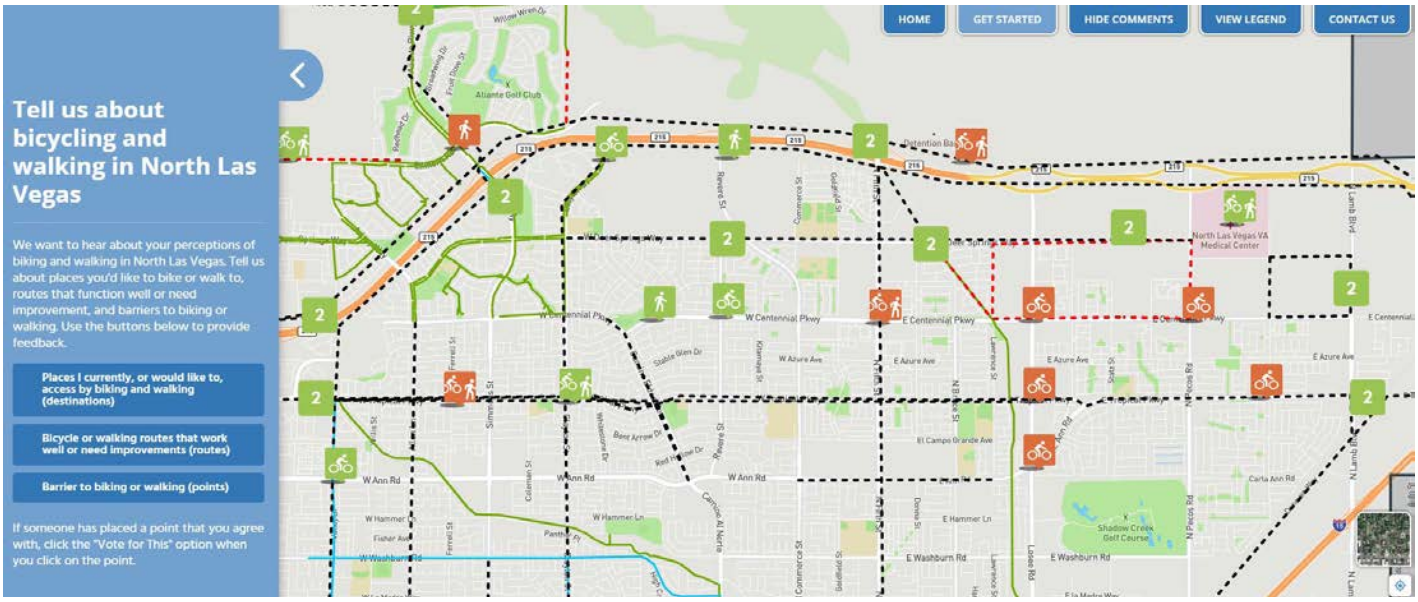
For both phases of public outreach, North Las Vegas residents were invited to give input on an interactive Online map made available via the City of North Las Vegas' website. During the Existing Conditions phase, participants were presented with a map consisting of existing bikeways, parks, streets, trails, and school locations on which they could draw lines and place pins to indicate barriers, important destinations, and overall improvement opportunities. In addition to destinations and barriers, participants identified missing infrastructure critical to developing a safe, convenient network. The image below shows a screenshot of the web map interface, with orange icons representing barriers, green icons representing destinations or opportunities, and black dashed lines showing desired linear improvements drawn by participants.

The Recommendations phase interactive web map showed the proposed bikeway network and any spot improvements such as crossings. Participants were able to like, dislike, or comment on any given recommendation. Additionally, they were asked to identify five "top priority" projects.

OUTCOMES

Over 100 points and lines were drawn by 38 unique users during the 10-week period the Existing Conditions web map was available, while 18 unique users gave input during the Recommendations phase of the web map. The map on the opposite page summarizes participants' input for the Existing Conditions phase and shows that a majority of the barriers and missing infrastructure are concentrated at arterial intersections and along I-215, where respondents indicated lack of comfortable crossings and a desire to safely cross I-215. Respondents also highlighted the need to extend existing facilities that abruptly end, as well as the need to establish safe North-South connections in North Las Vegas.

The Recommendations phase resulted in positive feedback for all proposed improvements. Improvements related to the Upper and Lower Wash Trails regarding major street crossings and access as well as crossing I-215 received the most likes. Additional improvements not initially recommended were also suggested by participants, some of which are reflected in the final recommendations.

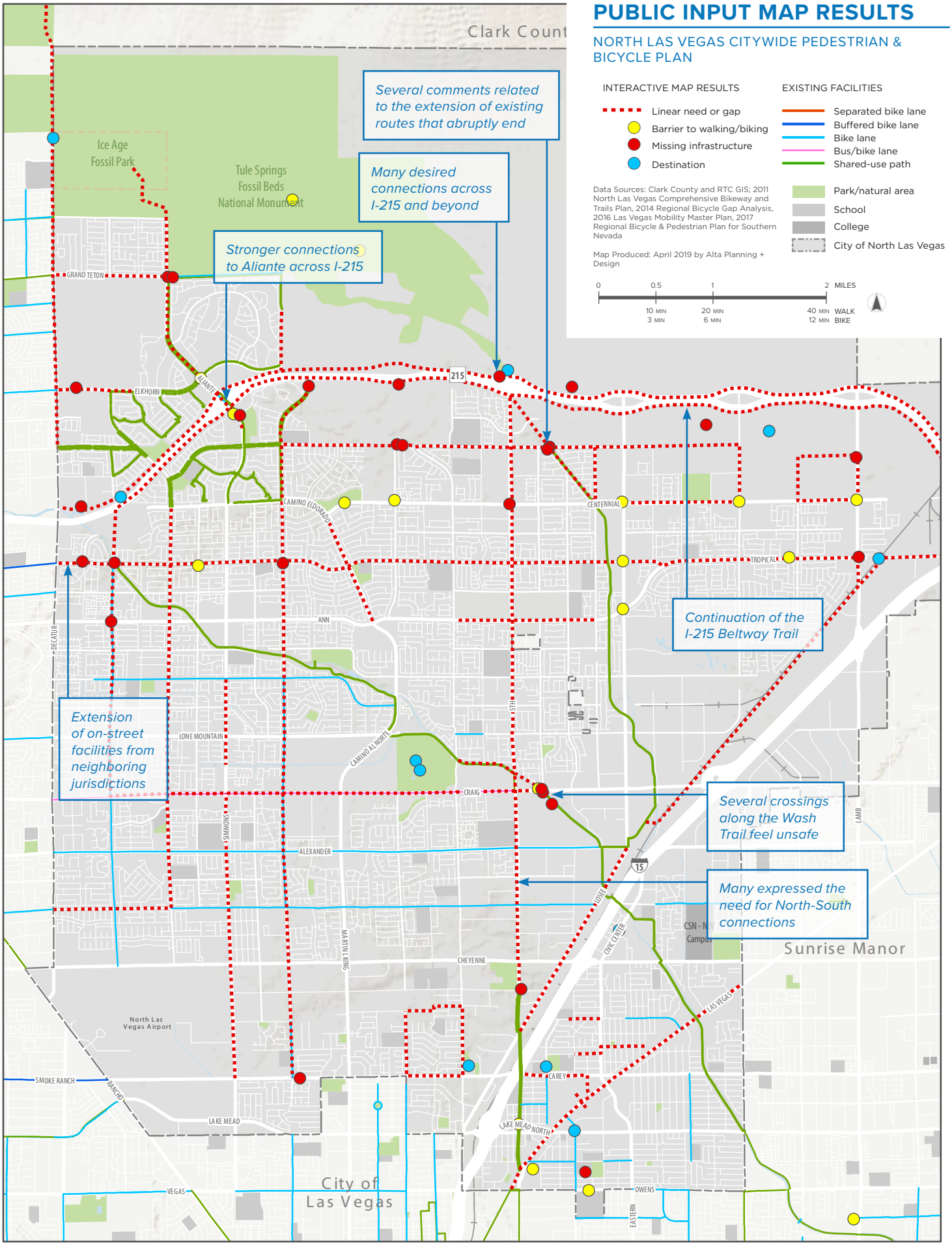


Screenshot image of the Online interactive map presented to the public.

MAP 2.2

PUBLIC INPUT MAP RESULTS

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



PUBLIC INVOLVEMENT: POP-UP EVENTS

For both phases of the public outreach effort, in-person pop-up events were held throughout North Las Vegas to further promote the Online surveys and interactive maps and reach residents who otherwise may not have participated in the public input process. Materials at each pop-up event included printed surveys in English and Spanish, large maps, images, and text explanations of proposed improvements on which participants could give feedback and make suggestions.

During the Existing Conditions phase, in-person pop-up events aligned directly with the Online interactive map, giving people a chance to draw on a printed map of the City to highlight important destinations and identify barriers to walking and biking. Printed surveys were also available.

The Recommendations phase pop-up events aligned more directly with the Online survey and sought to get feedback from participants on proposed policies and programs, while actual network recommendations feedback was reserved for the Online interactive map. People were asked how effective they thought certain policies or programs would be in achieving goals of safety and comfort for pedestrians and bicyclists.

For both phases of outreach, results from the pop-up events mirrored and further validated feedback received Online.

Outreach events were held in conjunction with the following public events:

EXISTING CONDITIONS PHASE:

ER at Aliante Grand Opening | Saturday, October 6, 2018
Located at 7207 Aliante Parkway

Harvest Festival | Saturday, October 20, 2018
Located at Craig Ranch Regional Park

Broadacres Marketplace | Saturday, December 1, 2018
Located at 2930 N. Las Vegas Blvd

Breakfast with Santa | Saturday, December 15, 2018
Located at Silver Mesa Recreation Center

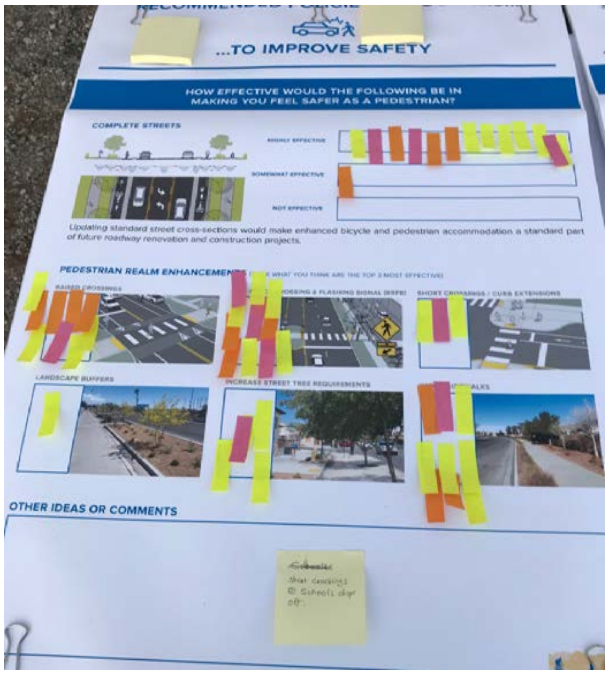
RECOMMENDATIONS PHASE:

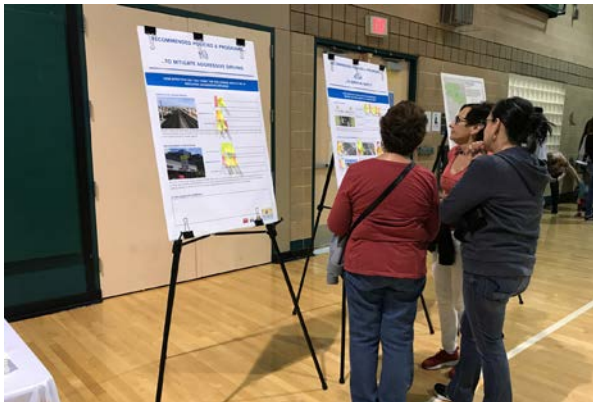
Aliante HOA Event | Saturday, April 6, 2019
Located at Deer Spring Park

Movie Madness | Friday, April 12, 2019
Located at Tom Williams Elementary

Easter Eggstravaganza | Saturday, April 13, 2019
Located at Silver Mesa Recreation Center

Pirate Fest | Saturday, April 28, 2019
Located at Craig Ranch Regional Park


...TO IMPROVE SAFETY
HOW EFFECTIVE WOULD THE FOLLOWING BE IN MAKING YOU FEEL SAFER AS A PEDESTRIAN?
COMPLETE STREETS
HIGHLY EFFECTIVE
SOMEWHAT EFFECTIVE
NOT EFFECTIVE
Updating standard street cross-sections would make enhanced bicycle and pedestrian accommodation a standard part of future roadway renovation and construction projects.
PEDESTRIAN REALM ENHANCEMENTS
LANDSCAPE BUFFERS
INCREASE STREET TREE REQUIREMENTS
OTHER IDEAS OR COMMENTS



03

FUTURE NETWORK RECOMMENDATIONS

INCREASING NETWORK CONNECTIVITY AND SAFETY

Developing the pedestrian and bicycle network recommendations was a multi-step process involving ongoing dialogue with stakeholders and the general public. Recommendations were informed by a combination of the existing conditions analysis, previously adopted plans, field visits, public input, and active transportation best practices.

North Las Vegas' 61.9 miles of existing walking and bicycling infrastructure (excluding sidewalks) are recommended to increase to a total of 300.9 miles - 239 miles of new active transportation infrastructure. Proposed infrastructure improvements put emphasis on creating a walking and biking network that is comfortable for all ages and abilities to make active transportation a more viable option for getting around for a wider array of people, and the future system will provide new or enhanced connections to destinations such as schools, libraries, parks, and businesses.

239 miles of recommended new pedestrian and bicycle infrastructure

FUTURE NETWORK RECOMMENDATIONS

A NETWORK FOR ALL AGES AND ABILITIES (AAA)

The vision and goals of this plan revolve around a desire to make walking and bicycling normal, safe, everyday activities for people of all ages and abilities (AAA), not just people who are already confident and enthusiastic about active transportation. Recommended walking and bicycling facilities like separated bike lanes, shared use paths, wide and/or buffered sidewalks (separated from curb), and neighborhood byways create an AAA network that is appropriate for the majority of North Las Vegas residents. These facilities are considered high comfort because of physical protection, separation from traffic, or, in the case of neighborhood byways, the use of low volume, low speed streets.

Many North Las Vegas residents would like to walk or ride bicycles more but are discouraged from doing so by perceived safety concerns, lack of infrastructure, or lack of connectivity to destinations. National surveys indicate that 50-60% of people say they would ride a bicycle more (or start riding if they do not already) if they had access to facilities that provided more separation from traffic, lower traffic speeds, and/or lower traffic volumes.[1]

On-street bikeways that are separated or are located on traffic-calmed streets also create a better pedestrian experience by reducing traffic speeds or, in the case of separated bike lanes, increasing the physical separation between pedestrian areas and motor vehicle travel lanes. Additionally, evidence has shown that communities with higher bicycling rates tend to have lower crash rates for bicycles and all other modes, benefiting from the effect of "safety in numbers" and increased awareness.[2]

In addition to safety benefits, AAA infrastructure can improve retail sales in commercial areas, contribute to higher property values[3], and provide more transportation choices to the average person. The latter, in turn, often leads to a more balanced mode share between different transportation modes, contributing to improved air quality, improved health outcomes, more diversified transportation investment, and greater network resiliency and effectiveness.

[1] Four Types of Cyclists. (2009). Roger Geller, City of Portland Bureau of Transportation: https://www.portlandoregon.gov/transportation/article/264746.

[2] Marshall, W., and N. Garrick, 2011 - Evidence on why bike-friendly cities are safer for all road users, Environmental Practice, 13, 1.

[3] "Omaha Recreational Trails: Their Effect on Property Values and Public Safety". Rivers and Trails Conservations Assistance, National Park Service. Donald L. Greer, 2000; "Nebraska Rural Trails: Three Studies of Trail Impact". Rivers and Trails Conservation Assistance, National Park Service. Donald L. Greer, 2001.

Separated bike lanes create an environment that feels comfortable for people of all ages and abilities to ride a bike while also improving pedestrian comfort

RECOMMENDATION THEMES

Throughout the existing conditions analysis and public outreach efforts, a handful of themes emerged for guiding future network recommendations. While these themes do not encompass every opportunity for improving the pedestrian and bicycle network, they represent higher-priority demands that were derived from public input. They include:

Regional Connections

Many of the recommendations in the RTC Regional Bicycle and Pedestrian Plan (2017) include improvements in North Las Vegas, and several of them align with public input recommendations. Because North Las Vegas is part of a larger metropolitan area and many useful destinations and recreation opportunities lie beyond the city limits, network recommendations should capitalize on opportunities to strengthen regional connectivity, tying into existing and future facilities in neighboring jurisdictions.

Connections to the Wash Trails

The Upper and Lower Las Vegas Wash Trails provide residents with a safe, comfortable way to travel by bike or on foot. Future projects and policies should aim to increase access to these trails, capitalizing on existing infrastructure and increasing its utilization for recreation and transportation.

North-South Connectivity

While the overall existing network lacks connectivity in all directions, North-South connections, especially to Downtown North Las Vegas, are particularly lacking.

Low-volume, Low-speed connections

Arterial corridors in North Las Vegas require extensive retrofitting to attain comfort levels suitable for all ages and abilities. However, developing parallel networks that utilize low-volume, low-speed neighborhood streets can increase overall network density and allow people to avoid major streets. Referred to as neighborhood byways, these quiet corridors are easier to implement through appropriate signage and markings together with traffic calming interventions to keep motorists traveling at a slow enough speed for a wider range of bicyclists to feel comfortable sharing the road and pedestrians to cross freely.

Safe Crossings at Major Streets

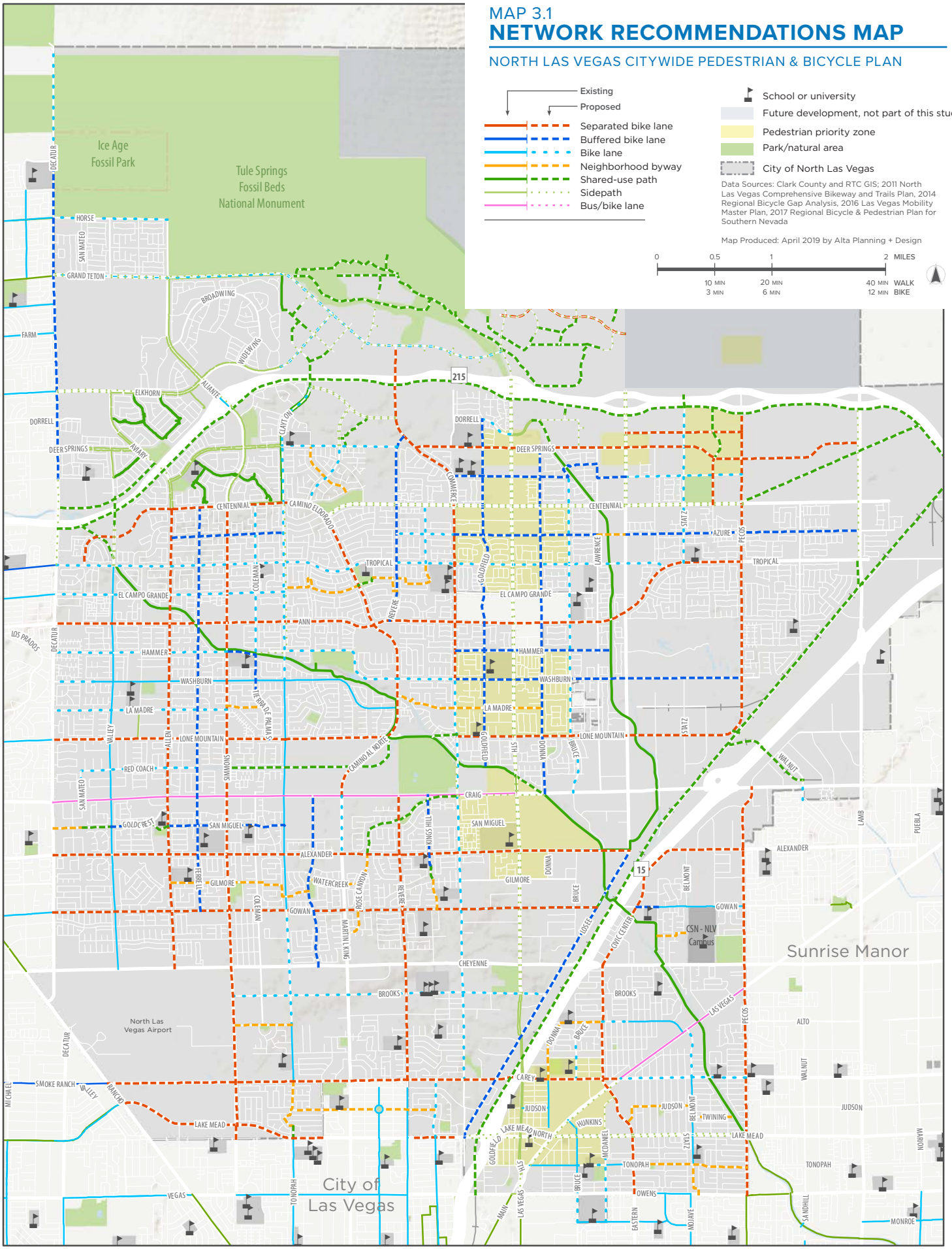
Arterial streets in North Las Vegas are wide and typically contain anywhere from 5-7 travel lanes, enabling higher vehicle speeds and stressful conditions for pedestrians and bicyclists, which can make intersections and crossings feel like major gaps along seemingly connected pedestrian and bicycle routes.

Wide streets with multiple lanes create an uncomfortable environment for pedestrians and bicyclists traveling along or across them.

MAP 3.1

NETWORK RECOMMENDATIONS MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



RECOMMENDED FACILITY TYPES AND PROPOSED MILEAGE*

66.3 miles

Separated Bike Lanes are physically separated from motor vehicle traffic, designed to create the feeling of a trail, but with on-street connectivity.

31.7 miles

Buffered Bike Lanes are visually separated from traffic and/or parking by a striped buffer, but lack any physical separation.

44.8 miles

Bike Lanes are a common facility type in many cities, designating 4-7 feet of roadway width with 6-inch striping.

12.9 miles

Neighborhood Byways are low-speed, low-traffic streets that provide alternatives to busier streets and/or connections to destinations through neighborhoods.

35.8 miles

Shared Use Paths are paved paths/trails, typically 8-12' wide, constructed of asphalt or concrete, that accommodate pedestrians and bicyclists off street.

47.6 miles

Sidepaths function as shared use paths by accommodating pedestrian and bicyclists off street, but are located parallel to roadways.

0 miles

Bus / Bike Lanes are dedicated lanes within the roadway for buses and bikes only. No future bus/bike lanes are proposed in this plan.

*Mileage totals include proposed facilities for underway development north of I-215 (i.e. Tule Springs); these facilities are not reflected in implementation tables found in Chapter 5.

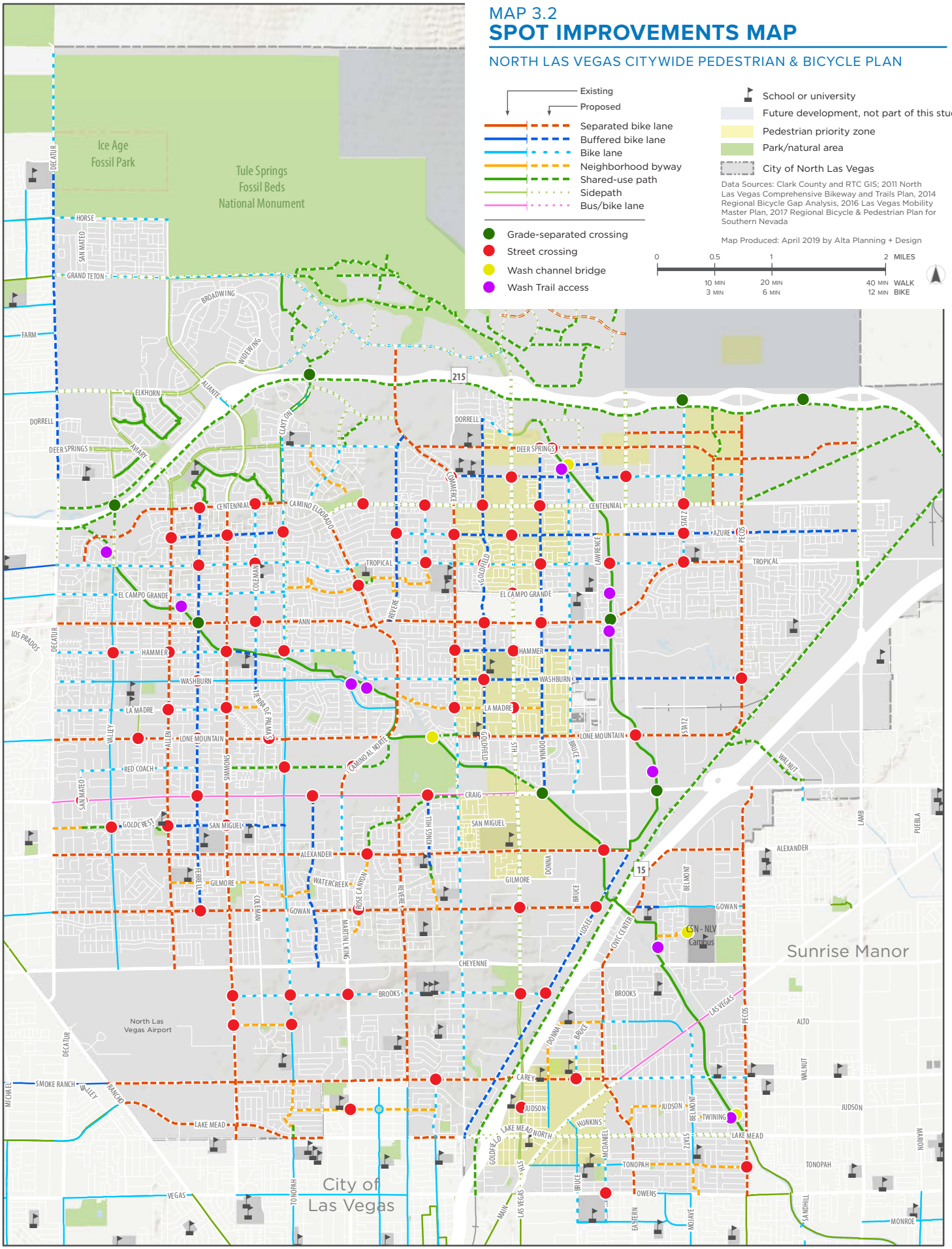
DESIGN GUIDANCE

For best practices, applications, and design guidance for specific facility types, refer to the Regional Bicycle & Pedestrian Plan for Southern Nevada adopted May 18, 2017.

MAP 3.2

SPOT IMPROVEMENTS MAP

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



RECOMMENDED SPOT IMPROVEMENTS AND PROPOSED COUNTS

8
count

Grade-separated Crossings are crossings of major roads or natural features that avoid interactions with motor traffic.

79
count

Street Crossing Improvements enable safer crossings for pedestrians and bicyclists, creating higher visibility and improved safety beyond marked crosswalks.

4
count

Wash Channel Bridges are pedestrian/bicycle bridges that connect more neighborhoods to the Las Vegas Wash Trails.

10
count

Wash Trail Access Points create new or enhanced access to the Las Vegas Wash Trails by punching through walls or widening access.

INTERSECTION AND STREET CROSSING GUIDANCE

Unsafe or uncomfortable street crossings can make a seemingly connected network of bikeways, paths, and sidewalks appear disconnected and dangerous and ultimately deter people from walking and biking. The quality of treatments at major street crossings is paramount to the success of any active transportation system. This section outlines typical application and design features for the recommended street crossings shown in red on Map 3.2. Each project would require further study prior to implementation. In some locations, intersections may warrant future signalization as North Las Vegas develops.

Typical Application

Many of the existing and proposed facilities in this plan cross complex arterial roadways at intersections or mid-block locations that currently lack sufficient signalization and protection for bicyclists and pedestrians to comfortably cross. Without treatments for bicyclists and pedestrians, these intersections and crossings can become major barriers to participating in active transportation. Investments in new bicycle and pedestrian facilities would have limited utility without also improving the recommended crossing locations.

Design Features

Median Islands provided at uncontrolled intersections and major street crossings allow pedestrians and bicyclists the opportunity to cross one direction of traffic at a time as gaps in traffic occur. Additionally, staggered crosswalks with median islands better orient pedestrians' vision toward oncoming traffic before crossing. An example of this treatment is located where the Lower Las Vegas Wash Trail crosses Clayton Street. Typically, crossings should be no more than two lanes wide without a refuge with ample gaps present through nearby signal operations. Speeds should be 35 mph or lower to provide adequate reaction time. For projects identified on the Map 3.2, RRFBs should only be implemented in conjunction with median islands.

Photo source: nacto.org

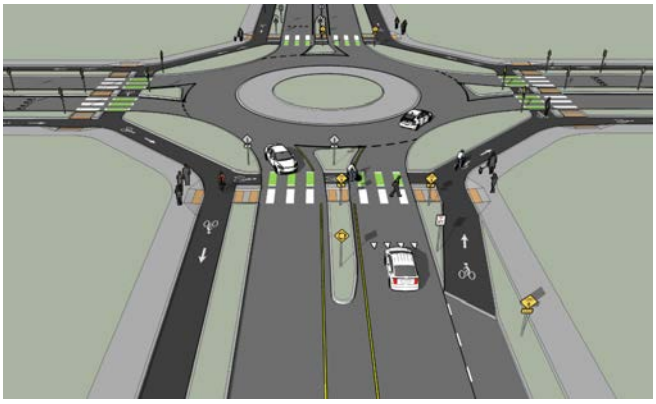
Hybrid Beacons can facilitate bicyclists and/or pedestrians crossing a busy street on which cross traffic does not stop. The MUTCD specifies that hybrid beacons "should" be located 100' from the nearest intersection, however, this is not a mandatory condition. Many communities have experienced good operations for hybrid beacons located within 100' of intersections. Tucson, AZ has successfully implemented several "BikeHAWKs" where bicycle facilities cross major streets at uncontrolled intersections. In addition, Tuscon has installed over 140 hybrid beacons at high priority pedestrian and bikeway crossings at unsignalized intersection locations throughout the city.

Photo source: http://www.pedbikeinfo.org/examples/example_details.cfm?id=4950

Toucan Crossings are a type of signal configuration that provides minor street or mid-block signal indication for bicyclists and pedestrians, but not for motor vehicles. They prevent motor vehicles from traveling through the intersection with bicyclists and pedestrians by using right turn only lanes. This diverts motor vehicle traffic from primary bicycle routes and provides a safe, comfortable crossing for pedestrians and bicyclists.

Single-Lane Roundabouts should be considered at unsignalized bikeway crossings along streets proposed for 5-3 or 4-3 road diets instead of signalized intersections. In addition to moving the same amount of traffic as a traditional traffic signal, road diets with single lane roundabouts have been shown to increase safety for all users of an intersection, space for pedestrian and bicycle facilities, traffic calming, and traffic flow while decreasing corridor travel times, crossing distances, motor vehicle speeds, and right-of-way impacts.

A single-lane roundabout can typically accommodate total traffic volumes of 25,000-30,000 vehicles per day. Additional engineering study should be conducted at potential roundabout locations to analyze operations and spatial requirements.



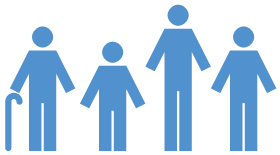
COMMUNITY CONNECTIONS

In order for the pedestrian and bicycle network to be a legitimate means of transportation for residents, it needs to provide access to useful destinations in a connected and direct manner. Many people are interested in walking or biking for daily trips to work, school, parks, or running short errands, but don't feel like there's an easy and safe way to get there. The recommended network greatly expands connectivity to important destinations for people walking or biking. Not only would implementation of the proposed network enhance existing connections to common destinations, but also provide new connections via active transportation to one additional library, one additional community center, eleven additional grocery stores, sixteen additional parks, and twenty-four additional schools.

The recommended pedestrian and bicycle network connects people of North Las Vegas to...

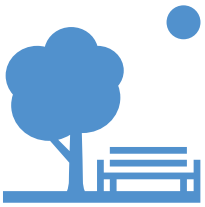
+1 *Library*

+1 *Community Center*



+11 *Grocers*

+16 *Parks*



+24 *Schools*

...and enhances connections to a number of libraries, community centers, grocers, parks, and schools already accessible by bike or foot.

PROPOSED NETWORK ANALYSIS: COMFORT

Many of the newly recommended 239 miles of walking and bicycling facilities will provide additional low-stress connectivity throughout North Las Vegas. This low-stress connectivity, which is improved by shared use paths, sidepaths, separated bike lanes, and neighborhood byways, is an important factor in encouraging people of all ages and abilities, especially children, to walk and ride a bicycle more.

METHODOLOGY AND CRITERIA

The methodology and criteria for the Level of Comfort (LOC) analysis shown on map 3.3 are included in Chapter 1. Essentially, LOC objectively assess *only roadway* comfort for people riding bicycles. This section may be directly compared with the LOC analysis in Chapter 1 in order to see the difference between existing conditions and future conditions, assuming recommended infrastructure is implemented.

The combination of roadway data and LOC criteria creates four levels of comfort that indicate comfort levels of the future roadway network. The lower the number, the higher the level of comfort.

- LOC 1: Low-stress roadways suitable for all ages and abilities (76 percent of total North Las Vegas roadways)
- LOC 2: Roadways that are comfortable enough that the mainstream adult population would ride a bicycle on them (5 percent of total roadways)
- LOC 3: Roadways that would probably only be comfortable ridden by an experienced, confident bicyclist (8 percent of total roadways)
- LOC 4: Roadways ridden only by strong or fearless bicyclists (11 percent of total roadways)

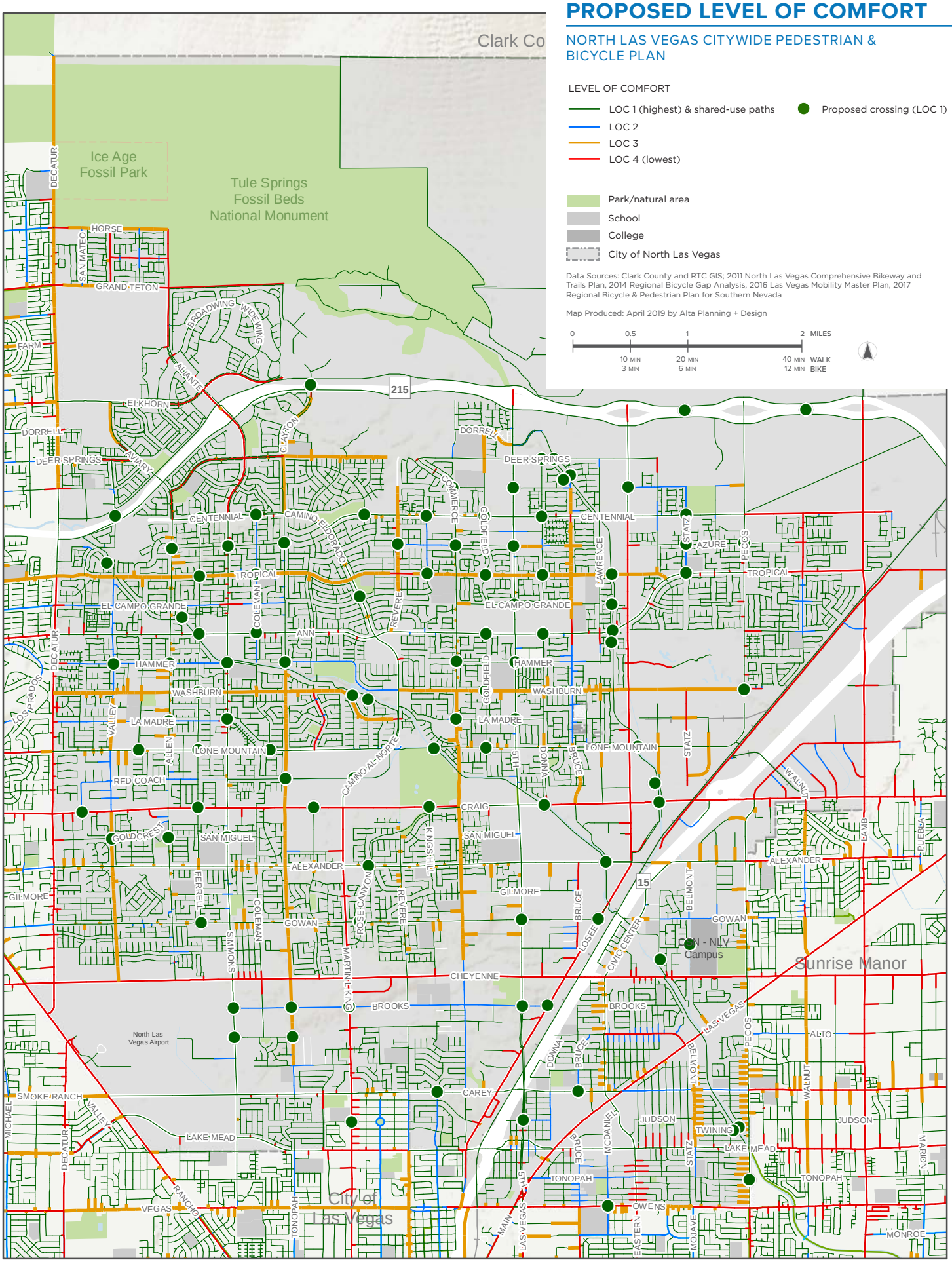
COMFORT SUMMARY

When compared to the LOC analysis of the existing road network in Chapter 1, full implementation of the recommended network improvements would result in significant progress in reducing the amount of low comfort roadways in North Las Vegas. More importantly, the fully implemented network, especially along major roads, would decrease the amount of islands of connectivity and expand the distance pedestrians and bicyclists are able to travel without encountering high-stress environments.

MAP 3.3

PROPOSED LEVEL OF COMFORT

NORTH LAS VEGAS CITYWIDE PEDESTRIAN & BICYCLE PLAN



04

POLICY RECOMMENDATIONS

RECOMMENDED POLICIES TO IMPROVE WALKING & BICYCLING IN NORTH LAS VEGAS

Adopted policies and programs play a crucial role in ensuring quality development and placemaking that is equitable and beneficial for all road users. The City of North Las Vegas has codified many significant development and design standards in order to improve walking and biking; this section recommends further policy and program considerations to achieve better conditions for walking and biking and to be adaptable to new trends in urban mobility. These recommendations should guide the adoption of new standards for future development as well as retrofit projects.

POLICY RECOMMENDATIONS

= *Received high approval ratings in the Online survey*

STREET & PEDESTRIAN CONNECTIVITY

Connected streets and pedestrian networks make it easier for people to walk or bike and can eliminate some of the perceived barriers to walking and biking, like distance and concern for safety. Like many newer cities built primarily in the auto age, North Las Vegas lacks sufficient connectivity necessary for creating an environment that is conducive to walking and biking. In North Las Vegas, it is not uncommon for a resident to live within a few hundred feet of a park, trail, commercial center, or school and have to travel a half mile to get there. This lack of connectivity stems largely from development patterns that emphasize the use of cul-de-sacs and allow for long block lengths that limit external connections to major streets, neighboring subdivisions, and adjacent land uses. North Las Vegas should consider implementing the following policies to improve street and pedestrian connectivity:

Enhanced Connectivity Index Requirements

A good indicator of street connectivity is a neighborhood's connectivity index, which is the ratio of links (street segments) and nodes (intersections and dead ends). The higher the ratio, the more connected a street network is, which translates to more route choices for network users. Currently, the City of North Las Vegas requires a 1.3 index score for single- and two-family residential developments, and a 1.5 index score for multi-family residential developments. By comparison, the City of Henderson requires 1.4 and 1.65 index scores for low-density residential and mixed-use or planned communities, respectively. Figure 4.1 illustrates the calculation of connectivity index using a typical development in North Las Vegas. As shown, the primary challenge in achieving street connectivity throughout North Las Vegas is the prominence of cul-de-sacs in residential neighborhoods. This plan recommends the City consider increasing the required connectivity index ratio to increase route choices for pedestrians by requiring more connections between subdivisions and where cul-de-sacs or dead ends exist, requiring pedestrian access paths.

The connectivity index is helpful for evaluating network connectivity and dead ends, but it does not tell the whole story of the walkability of a community, especially in North Las Vegas where block lengths tend to be long.

Figure 4.1 Calculating connectivity index

= 24 = 18 24/18 = 1.33

LEAD AGENCIES

» **City of North Las Vegas Planning and City Council**

EXAMPLES

» **Utah Street Connectivity Guide**
https://www.mountainland.org/utah-street-connectivity-guide

» **America Walks - Charlotte: Retrofit Street Connectivity**
https://americawalks.org/charlotte-retrofit-street-connectivity/

Maximum Block Lengths

Large block sizes do not support active transportation, especially when pedestrians are not accommodated with mid-block crossings and neighborhood pathway connections to external streets. With some exception, arterial streets of North Las Vegas are primarily organized on a grid of half-mile blocks with minimal mid-block crossings. Figure 4.2 illustrates a typical half-mile block in North Las Vegas with designated crossings at each major intersection and no mid-block crossings. As an example of

the detriment of large block sizes to walkability, a pedestrian trying to get from location 1 on the map to location 2 has two choices: 1) travel out of his/her way to cross at the designated intersection of Gowan Road and Martin L King Boulevard, turning an otherwise short, 5-minute walk into a 15-walk, or 2) attempt to cross seven lanes of traffic with no designated crossing by waiting for a gap in traffic. Both of these choices are particularly burdensome and/or dangerous for children, parents with young children, individuals with disabilities, and older adults.

Figure 4.2 Block length

● Designated crossing

Currently, the City's development code (16.20.030 - Block) requires a maximum block length of 600 feet and that mid-block crossings be installed wherever block lengths exceed 660 feet, only where "deemed essential." Developers may be awarded sustainability option points for providing pedestrian priority area throughways at intervals not to exceed 400 feet. This plan recommends that the zoning ordinance be amended to require shorter maximum block lengths and enhanced standards dictating when mid-block crossings are essential.

LEAD AGENCIES

» **City of North Las Vegas Planning Division and City Council**

EXAMPLES

» **Networks of Complete Streets**
https://www.smartgrowthamerica.org/app/legacy/documents/cs/factsheets/cs-networks.pdf

Cul-de-sac Standards

Despite the fact that cul-de-sacs increase travel times and distances, they are often popular in residential neighborhoods. The City of North Las Vegas Zoning Ordinance discourages the use of cul-de-sacs and dead-end streets and requires pedestrian connections at the end of cul-de-sacs to the nearest adjacent street or pedestrian sidewalk. In addition to these standards, this plan recommends limiting the number of cul-de-sacs permitted in a neighborhood and encourages the City of North Las Vegas to more closely enforce the ordinance to ensure pedestrian connections are maintained. While opportunities may be limited, the Planning Team recommends that efforts be made to retrofit existing cul-de-sacs and dead-end streets to provide pedestrian connections, where possible.

LEAD AGENCIES

» **City of North Las Vegas Planning Division and City Council**

EXAMPLES

» **Utah Street Connectivity Guide**
https://www.mountainland.org/utah-street-connectivity-guide

Pedestrian Access at Neighborhood Emergency Access Points

An abundance of cul-de-sacs and dead ends in North Las Vegas neighborhoods has resulted in several inaccessible, gated alleys implemented for compliance with codes for emergency vehicle access. Some of these alleys maintain pedestrian access, while many do not. This plan proposes that the City of North Las Vegas require that pedestrian access at neighborhood emergency access points be maintained. These are easy opportunities to increase pedestrian connectivity. Figure 4.3 shows a schematic concept for how this could be achieved at existing emergency access gates.

LEAD AGENCIES

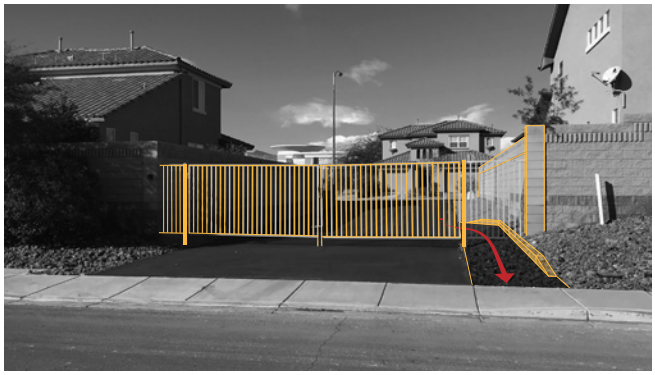
» **City of North Las Vegas Planning Division and City Council**

» **City of North Las Vegas Fire Department**

EXAMPLES

» **Utah Street Connectivity Guide**
https://www.mountainland.org/utah-street-connectivity-guide

Figure 4.3 Pedestrian access at emergency access points



Enhanced Connections to Regional Trails

As stated in the recommendation themes, there are significant opportunities to increase pedestrian connectivity by improving access to regional trails. This plan not only recommends that more connections be required with future development, but that the required standard of quality of those connections be improved. The image below shows a typical neighborhood access to a regional trail. Narrow pathways and gates make access unpronounced and inconvenient for individuals on bikes or pushing strollers.

LEAD AGENCY

» **City of North Las Vegas Park Planning Division & Parks & Recreation**

EXAMPLES

» **Utah Street Connectivity Guide**
https://www.mountainland.org/utah-street-connectivity-guide

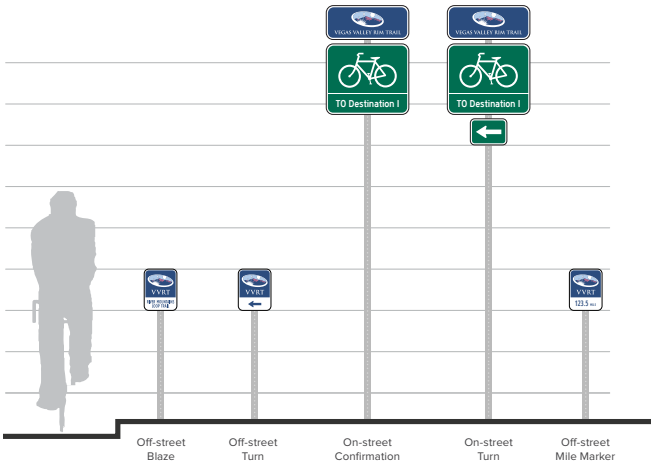
WAYFINDING & BRANDING

Improving the legibility and identity of the pedestrian and bicycle network can greatly enhance residents' perception of the walkability and bikeability of North Las Vegas. An intentional, unified wayfinding and branding system can:

- Heighten awareness that walking and biking are viable means to get around, leveraging existing facilities like the Upper and Lower Wash Trails
- Make the pedestrian and bicycle network easier to use
- Increase visibility and therefore safety of pedestrians and bicyclists

By accomplishing these things, good wayfinding and branding encourages more people to walk or bike as it breaks down perceived barriers such as lack of facilities and connections, time and distance, and lack of safety.

This plan recommends further steps be taken by the City of North Las Vegas to establish a stronger wayfinding system and identity for its active transportation network.



LEAD AGENCIES

» **City of North Las Vegas Public Works, Transportation Services**

» **RTC**

EXAMPLES

» **Neon to Nature Wayfinding Guide - Southern Nevada**

COMPLETE STREETS

The City of North Las Vegas could greatly enhance the convenience and safety of walking and bicycling by adopting policies that further promote complete streets. Complete streets is an approach to street design that accommodates multiple modes of transportation and establishes a more pedestrian-oriented environment.

Standard Cross Sections

Currently, the City's Master Plan for Streets and Highways includes cross sections that offer limited accommodations for bicyclists and pedestrians. Adopting additional complete streets cross sections that include features such as bikeways and enhanced pedestrian infrastructure will raise the design standard for multimodal street design for future development and provide standards for street retrofits. Figure 4.4 illustrates a proposed section for a 3-lane street in a 100' right of way that includes on-street parking and separated sidewalks and bicycle lanes. Appendix A contains cross sections for numerous right-of-way widths and facility types that the city can incorporate into their standard sections.

LEAD AGENCIES

» **City of North Las Vegas Planning Division and City Council**

EXAMPLES

» **Smart Growth America Complete Streets Local Policy Workbook** https://smartgrowthamerica.org/resources/complete-streets-local-policy-workbook/

» **Wasatch Front Regional Council Complete Streets Tool** https://wfrc.org/vision-plans/wasatch-choice-2050/toolbox/complete-streets/

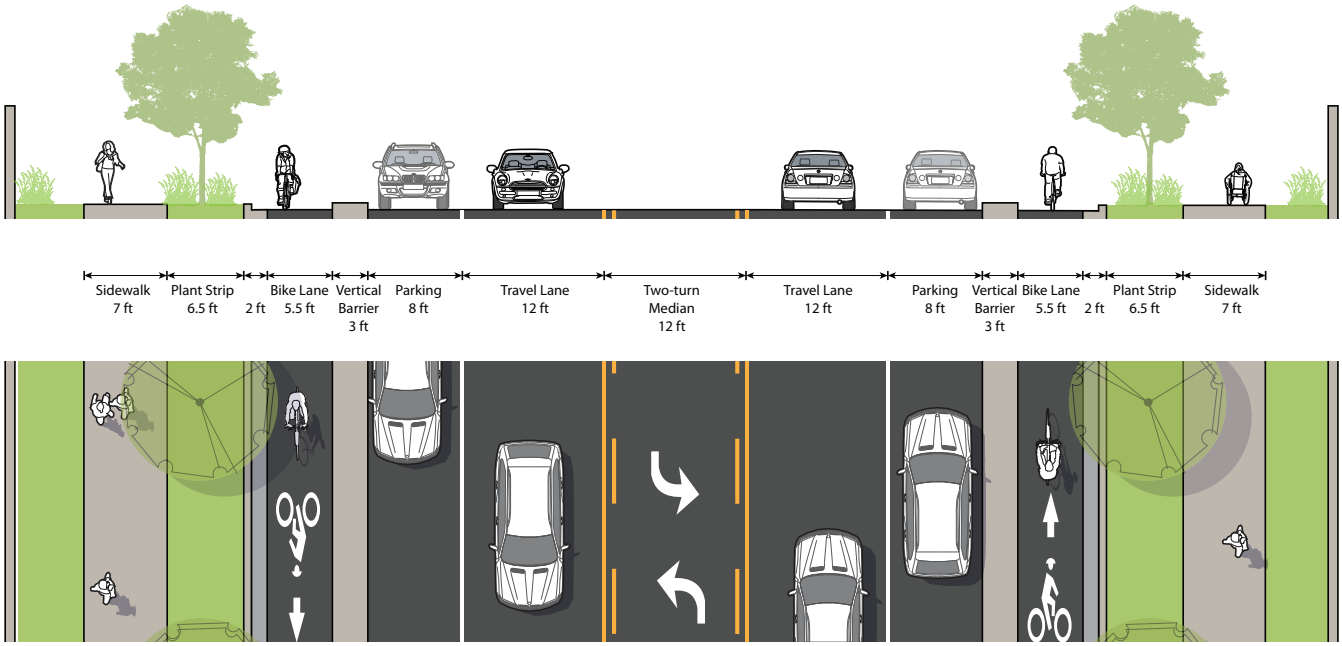


Figure 4.4 Proposed cross section for a 3-lane road with separated sidewalks and bike lanes in a 100' ROW.

END-OF-TRIP FACILITIES

An important component to any complete bicycle network is the accommodation of bicyclists at destinations. End-of-trip facilities can include adequate bicycle parking, bicycle repair stations, change rooms, and showers. These types of facilities should be considered for adoption into building code and/or offered as credits or development incentives. In particular, the City of North Las Vegas should strive to adopt more robust bike parking requirements.

Bike Parking Requirements

Among other end-of-trip facilities, secure and convenient bicycle parking is one of the most important accommodations to encourage people to travel by bicycle. North Las Vegas should consider revising their current bicycle parking requirements to better align with the standards set forth in the Association of Bicycle and Pedestrian Professionals (APBP) Bicycle Parking Guidelines, 2nd Edition (2010). North Las Vegas would particularly benefit from the following:

- Decrease maximum distance of bike rack from primary entrance from 150' to 50'
- Adopt APBP's recommended rack types and layout standards, including the Inverted U and Post and Ring racks. See figure 4.5.
- Adopt long-term bicycle parking requirements, depending on land uses
- Increase bicycle parking rate requirements

Table 4.1 highlights some of the differences between current North Las Vegas requirements and the standards from the APBP Bicycle Parking Guidelines 2nd Edition, which can be referenced regarding guidelines for additional land uses to those shown below.

In addition to increasing bicycle parking rate requirements, this plan recommends that the City of North Las Vegas adopt the approach of establishing bicycle parking rates based on unit count, proportion of building square footage, or building occupancy as opposed to vehicular parking spaces. Linking bicycle parking to auto parking rates is potentially problematic in that if North Las Vegas were to adopt auto parking maximums or reduce auto parking requirements in an attempt to promote other modes of travel, the amount of bicycle parking would also be reduced.

For best practice standards on bicycle rack selection and layout, refer to APBP's "Essentials of Bike Parking: Selecting and Installing Bicycle Parking that Works."

LEAD AGENCIES

» **City of North Las Vegas Park Planning Division and City Council**

EXAMPLES

» **APBP Bicycle Parking Guidelines**
https://www.apbp.org/page/publications

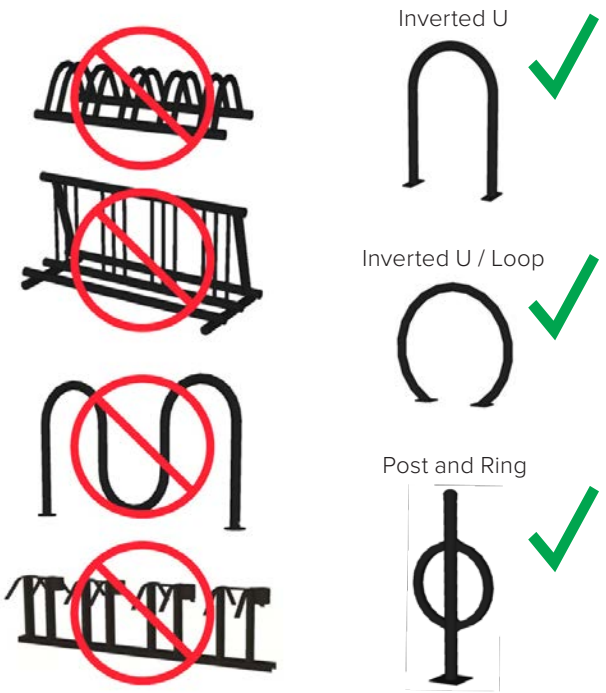


Figure 4.5 Appropriate short-term bicycle rack types

4.1 BIKE PARKING REQUIREMENTS COMPARISON

	Multi-Family (R-3) - Short Term	Multi-Family (R-3) - Long Term	Commercial Districts (C-2)
APBP	0.05 spaces / bedroom (minimum 2 spaces)	0.5 spaces / bedroom (minimum 2 spaces)	1 space / 5,000 SF (minimum 2 spaces)*
North Las Vegas	1 space / 20 vehicular spaces (maximum 20 spaces)	None required	1 space / 20 vehicular spaces (maximum 20 spaces)

** Represents parking standards for General Retail*

BICYCLES ON SIDEWALKS

North Las Vegas currently prohibits riding bicycles on city sidewalks; however, for people such as children, individuals who are uncomfortable mixing with traffic, and those who live in areas without designated bicycle facilities, sidewalks serve as the only comfortable space to ride. This plan recommends revising the ordinance to allow sidewalk riding; in areas with high pedestrian traffic such as priority pedestrian zones or campuses, sidewalk riding could be prohibited. This approach has been adopted by many jurisdictions across the country. For example, the city of Austin, Texas has recently adopted a law that states, "Riding a bicycle or micromobility device on a sidewalk is allowed, in a reasonable and prudent manner." It is imperative that a change to this ordinance should not replace the urgency and emphasis put on establishing designated bicycle facilities.

LEAD AGENCY

» **City of North Las Vegas City Council**

EXAMPLES

» **Bicycle and Micromobility Laws and Safety - Austin, TX**
https://www.austintexas.gov/page/bicycle-laws-codes

PERFORMANCE TRACKING

Measuring the success of active transportation investments can help illuminate lessons learned and make the case for future investment. The following are two strategies the city of North Las Vegas should consider to leverage past and future infrastructure investments:

Bicycle Friendly America Application

Bicycle Friendly America is an evaluation program facilitated by the League of American Bicyclists that aims to help communities and businesses promote bicycle transportation. This plan recommends that the City of North Las Vegas apply for Bicycle Friendly Community status and incentivize local businesses to apply for Bicycle Friendly Business status. Application for Bicycle Friendly Community status would provide a comprehensive benchmark and marketing opportunity for the City. Regardless of whether or not communities are awarded with Bicycle Friendly Community status, the League of American Bicyclists gives valuable feedback on communities' bicycle infrastructure, education, advocacy efforts, policies, and so forth.

LEAD AGENCIES

» **City of North Las Vegas City Planning Division**

» **Southern Nevada Bicycle Coalition**

RESOURCES

» **Bicycle Friendly Community (BFC) Application Process**
https://bikeleague.org/content/about-bfc-application-process

Automatic Bicycle & Pedestrian Counters

Installing automatic trail counters along key off-street trail segments such as the Lower and Upper Wash Trails would enable reliable and simple collection of user counts, providing the City with up-to-date information about trail use for existing and new infrastructure. Additionally, establishing an annual data collection program will equip the City with valuable data about the growth of bicycling and walking rates and the efficacy of new infrastructure and programs.

LEAD AGENCIES

» **City of North Las Vegas City Parks & Recreation and/or Public Works**

RESOURCES

» **FHWA Traffic Monitoring Guide**
https://www.fhwa.dot.gov/policyinformation/tmguide/tmg_2013/traffic-monitoring-for-non-motorized.cfm

FACILITY MAINTENANCE

Effective, continuous maintenance is critical to the overall success and safety of any bikeway and trail system. In addition to regular on-street bikeway sweeping, maintenance of North Las Vegas' signature trails such as the Upper and Lower Wash Trails will be particularly important as they connect many neighborhoods and destinations for

people walking and bicycling. Regular, routine maintenance on a year-round basis will not only improve the active transportation system appearance and user safety but will also prolong the physical life of the infrastructure. Pathway maintenance activities typically include pavement preservation and stabilization, landscape maintenance (including tree pruning), maintenance of drainage, facility upkeep, sign replacement, mowing, and litter removal. Maintenance activities required for continuous, safe pathway operations should always receive top priority.

Photo source: Richard Skipton, Southern Nevada Bicycle Coalition

LEAD AGENCIES

» **City of North Las Vegas City Parks & Recreation and Public Works**

PRIORITY PEDESTRIAN ZONES

The policy recommendations outlined thus far can be applied on a citywide basis; however, special consideration should be given to priority pedestrian zones in the form of additional policies that make it safer and more comfortable for people to walk, especially in areas designated as having higher pedestrian traffic such as downtown North Las Vegas, future transit stops, and future job creation zones. Adding or improving upon policies related to the following should be considered for priority pedestrian zones:

- Ample sidewalks: in high pedestrian traffic area, sidewalks should be a minimum of 8’
- Raised crosswalks: providing raised crossings prioritizes pedestrians and slows down motor traffic
- Directional pedestrian ramps: diagonal crosswalks pose problems, particularly for individuals with vision impairments or in wheelchairs, by orienting users towards the center of the intersection into the traffic zone. Directional ramps orient pedestrians a perpendicular angle to the street they are crossing, directing movement into the crosswalk.
- Marked crosswalks at intersections: properly marked crosswalks increase visibility and comfort of pedestrians
- Mid-block crossings: providing mid-block crossings, including median refuge islands, striping, and signage increases pedestrian connectivity, especially in the case of North Las Vegas where block lengths tend to be longer. Mid-block crossings allow pedestrians to avoid having to go out of their way to cross at intersections.
- Rectangular Rapid Flash Beacons (RRFB): a type of active warning beacon used at unsignalized crossings designed to increase motor vehicle yielding compliance on multi-lane or high-volume streets
- Curb extensions: involves extending curbs at both intersection and mid-block crossings to shorten the crossing distance for pedestrians and improve visibility
- Traffic calming: methods for slowing motor traffic that physically alter the street, including narrowing travel lanes, curb extensions, roundabouts, chicanes, raised crosswalks, and speed tables
- Additional street tree requirements: street trees not only increase pedestrian comfort by providing shade and visual interest, but their vertical structure creates a sense of separation between pedestrians and the street
- Planting strips and furnishing zones: pedestrian safety and comfort is greatly enhanced when sidewalks are buffered from streets by planting strips, which can also be used as a furniture/amenity zone in priority pedestrian zones
- Adequate lighting: priority pedestrian zones should be equipped to accommodate safe pedestrian travel at night, especially at crossings
- Enhanced street layout/design requirements: enhanced connectivity requirement, no cul-de-sacs, and short (300’) block lengths should be part of the zoning ordinance in priority pedestrian zones
- Form-based codes or development of pedestrian overlay districts: in addition to standard zoning districts, overlay or combining districts can be implemented to

establish unique urban design identity, protect historic character, and/or enhance pedestrian use. Austin, TX is an example of a city that has established these unique overlay districts to emphasize enhanced design for pedestrian activity in culturally significant areas with higher pedestrian use (http://www.austintexas.gov/page/zoning-districts).

SAFE PASSING ENFORCEMENT

The Nevada Department of Motor Vehicles, through its Zero Fatalities initiative, encourages motorists to move into an adjacent lane when passing a cyclist, just as they would when passing another motor vehicle. At a minimum, Nevada's Vulnerable User Law (the Three Feet Rule) requires motorists to maintain at least three (3) feet of clearance between their car and the bicyclist they are passing. Making more drivers aware of this law and encouraging adherence to it will help the City achieve their goals of motorist-bicyclist empathy and providing comfortable conditions for bicyclists. This plan recommends the City implement programs for active enforcement of the Three Feet Rule using proximity devices (e.g. Codaxus C3FT) to measure and record unsafe passing.

LEAD AGENCIES

» **City of North Las Vegas Police Department**

EXAMPLES

» **City of Chattanooga, Tennessee Police Department**

PARK PLANNING

Public parks typically serve as strong trip generators for active transportation modes. If planned well, they can also provide high-comfort connections in the broader active transportation network. This plan recommends that the City of North Las Vegas develop a policy requiring park planning and development to include meaningful active transportation connections through new and existing parks that make intuitive connections to the adjacent active transportation network.

LEAD AGENCIES

» **City of North Las Vegas Parks & Recreation**
» **City of North Las Vegas Planning Division**

MICROMOBILITY AND EMERGING MOBILITY TRENDS

New and emerging transportation technologies have the potential to dramatically affect active transportation. Micromobility technology such as bike share or scooter share can be convenient transportation options for short trips, and should be seriously considered as solutions for first- and last-mile connections to existing and future transit. Meanwhile, autonomous and connected vehicles could create new opportunities for active transportation by efficiently moving vehicles in less space within the ROW. This plan recommends that the City of North Las Vegas get ahead of any potential forthcoming trends by planning for and establishing policies that will allow the City to integrate these mobility options into its suite of transportation offerings, with the primary goal of ensuring that streets are designed for the safety and comfort of vulnerable road users (i.e. pedestrians, bicyclists, and people on micromobility devices).

This plan also recommends that the City work with RTC to expand the RTC bike share network (including electric bicycles) to North Las Vegas. Pilot locations for bike share stations should be concentrated along corridors already slated for complete streets implementation, including Bruce Street, Hunkins Drive, McDaniel Street, and Lake Mead Boulevard in the Downtown area.

05

IMPLEMENTATION STRATEGIES

OVERVIEW

Implementation strategies for active transportation projects require a blend of careful planning and opportunistic decision making. On-street projects, like bike lanes, can often be implemented quickly and efficiently when coordinated with planned roadway projects or pavement management activities like overlays or seal coatings. Conversely, shared-use path projects may require more extensive easement negotiations, permitting, or fundraising to reach construction.

The following project prioritization methodology should serve as a general guide for prioritizing investment in the active transportation system; however, flexibility in implementation is highly encouraged when opportunities arise to share resources, achieve cost savings, or partner with other agencies.

This chapter outlines the a) criteria for prioritizing projects recommended in this plan; b) highlights a handful of projects or policies that are considered “quick wins” - low hanging opportunities that can easily be implemented early on to generate momentum for the implementation of the plan; and c) detailed implementation tables for each recommended project that include specific metrics such as project extents, length, and any important implementation notes.

PROJECT PRIORITIZATION CRITERIA

The project prioritization framework relies on category-based criteria. The following categories and criteria were derived from the goals of this plan and approved by the Steering Committee. As seen in Table 5.1, each criterion is assigned total possible points, based on a survey taken by the Steering Committee, depending on its importance to the overall value it adds to the active transportation network and goals. Each project in question is to be scored based on these individual criteria, resulting in a final score; the higher the final score, the higher the priority a given project should be.

Note, however, that this tools should serve as a general guide for prioritizing investment in the active transportation system. Flexibility in implementation is highly encouraged when opportunities arise to share resources, achieve cost savings, or partner with other agencies.

The categories and individual criteria are outlined below.

TRANSPORTATION CHOICE

Provides Access to Transit

People are much more likely to use transit if they can access it by bike or on foot. Improving connections to bus stops and park-and-ride locations will improve perceived safety and convenience as well as encourage people to use public transportation more often. Facilities that provide this connectivity to transit qualify for this criterion.

Addresses a Network Gap

Proposed improvements that connect to existing pedestrian and bicycle infrastructure can easily build upon and extend the reach of the existing system while maintaining a cohesive network and avoiding gaps. Recommended facilities that connect to existing trails or on-street bicycle facilities will receive points for this scoring criterion.

Connects to Destinations

Any transportation infrastructure is only as useful as the degree to which it connects users to their destinations. Even trails predominantly used for recreation are more attractive and more highly used as a means of utilitarian transportation when they connect to meaningful places such as schools, parks, commercial centers, libraries, and other civic destinations. Increasing bicycle and pedestrian connectivity to these destinations will allow many trips to be converted into walking and bicycling trips. Any facilities, including spot improvements, that grant new or improved access to community destinations qualify for this criterion.

Regional Connection

Because North Las Vegas is part of a larger metropolitan area, proposed facilities that create broader connections throughout the Southern Nevada region present opportunities for collaboration in both the planning and funding of pedestrian and bicycle improvements. Expanding the regional network can also promote economic growth. Any proposed improvement that has regional significance or is found in the Regional Bicycle & Pedestrian Plan for Southern Nevada (2017) qualifies for this criterion.

COMFORT AND SAFETY

Addresses Bicycle/Pedestrian Crashes

Maintaining or improving safety is a prerequisite for all bicycle and pedestrian projects. Safety is also the primary concern for people when choosing to ride or walk instead of drive. Projects that address or remedy existing safety issues for bicyclists and/or pedestrians and/or are located at the location of a crash that involved a bicyclist or pedestrian qualify for this criterion.

Provides a High Comfort Facility

One of the goals of this plan is to establish a system that makes walking and biking comfortable and convenient for people of all ages and abilities. Pedestrian and bicycle facilities that achieve this are typically characterized by physical separation from motor traffic and/or being located on a street that experiences low traffic volumes (less than 3,000 vehicles per day) and operating speeds (less than 25 mph). Due to certain constraints, implementing high-comfort facilities for every needed connection may not be feasible; however, projects that are comfortable for users of all ages and abilities qualify for a higher score in this criterion.

IMPLEMENTATION

Public Support

Public support is an important criterion when evaluating potential bicycle and pedestrian facility improvements. Throughout the planning process for the North Las Vegas

CPBP, the project team received feedback from residents via Online surveys and interactive maps as well as in-person outreach activities. Because public support can give implementation efforts the necessary momentum to reach construction, streets/locations that were identified by the public as desirable for a future pedestrian and/or bicycle improvement qualify for this criterion.

Implementation Synergy

The potential to complete projects in conjunction with near-term development or CIP projects can greatly influence when and how pedestrian and bicycle improvements are made. Projects recommended in this plan that have the potential to be implemented concurrently with other infrastructural projects slated to occur in the near future qualify for this criterion.

Quick Wins

Some infrastructural improvements are easily implementable with minimal investment or planning, such as re-striping roads that are already wide enough to accommodate bicycle facilities. These low hanging opportunities can generate momentum for implementing the overall plan. Projects that require modest investment of time and resources qualify for this criterion.

High Visibility

Projects located in areas that are highly visible, such as near popular destinations or within popular districts (e.g. downtown), will get more attention from the public. City investments in highly visible areas are noticed more by residents and can shift perceptions of the availability and connectivity of active transportation infrastructure. This recognition can generate momentum for public support for future investments and are likely to see more use than projects in more isolated parts of the City.

EQUITY AND HEALTH

Serves Low-Equity Areas

Prioritizing access for traditionally under-served populations, including minorities, people with disabilities, older adults, children, or low-income individuals is a goal of the North Las Vegas CPBP. Recommended improvements that directly impact areas identified as having low equity, or high inequality (see Map 1.2) receive points for this criterion.

Connects to Schools

Many parents don't feel comfortable sending their children to school on foot or bicycle due to unsafe roadways or crossings. One of the goals of this plan is to enable more students, faculty, and staff to access schools by walking or bicycling. Any recommendation that directly connects to schools qualifies for this criterion.

5.1 PROJECT PRIORITIZATION SCORING TABLE

	Criteria	Total Possible Points	Description
Transportation choice	Provides access to transit	2.6	Project improves direct access to transit
	Addresses a network gap	4.3	Project was identified as a high priority project in the RTC Bike Gap Analysis
	Connects to destinations	3.0	Connects to neighborhoods, recreation opportunities, education, and employment/ commercial centers.
	Regional connection	4.5	Connects to existing facilities and adjacent jurisdictions
Comfort & Safety	Addresses bicycle/ pedestrian crashes	3.4	Project will address corridors and intersections with high rates of bicycle or pedestrian crashes
	Provides a high comfort facility	4.1	Projects provides a facility of high comfort that appeals to users of all ages and abilities (LOC 1 or 2)
Implementation	Public support	2.0	Project received a high level of public support throughout the planning process
	Potential for near-term implementation synergy	3.9	Ability for projects to share resources or leverage other near-term planned construction projects (road resurfacing, utility work from TIP, FRI-C, FRI2, etc.)
	Quick wins	3.9	Project requires a modest investment, has few barriers to implementation (paint only, no roadway redesign), and could be constructed within six months
	High visibility	1.3	Project is located in an area with high public visibility or visitation
Equity & Health	Serves areas with low equity / high inequality	3.3	Project serves areas with low equity, high inequality (dark blue on "Equity" map)
	School connection	3.9	Connects to schools

QUICK WINS

In order to generate momentum for the implementation of this plan, the City of North Las Vegas should identify and focus on infrastructure- and policy-related projects that can be accomplished with modest investment of time and resources and can be completed within six months from the adoption of this plan. This section highlights just a few recommendations that are considered “quick wins”.

ALLOWING BICYCLES ON SIDEWALKS

As noted in Chapter 4 of this plan, North Las Vegas currently prohibits riding bicycles on city sidewalks; this discourages bicycling for people such as children, individuals who are uncomfortable mixing with traffic, and those who live in areas without designated bicycle facilities. In some cases, sidewalks serve as the only comfortable space to ride. By engaging City Council to revise this ordinance, the City can quickly change this policy to allow bicycling on sidewalks. It is recommended, however, that the City consider including an exception that prohibits sidewalk riding in areas identified as priority pedestrian zones - business or commercial districts with high pedestrian traffic. It is imperative that a change to this ordinance should not replace the urgency and emphasis put on establishing designated bicycle facilities.

INCORPORATE A MULTIMODAL APPROACH IN THE UPCOMING NORTH LAS VEGAS MASTER STREETS AND HIGHWAYS UPDATE

The 2019 North Las Vegas Citywide Pedestrian and Bicycle Plan (CPBP) provides a solid foundation for development of a city where walking and bicycling are safe and convenient forms of transportation; however, a comprehensive approach incorporating land use policy, transportation policy, and other related issues is needed to fully realize the potential of this plan. The planned North Las Vegas Master Streets and Highways update offers an opportunity to further codify, support, and promote walking and bicycling. The Master Streets and Highway Plan could support and further several key recommendations from this plan, including:

- Further study and verify road diet candidates identifies through the North Las Vegas CPBP
- Refine standard street cross sections to better account for all roadway users (See Appendix A)
- Improve and refine policies relating to pedestrian and bikeway crossings
- Further refine potential development requirements and policies such as street connectivity requirements and pedestrian access

SCREEN CAPITAL IMPROVEMENT PROJECT LIST

The City’s Capital Improvement Projects (CIP) list indicates several street related construction/reconstruction projects, some of which coincide with streets on which recommendations from this plan are located. The City should review their CIP list to look for opportunities to coordinate funded projects with pedestrian and bicycle improvements recommended as part of this plan. For example, a planned street reconstruction could be amended to include the conversion of existing shoulders, or underutilized parking, to a bikeway.

IMPLEMENTATION TABLES

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
ALEXANDER RD	DECATUR	LOSEE RD	Separated bike lane	5.07	Original Type: BIKE LANE	NO
ALLEN LN	CHEYENNE AVE	CENTENNIAL PKWY	Separated bike lane	4.03	Road diet to 3 lanes; interim option buffered bike lanes	YES
ANN RD / TROPICAL PKWY	DURANGO	LAMB	Separated bike lane	6.29	On east side, sometimes shoulders are sufficient. Mesquite Creek to Colbert construction ends April 2017.	YES
AVIARY WAY	COMMON LOON	DEER SPRINGS	Sidepath	0.29	Min. 10' width; maintain 5' separation from back of curb	NO
AZURE AVE	COMMERCE ST	LAWRENCE ST	Buffered bike lane	1.26	14' travel lanes, 7' bike lanes with 3' buffers- 48' curb to curb; consider narrowing travel lanes or buffers to create park strips	NO
AZURE AVE	LOSEE RD	LAMB BLVD	Buffered bike lane	2.07	13' travel lanes, 7' bike lanes with 3' buffers; consider narrowing travel lanes or buffers to create park strips	NO
AZURE AVE	LAWRENCE ST	LOSEE RD	Neighborhood byway	0.23	Facility type TBD; ensure connection through future development process	NO
AZURE AVE	REVERE ST	COMMERCE ST	Bike lane	0.51	10.5' travel lanes, 8' parking lanes where land uses front street, 6' bike lanes	NO
BAHAMA WAY	SIMMONS ST	TIERRA DE PALMAS	Neighborhood byway	0.34	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
BALZAR AVE	CLAYTON ST	ENGLESTAD ST	Neighborhood byway	1.15	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
BELMONT ST	LAS VEGAS BLVD	CAREY AVE	Bike lane	0.43	12' travel lanes, 6' bike lanes	NO
BELMONT ST	TONOPATH AVE	OWENS AVE	Neighborhood byway	0.31	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
BROAD ARROW DR	MLK BLVD	ALEXANDER RD	Neighborhood byway	0.79	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph;	NO
BROOKS AVE	SIMMONS	LOSEE	Bike lane	2.76	May require some widening or improvement in some brief sections; consider buffered bike lanes where on-street parking is not required	NO
BRUCE ST	WASHINGTON	SEARLES	Bike lane	0.25	5' bike lanes	YES

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
BRUCE ST	CRAIG RD	ROME BLVD	Bike lane	2.80	Road diet to 3 lanes, buffered bike lanes; alternately 6' standard bike lanes with plant strip to improve pedestrian experience (viable with Donna St running parallel); find opportunity to punch through to Upper Wash Trail	NO
BRUCE ST	CAREY AVE	EVANS AVE	Bike lane	0.54	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes	NO
CAMINO AL NORTE	CLAYTON	LA MADRE WY	Separated bike lane	3.25	Use existing shoulder	NO
CAREY AVE	RANCHO	LAS VEGAS BLVD	Separated bike lane	4.52	Utilize shoulder, road diet or parking removal for implementation	YES
CAREY AVE	LAS VEGAS BLVD	PECOS	Bike lane	1.11	10' lanes or one side parking removal needed for implementation	YES
CC 215 VVRT	DECATUR BLVD	UPRR	Shared use path	8.73	Follow guidelines for crossings at major streets	NO
CC 215 VVRT	DECATUR BLVD	AVIARY WY	Shared use path	0.98	Long-term implementation for UNLV North Campus; cross I-215 at Aviary Way	NO
CENTENNIAL	TROPICAL PKWY	CLAYTON ST	Separated bike lane	2.04	Road diet to 5 lanes; interim option buffered bike lanes	YES
CENTENNIAL PK	UPPER LAS VEGAS AR	PECOS RD	Sidepath	1.29	Min. 10' width; maintain 5' separation from back of curb	NO
CENTENNIAL PK	UPPER LAS VEGAS AR	PECOS RD	Sidepath	1.29	Min. 10' width; maintain 5' separation from back of curb	NO
CENTENNIAL PKWY	CLAYTON ST	LAWRENCE ST	Sidepath	2.43	Min. 10' width; maintain 5' separation from back of curb	NO
CENTENNIAL PKWY	CLAYTON ST	LAWRENCE ST	Sidepath	2.41	Min. 10' width; maintain 5' separation from back of curb	NO
CIVIC CENTER	CHEYENNE	LAKE MEAD BL	Separated bike lane	2.10	construct one way separated bike lane in existing shoulder, follow design guidelines for treatments at bus stops	YES
CIVIC CENTER DR / ALEXANDER RD	CHEYENNE AVE	PECOS RD	Separated bike lane	1.84	5 to 3 road diet	NO
CLAYTON ST	CAMINO ELDORADO PKWY	DORRELL LN	Bike lane	1.11	Narrow travel lanes to 10' to accommodate conventional bike lanes	NO
CLAYTON ST	EVANS AVE	GOWAN RD	Bike lane	1.01	80' ROW; 11' travel lanes, 12' TWLTL, 5' bike lanes; consider allocating space to park strip	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
CLAYTON ST	CENTENNIAL	WASHBURN RD	Bike lane	1.56	Remove center turn lane within 3-lane cross section, provide turn pockets at intersections; 2-lane cross section: remove on-street parking; add sidepath and landscape buffers as identified in CNLV Complete Streets Ranking Study	YES
CLAYTON ST	LAKE MEAD BLVD	CAREY AVE	Neighborhood byway	0.49	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; punch through wall to connect to Balzar Ave.	NO
CLAYTON ST	LAKE MEAD BLVD	CAREY AVE	Shared use path	0.10	Incorporate into development of vacant property	NO
CLAYTON ST	DORRELL LN	ELKHORN RD	Shared use path	0.31	Shared use path and pedestrian/ bicycle bridge	NO
CLAYTON ST EAST	HAMMER LN	CAMINO ELDORADO PKWY	Sidepath	1.28	East side of Clayton St from Hammer Ln to Camino Eldorado Pkwy; coordinate with CCRFCD	NO
COLEMAN ST	LOWER WASH TRAIL	CENTENNIAL PKWY	Bike lane	1.30	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes	NO
COLTON AVE	LAS VEGAS WASH TRAIL	CSN - NLV CAMPUS	Neighborhood byway	0.27	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; bridge over CCRFCD channel to connect to campus	NO
COMMERCE ST	WASHBURN RD	I-215	Separated bike lane	3.15	Road diet to 3 lanes; interim option buffered bike lanes	YES
COMMERCE ST	CAREY AVE	WASHBURN RD	Bike lane	3.53	80' ROW; 11' travel lanes, 12' TWLTL, 5' bike lanes	NO
COMMERCE ST EAST	LAS VEGAS AR-M	CRAIG RD	Sidepath	0.31	East side of Commerce, connect to Las Vegas Wash Trail; Min. 10' width; maintain 5' separation from back of curb	NO
Craig Ranch Regional Park Connection	LOWER WASH TRAIL	COMMERCE ST AT LONE MOUNTAIN RD	Shared use path	0.22	Control access with bollards; bridge over channel to Las Vegas Wash Trail; requires further feasibility studies	NO
CRAIG RD SOUTH	COMMERCE ST	NORTH 5TH ST	Sidepath	0.50	South side of Craig; Min. 10' width; maintain 5' separation from back of curb	NO
Crestmont / Stonehurst / Country Club Neighborhood Byway	REVERE ST	TROPICAL PKWY	Neighborhood byway	0.52	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
DECATUR BLVD	GRAND TETON DR	IRON MOUNTAIN RD	Buffered bike lane	1.01	Widening needed before BBL installed; 5 travel lanes, buffered bike lanes	NO
DECATUR BLVD	ELKHORN ST	GRAND TETON DR	Buffered bike lane	1.03	Widening needed before BBL installed; 5 travel lanes, buffered bike lanes	NO
DECATUR BLVD	ROME BLVD	ELKHORN ST	Buffered bike lane	0.77	Road diet to 5 lanes north of Deer Springs	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
DECATUR BLVD	ROME BLVD	TROPICAL	Sidepath	0.77	If lanes are narrowed slighly, may be room for 5' bike lanes; Min. 10' width; maintain 5' separation from back of curb	YES
DECATUR BLVD	IRON MOUNTAIN RD	CLARK COUNTY SHOOTING COMPLEX	Bike lane	1.01	Widen shoulders (minimum 4'); consider buffered bike lanes to enhance comfort and safety	NO
DEER SPRINGS WY	CLAYTON ST	REVERE DR	Bike lane	1.01	80' ROW; 11' travel lanes, 12' TWLTL, 5' bike lanes	NO
DEER SPRINGS WY NORTH	CAMINO ELDORADO PKWY	LAMB BLVD	Separated bike lane	3.98	Min. 10' width; maintain 5' separation from back of curb	NO
DESERT SAGE / BENT ARROW DR	CLAYTON ST	CAMINO ELDORADO PKWY	Neighborhood byway	0.83	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; connect to proposed Clayton sidepath with bridge over drainage channel	NO
DONNA ST	CRAIG RD	DEER SPRINGS WY	Buffered bike lane	3.04	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; where land uses front one side - 12' trave lanes, 8' parking (one side); 6' bike lanes with 2' buffers; align parking with fronting landing uses	NO
DONNA ST / EVANS AVE	CAREY AVE	CIVIC CENTER DR	Neighborhood byway	0.90	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; punch through wall and add bridge to connect to Las Vegas Wash Trail	NO
DORRELL LN	GOLDFIELD ST	NORTH 5TH ST	Bike lane	0.30	12' TWLTL, 11' inside lanes, 12' outside lanes, 5' bike lanes	NO
DORRELL LN	LOSEE RD	PECOS RD	Separated bike lane	1.02	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
DORRELL LN NORTH	CLAYTON ST	REVERE ST	Sidepath	0.84	Min. 10' width; maintain 5' separation from back of curb	NO
DORRELL LN NORTH	UPPER WASH TRAIL	DEER SPRINGS WAY	Sidepath	0.60	Min. 10' width; maintain 5' separation from back of curb	NO
DORRELL LN SOUTH	CLAYTON ST	REVERE ST	Sidepath	0.84	Min. 10' width; maintain 5' separation from back of curb	NO
EL CAMPO GRANDE AVE	DECATUR RD	CLAYTON ST	Bike lane	2.01	60' ROW; travel and bike lane dimensions to vary depending on fronting land uses and on-street parking	NO
ELDORADO PARK	CAMINO ELDORADO PKWY	HOLLOWRIDGE RD	Shared use path	0.16	Upgrade sidewalk to a 10' shared use path to llink adjacent neighborhood byways	NO
ELKHORN RD NORTH	AVIARY WY	END OF EXISTING PATH	Sidepath	0.26	Min. 10' width; maintain 5' separation from back of curb	NO
ELKHORN RD NORTH	DECATUR BLVD	AVIARY WY	Sidepath	0.47	Min. 10' width; maintain 5' separation from back of curb	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
ELKHORN RD SOUTH	DECATUR BLVD	AVIARY WY	Sidepath	0.46	Min. 10' width; maintain 5' separation from back of curb	NO
ENGELSTAD ST	LAKE MEAD BLVD	CAREY AVE	Bike lane	0.51	10' travel lanes, 7.5' parking lanes on both sides, 5' bike lanes	NO
EVANS AVE	CIVIC CENTER DR	MAGNET ST	Bike lane	0.22	Taper to shift and narrow lanes where on-street parking is required on north side to accommodate 4-5' bike lanes on both sides	NO
EVANS AVE	SIMMONS	CLAYTON	Neighborhood byway	0.51	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph;	NO
FERRELL ST	GOWAN RD	CENTENNIAL PKWY	Buffered bike lane	3.55	Restrict parking on one side, provide 6' bike lane with 2' buffer	NO
GENTLE BROOK ST	SILENT SUNSET AVE	DEER SPRINGS WY	Neighborhood byway	0.55	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph;	NO
GILMORE AVE / RIDERWOOD AVE / TOSCANINI WY	ALLEN LN	SCOTT ROBINSON BLVD	Neighborhood byway	1.35	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
GLIDING EAGLE RD	CAMINO ELDORADO PKWY	DEER SPRINGS WAY	Bike lane	0.60	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; Upgrade to buffered bike lanes without parking depending on further analysis of parking demand	NO
GLIDING EAGLE RD	DEER SPRINGS WY	DORRELL LN	Sidepath	0.36	From 2018 Villages at Tule Springs Conceptual Development Plan; Min. 10' width; maintain 5' separation from back of curb	NO
GLIDING EAGLE RD	DEER SPRINGS WY	DORRELL LN	Sidepath	0.37	From 2018 Villages at Tule Springs Conceptual Development Plan; Min. 10' width; maintain 5' separation from back of curb	NO
GOLD CREST TR	REVERE ST	COMMERCE ST	Shared use path	0.59	Align with drainage channel; potential converstion to sidepath along Craig Rd to tie into Commerce St	NO
GOLD CREST TR	ALEXANDER RD	REVERE ST	Shared use path	0.50	Requires further feasibility studies	NO
GOLDCREST DR	VALLEY DR	LUCILE S BRUNER ELEMENTARY	Buffered bike lane	0.36	13' travel lanes, 7' bike lanes with 3' buffers	NO
GOLDFIELD ST	LAS VEGAS WASH TRAIL	DORRELL LN	Buffered bike lane	3.08	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; where land uses front one side - 12' trave lanes, 8' parking (one side); 6' bike lanes with 2' buffers; align parking with fronting landing uses	NO
GOWAN OUTFALL FACILITIES	SIMMONS ST	LONE MOUNTAIN RD	Shared use path	1.62	Coordinate with future development East of Clayton St; West of Clayton St requires further feasibility studies	NO
GOWAN RD	CIVIC CENTER DR	BERG ST	Buffered bike lane	0.19	Utilize existing shoulder	NO
GOWAN RD	DECATUR BLVD	LOSEE RD	Separated bike lane	4.79	Road diet to 3 lanes; interim option buffered bike lanes	YES
GRAND TETON DR	DECATUR RD	TULE SPRINGS PKWY	Bike lane	2.02	Future Development	NO

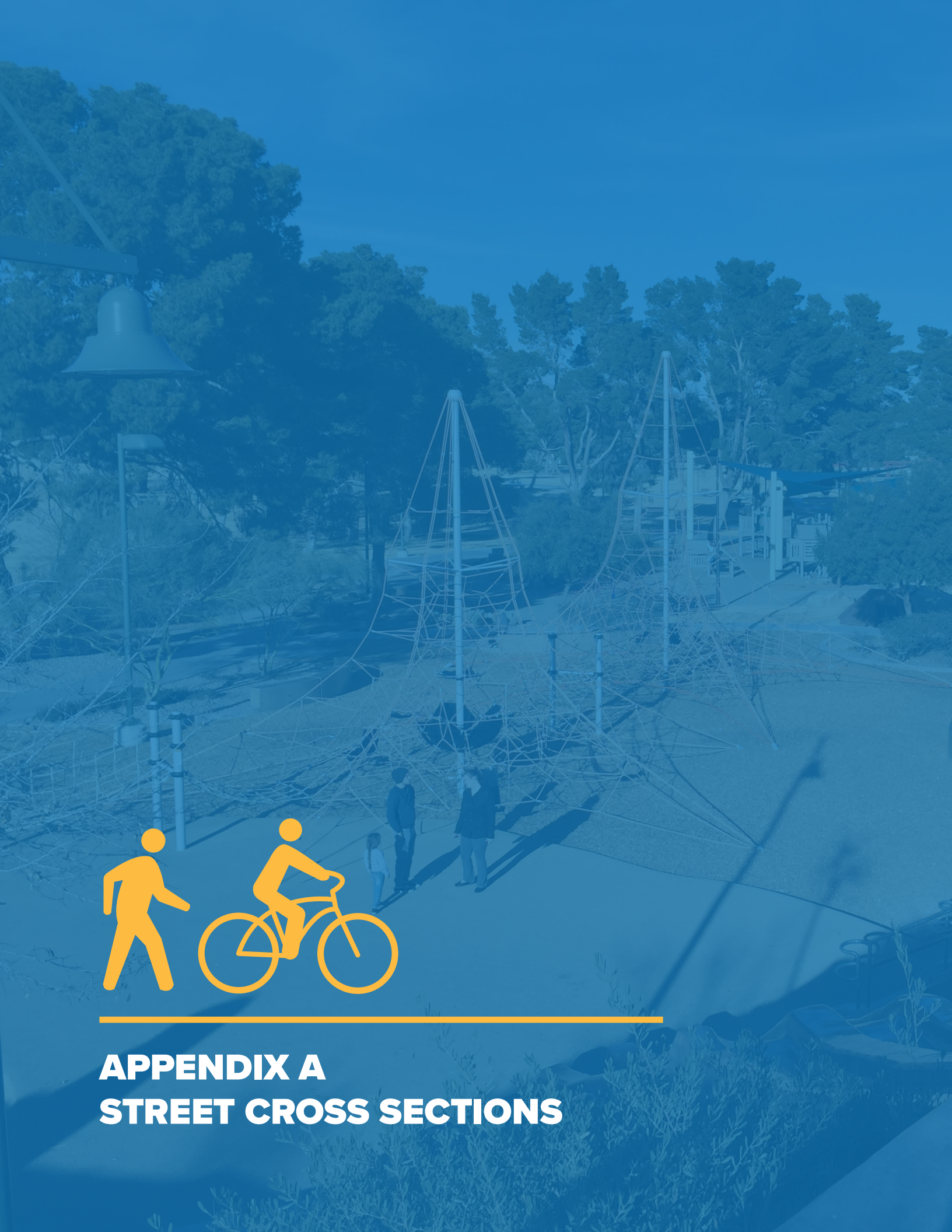
CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
GRAND TETON DR	DECATUR RD	ALIANTE PKWY	Sidepath	1.01	Min. 10' width; maintain 5' separation from back of curb	NO
GRAND TETON DR	ALIANTE PKWY	TULE SPRINGS PKWY	Sidepath	1.01	Min. 10' width; maintain 5' separation from back of curb	NO
GRAND TETON DR	DECATUR RD	TULE SPRINGS PKWY	Sidepath	1.01	Min. 10' width; maintain 5' separation from back of curb	NO
HAMMER LN	DECATUR BLVD	SIMMONS ST	Bike lane	1.53	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
HAMMER LN	COMMERCE ST	UPPER LAS VEGAS WASH TR	Buffered bike lane	1.35	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; consider narrowing travel lanes or buffers to create park strips; may need to narrow buffers and lanes or convert to bike lanes where on-street parking is needed	NO
HAMMER LN	COLEMAN ST	CLAYTON ST	Sidepath	0.23	South side of street; connect to Lower Wash Trail access bridge	NO
HAMMER LN / COLEMAN ST / TIERRA DE PALMAS DR	SIMMONS ST	LONE MOUNTAIN RD	Buffered bike lane	1.04	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; convert to 10.5' travel lanes, 6' bike lanes, 8' parking lanes where houses front street; connect to bridge across Wash Trail	NO
HAMMER LN / MAPLE MESA ST / WASHBURN RD	CLAYTON ST	CAMINO AL NORTE	Bike lane	1.17	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
HORSE DR	DECATUR BLVD	ALIANTE PKWY	Bike lane	1.00	5' bike lanes	NO
HUNKINS DR NORTH	BRUCE ST	MCDANIEL ST	Sidepath	0.28	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; as adjacent land develops, consider buffered bike lanes in lieu of on-street parking	NO
INDIAN HOLLOW	HOLLOWRIDGE RD	WILLOWCREEK RD	Neighborhood byway	0.17	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
JUDSON AVE	CIVIC CENTER DR	BELMONT ST	Neighborhood byway	0.66	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; punch through wall and add bridge to connect to Las Vegas Wash Trail	NO
KINGS HILL RD	SHADOW TREE ST	KINGS HILL RD	Shared use path	0.12	Upgrade sidewalk through park to shared use path; connect through to cul-de-sac on Shadow Tree	NO
KINGS HILL RD	SOUTH TERMINUS	CRAIG RD	Buffered bike lane	0.62	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; where land uses front one side - 12' trave lanes, 8' parking (one side); 6' bike lanes with 2' buffers; align parking with fronting landing uses	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
KITAMAYA ST	TROPICAL PKWY	CENTENNIAL PKWY	Bike lane	0.51	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes	NO
LA MADRE WAY	CAMINO AL NORTE	DONNA ST	Neighborhood byway	1.29	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
LA MADRE WY	DECATUR BLVD	SIMMONS RD	Bike lane	1.53	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
LAKE MEAD BLVD	RANCHO DR	COMMERCE ST	Separated bike lane	2.22	May be long term as roadway has just been reconstructed.	YES
LAKE MEAD BLVD NORTH	COMMERCE ST	CIVIC CENTER DR	Sidepath	1.52	North Las Vegas would like to continue this shared use path westward to I-15; Min. 10' width; maintain 5' separation from back of curb	NO
LAKE MEAD BLVD NORTH	CIVIC CENTER DR	PECOS RD	Sidepath	1.00	NDOT and City of North Las Vegas working on complete streets project that will provide 10' shared use sidepaths on both sides of the road, connecting N/S corridors.	NO
LAKE MEAD BLVD SOUTH	COMMERCE ST	CIVIC CENTER DR	Sidepath	1.46	North Las Vegas would like to continue this shared use path westward to I-15; Min. 10' width; maintain 5' separation from back of curb	NO
LAKE MEAD BLVD SOUTH	CIVIC CENTER DR	PECOS RD	Sidepath	1.00	NDOT and City of North Las Vegas working on complete streets project that will provide 10' shared use sidepaths on both sides of the road, connecting N/S corridors.	NO
LAMB BLVD WEST	I-215	TROPICAL PKWY	Sidepath	1.30	Min. 10' wide; min. 5' separation from curb	NO
LAMB BLVD	TROPICAL PKWY	PROPOSED RAIL WITH TRAIL	Shared use path	0.22	Min. 10' wide; provide connection to future rail with trail via west side of Lamb Blvd overpass	NO
LAS VEGAS BLVD	TONOPAH AVE	CAREY AVE	Sidepath	1.08	Min. 10' wide; min. 5' separation from curb	TBD
LAS VEGAS WASH TR	NORTH 5TH ST	CRAIG RD	Shared use path	0.30	Potential future Las Vegas Wash Trail alignment to reduce roadway crossings.	NO
LAS VEGAS WASH TR	CC 215 VVRT	VALLEY DR	Shared use path	0.41	Continue along flood control channel	NO
LAS VEGAS WASH TR	NORTH 5TH ST	LAS VEGAS WASH TRAIL	Sidepath	0.25	Develop sidepath along the south side of Craig to from the Las Vegas Wash Trail to North 5th Street; Min. 10' width; maintain 5' separation from back of curb	NO
LONE MOUNTAIN RD	COMMERCE ST	PECOS RD	Separated bike lane	2.60	Road diet to 3 lanes; interim option buffered bike lanes	YES
LONE MOUNTAIN RD	UPRR	DONOVAN WY	Shared use path	0.02	Coordinate with UPRR	NO
LONE MOUNTAIN RD	PECOS RD	UPRR	Shared use path	0.03	Coordinate with UPRR	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
LONE MOUNTAIN RD	DECATUR BLVD	CAMINO AL NORTE	Separated bike lane	2.95	Improve/construct road where necessary.	YES
LOSEE RD	LAKE MEAD BLVD	ALEXANDER RD	Buffered bike lane	2.91	Narrow parking lanes to 8', travel lanes to 11', TWLTL to 12', include buffered bike lanes; elminate parking and increase buffer width and location where on-street parking demand is lower	NO
LOSEE RD EAST	CENTENNIAL PKWY	CC 215 VVRT	Sidepath	0.79	Min. 10' width; maintain 5' separation from back of curb	NO
LOSEE RD WEST	GOWAN RD	LAS VEGAS WASH TR	Shared use path	0.13	Connect Gowan Separated Bike Lane to Las Vegas Wash Trail	NO
LOSEE RD WEST	CENTENNIAL PKWY	CC 215 VVRT	Sidepath	0.79	Min. 10' width; maintain 5' separation from back of curb	NO
MARTIN LUTHER KING BLVD	ALEXANDER RD	CRAIG RD	Bike lane	0.51	Narrowing lanes to 10-10.5' will create space for conventional bike lanes.	NO
MCDANIEL	SEARLES AVE	LAKE MEAD BLVD	Bike lane	0.76	North of Lake Meade: refer to cross sections in McDaniel St and Hunkins Dr Complete Street Design; South of Lake Meade: standard bike lanes, consolidate any parking to east side	NO
MCDANIEL EAST	LAKE MEAD BLVD	CIVIC CENTER DR	Sidepath	0.38	North of Lake Meade: refer to cross sections in McDaniel St and Hunkins Dr Complete Street Design; South of Lake Meade: standard bike lanes, consolidate any parking to east side	NO
NICHOLAS E FLORES JR PARK	GOLDCREST DR	ALLEN LN AT SAN MIGUEL AVE	Shared use path	0.19	Through school grounds of Lucile S Bruner Elementary	NO
NLV INDUSTRIAL SPUR	DONOVAN WY	I 15	Shared use path	0.31	Rail with trail	NO
NLV INDUSTRIAL SPUR	I 15	WALNUT RD	Shared use path	0.48	Rail with trail	NO
NORTH 5TH ST	LAS VEGAS	OWENS	Sidepath	0.14	Min. 10' width; maintain 5' separation from back of curb	NO
NORTH 5TH ST EAST	BROOKS AVE	CC 215 VVRT	Sidepath	5.24	Min. 10' width; maintain 5' separation from back of curb	NO
NORTH 5TH ST WEST	BROOKS AVE	CC 215 VVRT	Sidepath	5.24	Min. 10' width; maintain 5' separation from back of curb	NO
PALMER ST	CENTENNIAL PKWY	CC 215 VVRT	Shared use path	0.89	Coordinate with Deer Springs job creation zone	NO
PALMER ST	CENTENNIAL PKWY	CC 215 VVRT	Separated bike lane	0.89	Coordinate with Deer Springs job creation zone	NO
PECOS RD	LAKE MEAD BLVD	CRAIG RD	Separated bike lane	3.62	Eliminate on-street parking	NO
PECOS RD	LONE MOUNTAIN RD	CC 215 VVRT	Separated bike lane	2.66	Added by NLV Jan 2017.	YES

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
RANCH HOUSE RD	ALLEN LN	CLAYTON ST	Buffered bike lane	0.95	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; consider narrowing travel lanes or buffers to create park strips; may need to narrow buffers and lanes or convert to bike lanes where on-street parking is needed	NO
RED COACH AVE	SAN MATEO ST	FERRELL ST	Bike lane	1.03	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes	NO
REVERE ST	ANN RD	COMMERCE ST	Buffered bike lane	1.65	7-5 Road diet with buffered bike lanes- 12' TWLTL, 12' Travel Lanes, 7' bike lane with 5' buffer; consider addition of park strips as an alternative	YES
REVERE ST	CHEYENNE AVE	CRAIG RD	Separated bike lane	1.74	Road diet to 3 lanes; may strip buffered bike lanes as interim	YES
REVERE ST	CAREY AVE	CHEYENNE AVE	Separated bike lane	0.76	60' ROW; separated bike lanes with parking on one side where needed	NO
ROME BLVD	LOSEE RD	PECOS RD	Bike lane	1.02	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
ROME BLVD	COMMERCE	LOSEE	Buffered bike lane	1.80	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers; adjust lane widths and locations where on-street parking is need; Bruce to Lawrence may be neighborhood byway due to low volume	NO
SAN MATEO ST	CRAIG RD	RED COACH AVE	Bike lane	0.26	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes; consider eliminating parking lanes and add buffers to bike lanes in sections where houses do not front the street	NO
SAN MIGUEL AVE	ALLEN LN	CLAYTON ST	Buffered bike lane	1.03	13' travel lanes, 7' bike lanes with 3' buffers; some segments with fronting land uses will require modifications to accommodate on-street parking	NO
SAN MIGUEL AVE	DECATUR BLVD	SAN MATEO ST	Neighborhood byway	0.26	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph;	NO
SAN MIGUEL AVE	SAN MATEO ST	VALLEY DR	Shared use path	0.25	Control access with bollards	NO
SCOTT ROBINSON BLVD	CHEYENNE AVE	CRAIG RD	Buffered bike lane	1.52	60' ROW; 13' travel lanes, 7' bike lanes with 3' buffers	NO
SHADOW TREE ST	GOWAN RD	NORTH TERMINUS	Neighborhood byway	0.27	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
SIMMONS RD	CORAN LN	CENTENNIAL PKWY	Separated bike lane	5.58	Road diet to 5 lanes; road improvements and construction needed south of Alexander Rd	YES
STATZ PED BRIDGE	CC 215 VVRT	CC 215 UPPER VVRT	Shared use path	0.10	Shared use path and pedestrian/ bicycle bridge	NO

CORRIDOR NAME	FROM STREET	TO STREET	FACILITY TYPE	LENGTH (MILES)	NOTES	ROAD DIET
STATZ ST	TROPICAL PKWY	CC 215 VVRT	Bike lane	1.37	80' ROW; 11' travel lanes, 12' TWLTL, 5' bike lanes; consider road diet to 3 lanes with buffered bike lanes	YES
TONOPAH AVE	BRUCE ST	MCDANIEL ST	Bike lane	0.25	60' ROW; 10.5' travel lanes, 8' parking lanes, 6' bike lanes	NO
TONOPAH AVE	CIVIC CENTER DR	PECOS RD	Neighborhood byway	1.00	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph;	NO
TROPICAL PKWY	DECATUR BLVD	ANN RD	Bike lane	5.40	80' ROW; 11' travel lanes, 12' TWLTL, 5' bike lanes	NO
TWINING AVE	BELMONT ST	UPPER LAS VEGAS WASH TR	Neighborhood byway	0.34	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph; punch through wall and add bridge to connect to Las Vegas Wash Trail	NO
UNK TRAN	CENTENNIAL PKWY	CC 215 VVRT	Shared use path	1.68	Future Development	NO
UPPER LAS VEGAS WASH TR	DEER SPRINGS WY	DORRELL LN	Shared use path	0.33	Continue along flood control channel	NO
UPRR	OWENS AVE	CC 215 VVRT	Shared use path	7.75	Rail with trail - requires further feasibility studies	NO
VALLEY DR	MINERAL WATERS DR	TURKEY CT	Shared use path	0.25	Shared use path and pedestrian/ bicycle bridge	NO
VALLEY DR EAST	TROPICAL PKWY	MINERAL WATERS DR	Sidepath	0.36	Min. 10' width; maintain 5' separation from back of curb	NO
VALLEY DR WEST	TROPICAL PKWY	MINERAL WATERS DR	Sidepath	0.36	Min. 10' width; maintain 5' separation from back of curb	NO
WALNUT RD	CITY LIMIT	CRAIG RD	Bike lane	0.12	Could be improved to a wider or buffered bike lane as roadway is improved/widened/formalized.	NO
WALNUT RD WEST	NLV INDUSTRIAL SPUR	CRAIG RD	Sidepath	0.06	Min. 10' width; maintain 5' separation from back of curb	NO
WASHBURN RD	COMMERCE ST	PECOS RD	Buffered bike lane	2.52	Added by NLV Jan 2017 in order to connect Pecos proposed EBF.	YES
WASHBURN RD	DECATUR RD	WAVING FLOWER RD	Bike lane	0.36	Continue same Washburn Rd cross section that includes bike lanes (East of Valley Dr)	NO
WASHBURN RD	CAMINO AL NORTE	COMMERCE ST	Bike lane	0.51	Added by NLV Jan 2017 in order to connect Pecos proposed EBF.	NO
WATERCREEK DR	SCOTT ROBINSON BLVD	ROSE CANYON DR	Neighborhood byway	0.45	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO
WILLOWCREEK RD	ROCK HOLLOW AVE	INDIAN HOLLOW	Neighborhood byway	0.15	Share lane markings; wayfinding; traffic calming as needed to keep speeds at or below 25 mph	NO

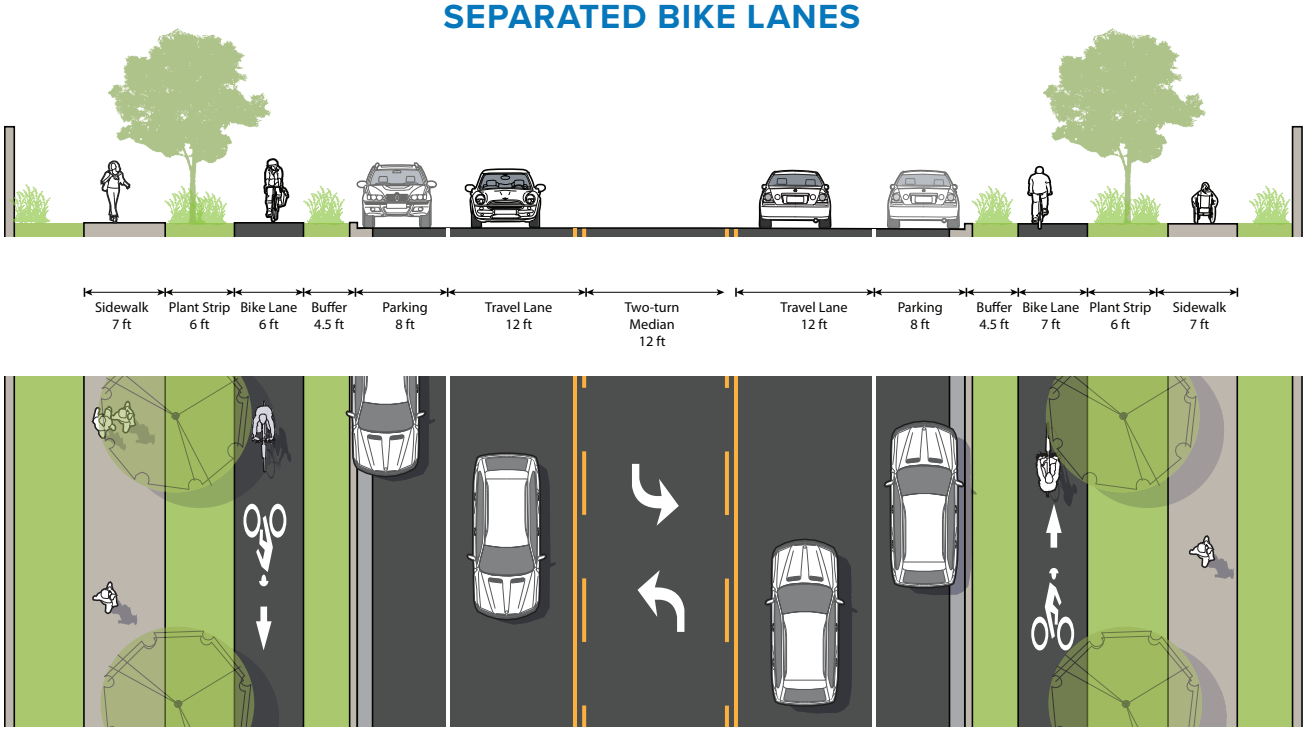


APPENDIX A
STREET CROSS SECTIONS

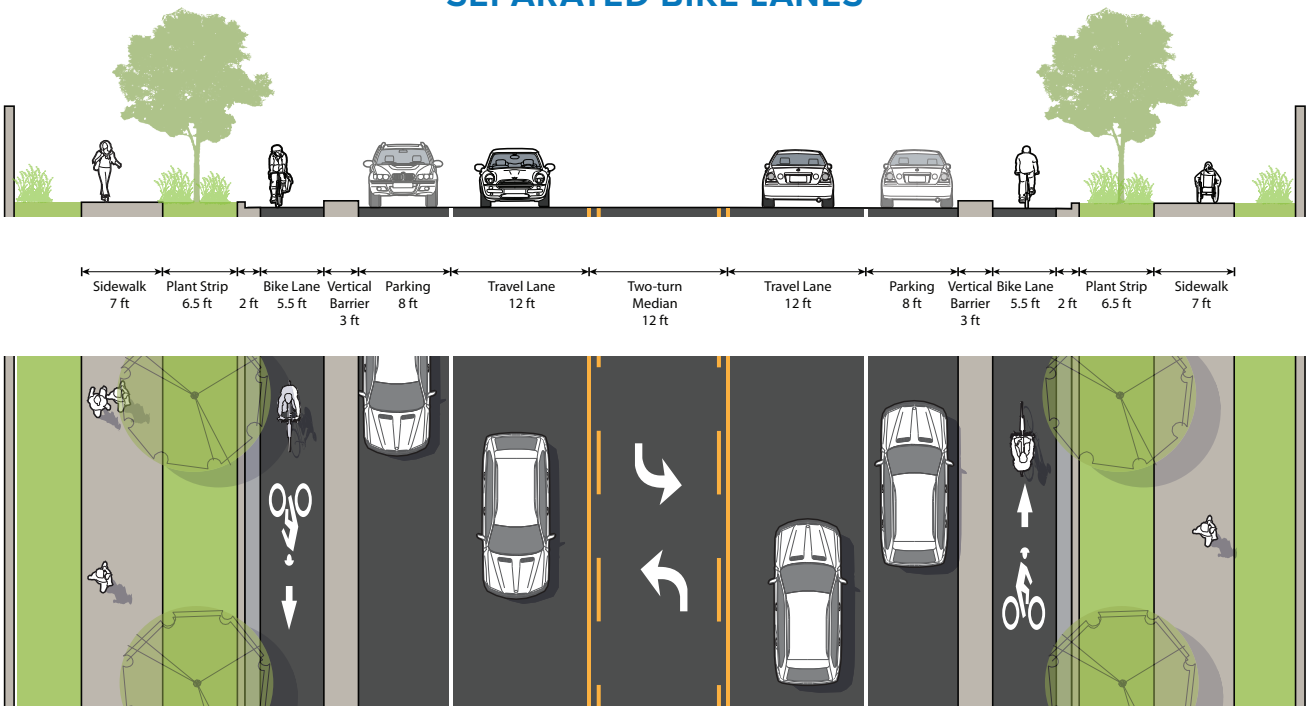
STREET CROSS SECTIONS: 100’ ROW - 3 LANES

100’ right-of-way streets that can be reduced to three lanes present great opportunities for high-comfort bikeways and an enhanced pedestrian experience while still accommodating on-street parking if needed. The following sections illustrate separated bike lanes (curb level and street level), and buffered bike lanes. While separated bike lanes are preferred on 100’ right-of-way streets due to their associated traffic volumes and speeds, buffered bike lanes can be implemented as an interim alternative and can be easily converted to separated bike lanes with the addition of vertical barriers.

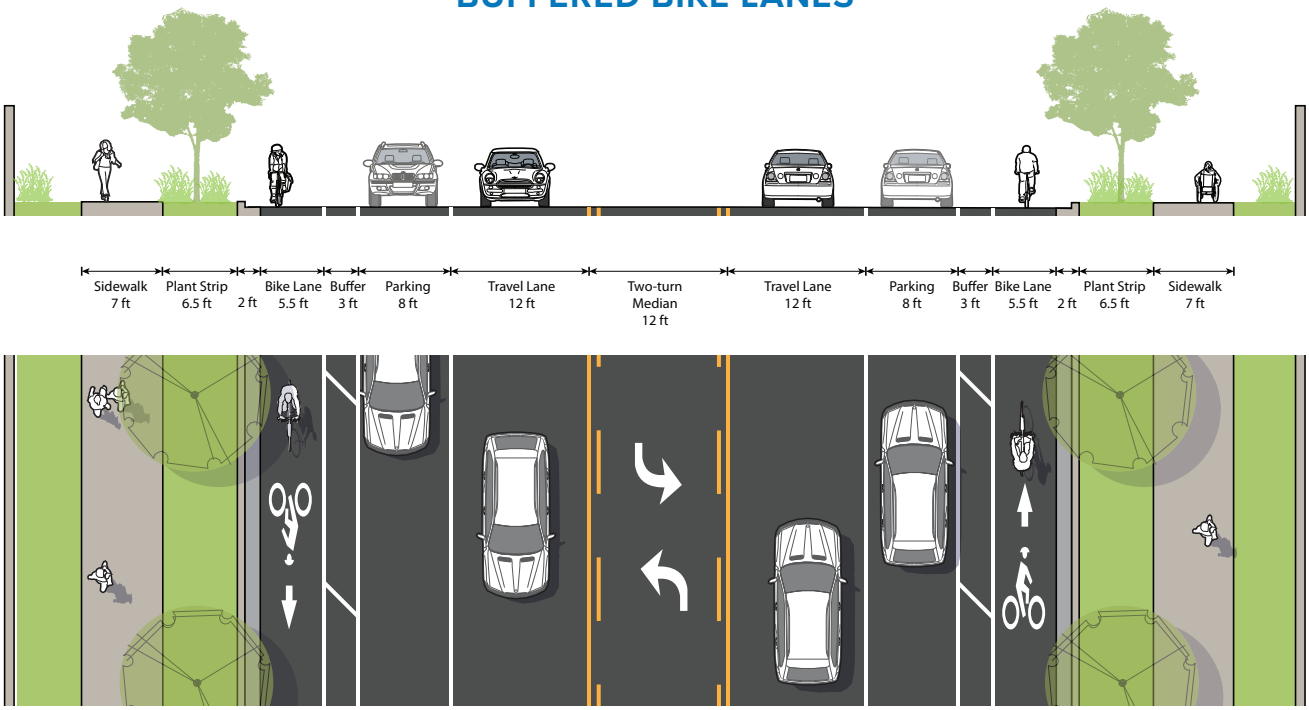
CURB LEVEL SEPARATED BIKE LANES



STREET LEVEL SEPARATED BIKE LANES



BUFFERED BIKE LANES

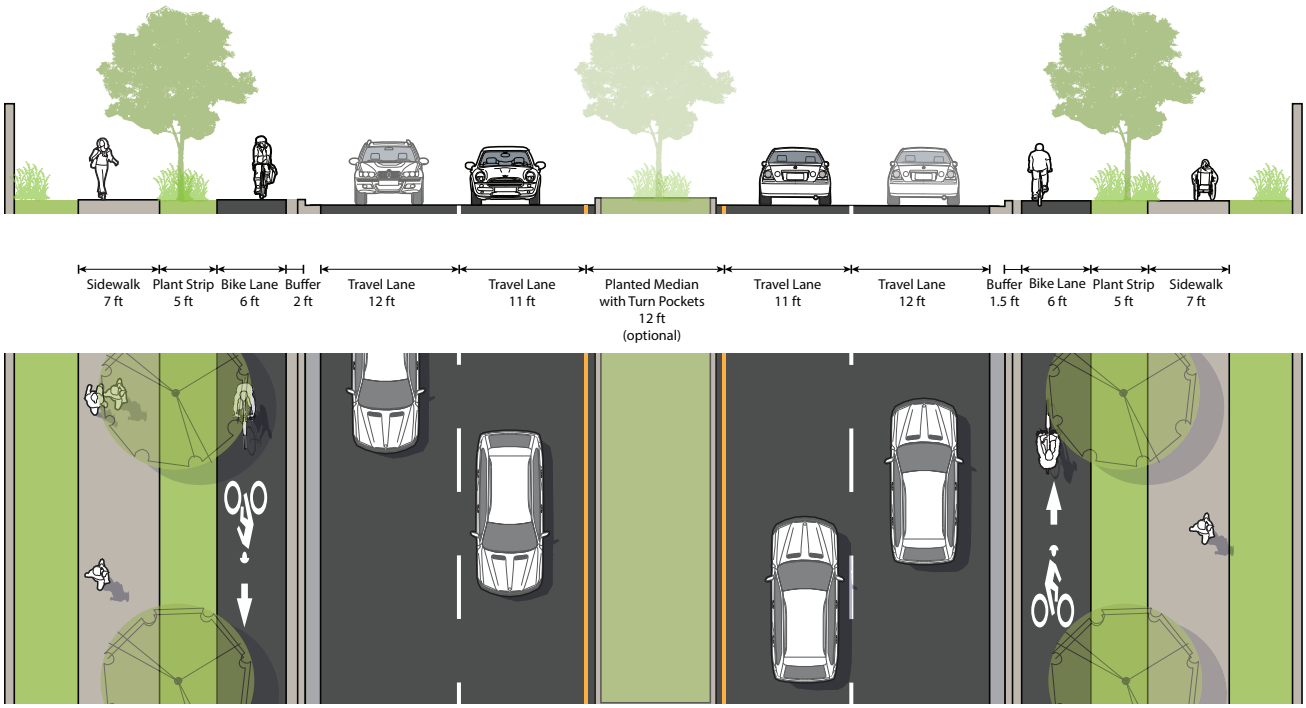


*Striped buffers over 2 feet in width should include a diagonal or chevron hatch to avoid appearing as a separate lane.

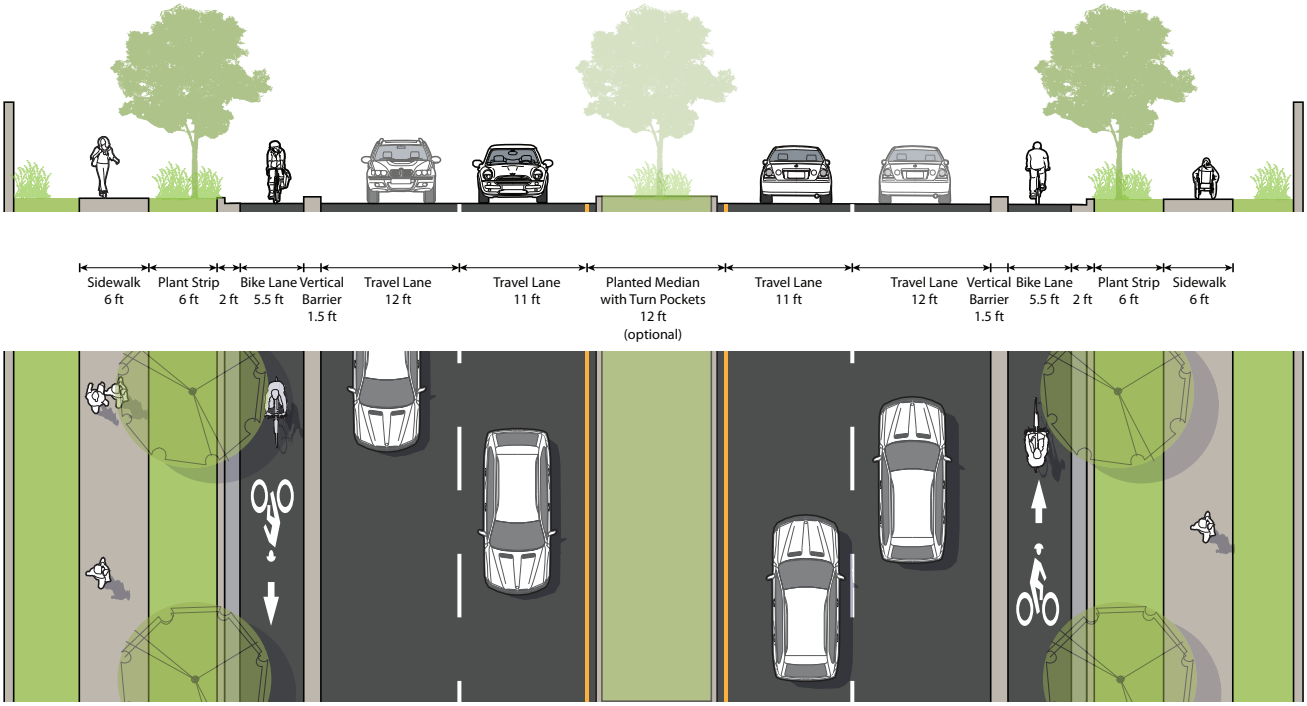
STREET CROSS SECTIONS: 100’ ROW - 5 LANES

Even with five lanes for motor traffic, 100’ right-of-way streets provide ample space for high comfort pedestrian and bicycle infrastructure. Similar to 100’ right-of-way 3-lane streets, the following sections illustrate separated bike lanes (curb level and street level), and buffered bike lanes, but on-street parking is removed. While separated bike lanes are preferred on 100’ right-of-way streets due to their associated traffic volumes and speeds, buffered bike lanes can be implemented as an interim alternative and can be easily converted to separated bike lanes with the addition of vertical barriers. In order to soften the streetscape, planted medians with turn pockets at intersections may be implemented instead of TWLTL medians.

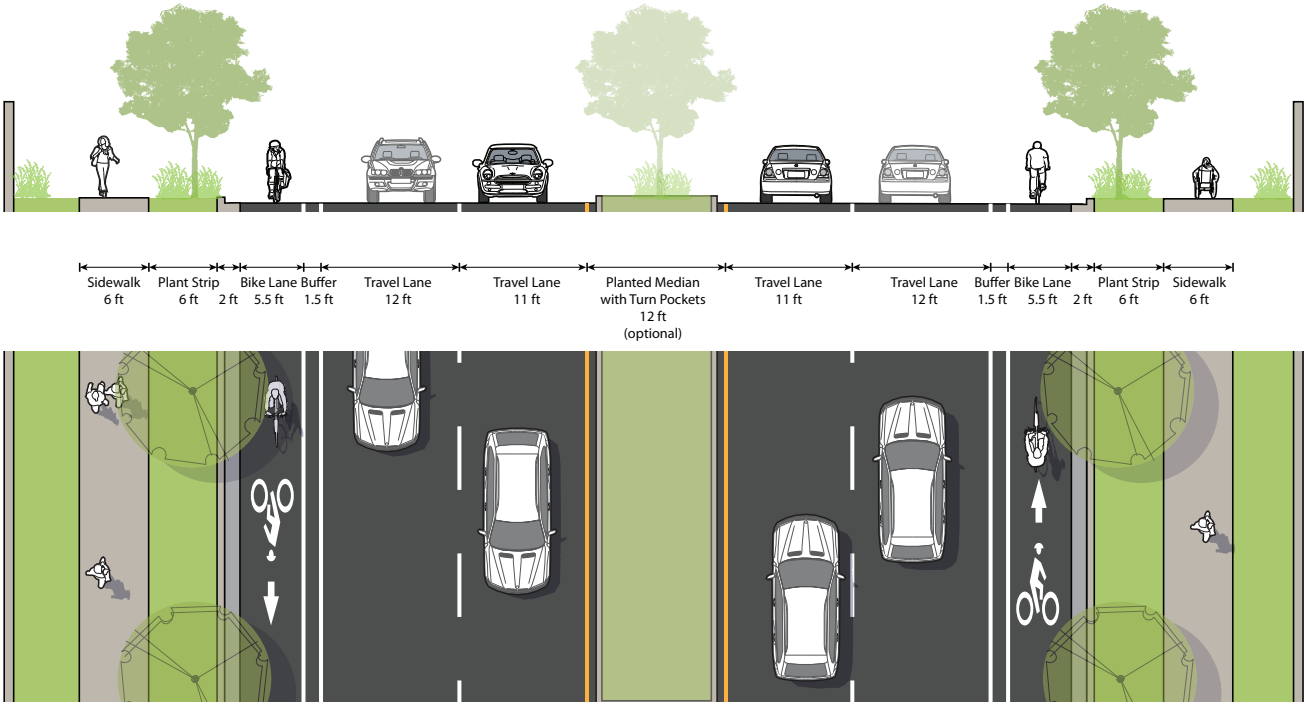
CURB LEVEL SEPARATED BIKE LANES



STREET LEVEL SEPARATED BIKE LANES



BUFFERED BIKE LANES

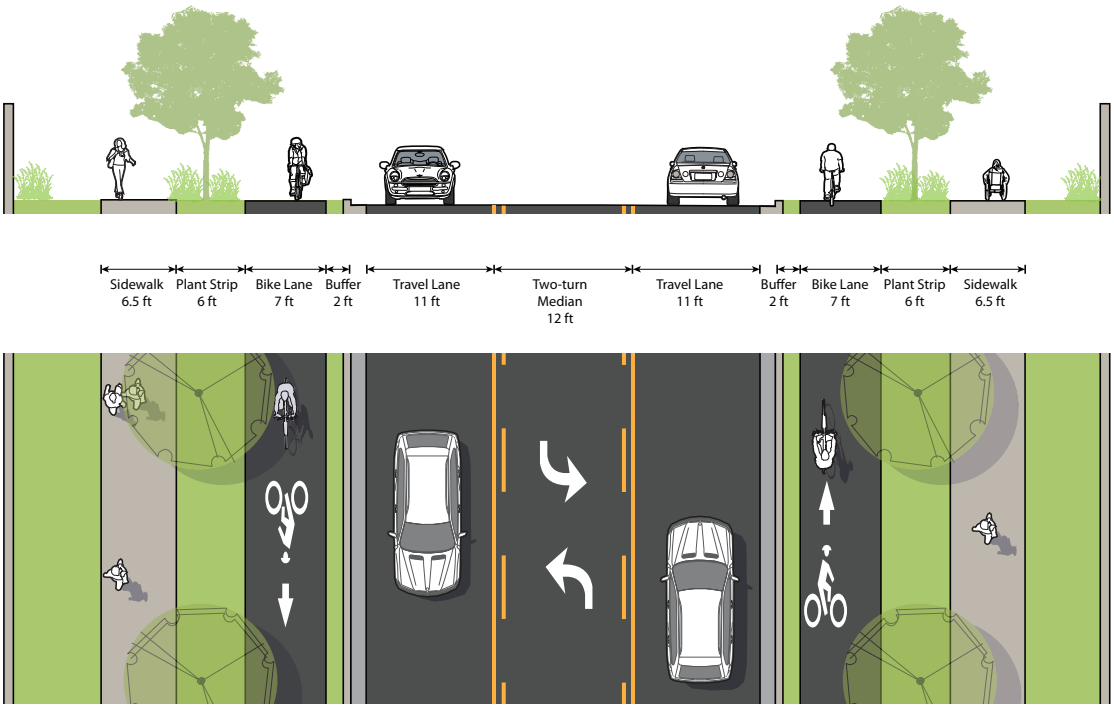


*Striped buffers over 2 feet in width should include a diagonal or chevron hatch to avoid appearing as a separate lane.

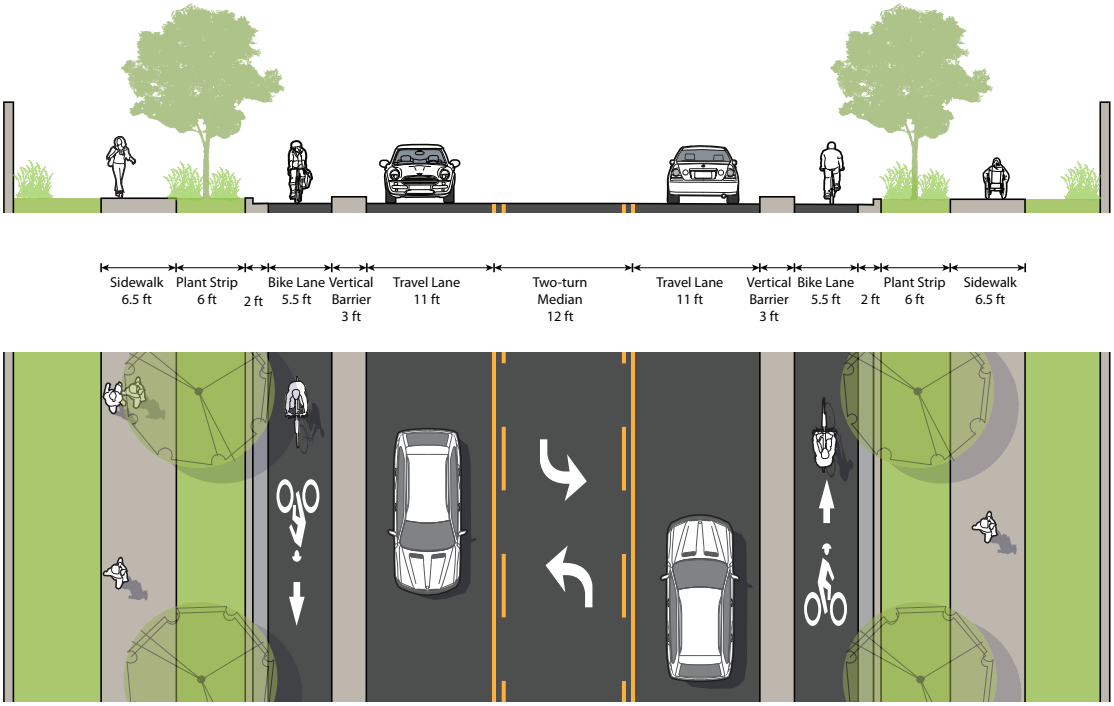
STREET CROSS SECTIONS: 80’ ROW - 3 LANES

The following sections illustrate separated bike lanes (curb level and street level), and buffered bike lanes, with no on-street parking. While separated bike lanes are preferred on 80’ right-of-way streets due to their associated traffic volumes and speeds, buffered bike lanes can be implemented as an interim alternative and can be easily converted to separated bike lanes with the addition of vertical barriers.

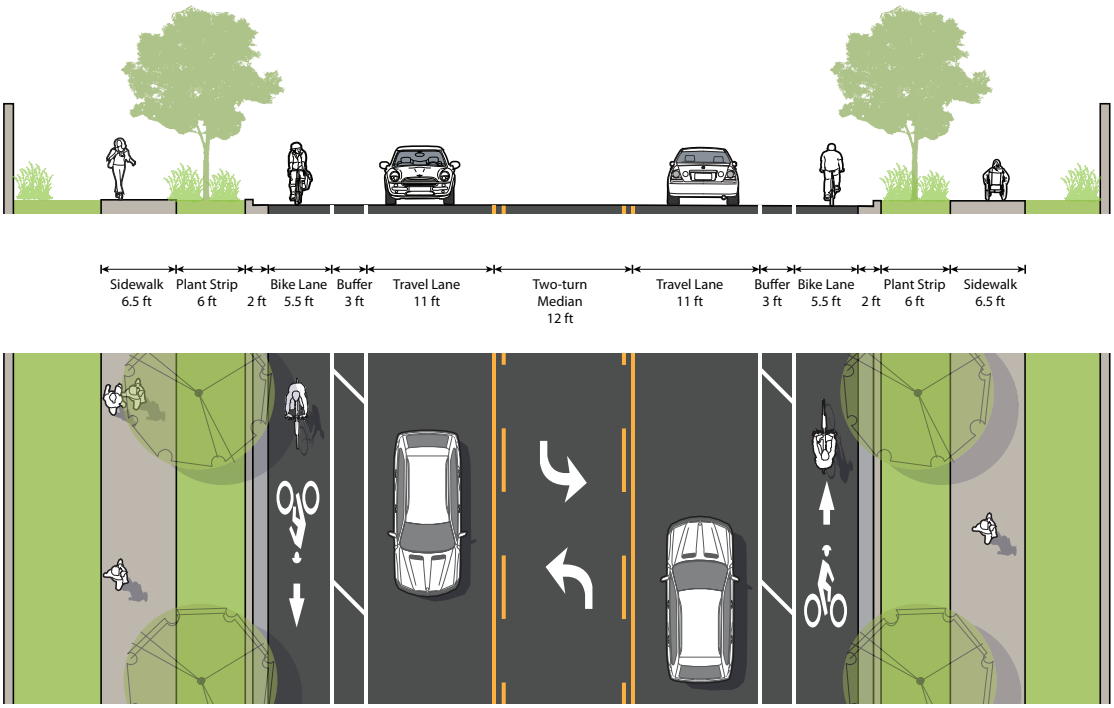
CURB LEVEL SEPARATED BIKE LANES



STREET LEVEL SEPARATED BIKE LANES



BUFFERED BIKE LANES

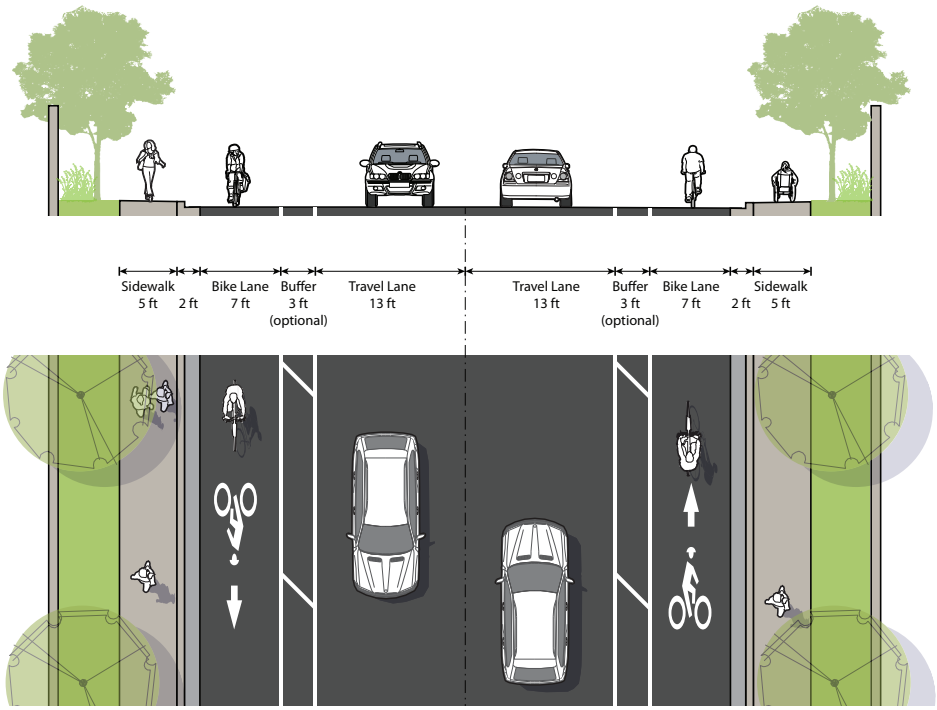


*Striped buffers over 2 feet in width should include a diagonal or chevron hatch to avoid appearing as a separate lane.

STREET CROSS SECTIONS: 60’ ROW

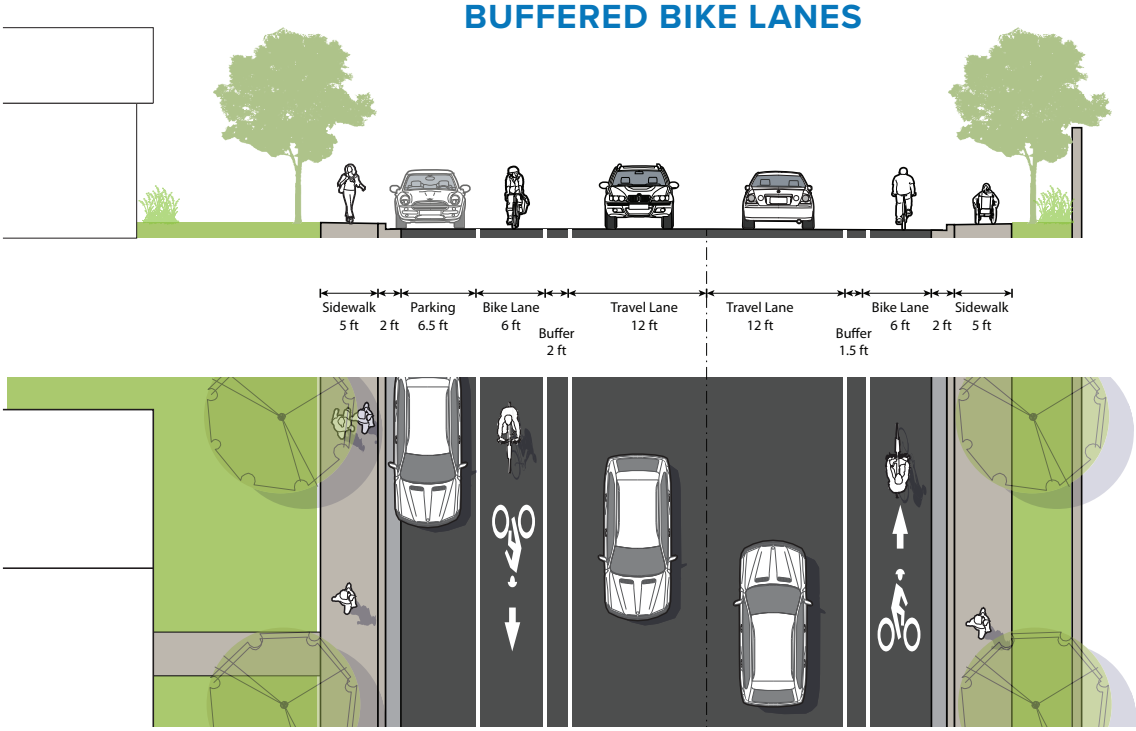
Bikeway configurations will vary on 60’ right-of-way streets depending on traffic volumes, traffic speeds, and fronting land uses that dictate whether or not there is a need for on-street parking. These street cross sections are largely applicable to neighborhood streets suitable for neighborhood byways and smaller collector roads that run parallel to arterial corridors.

NO FRONTING LAND USES BUFFERED BIKE LANES



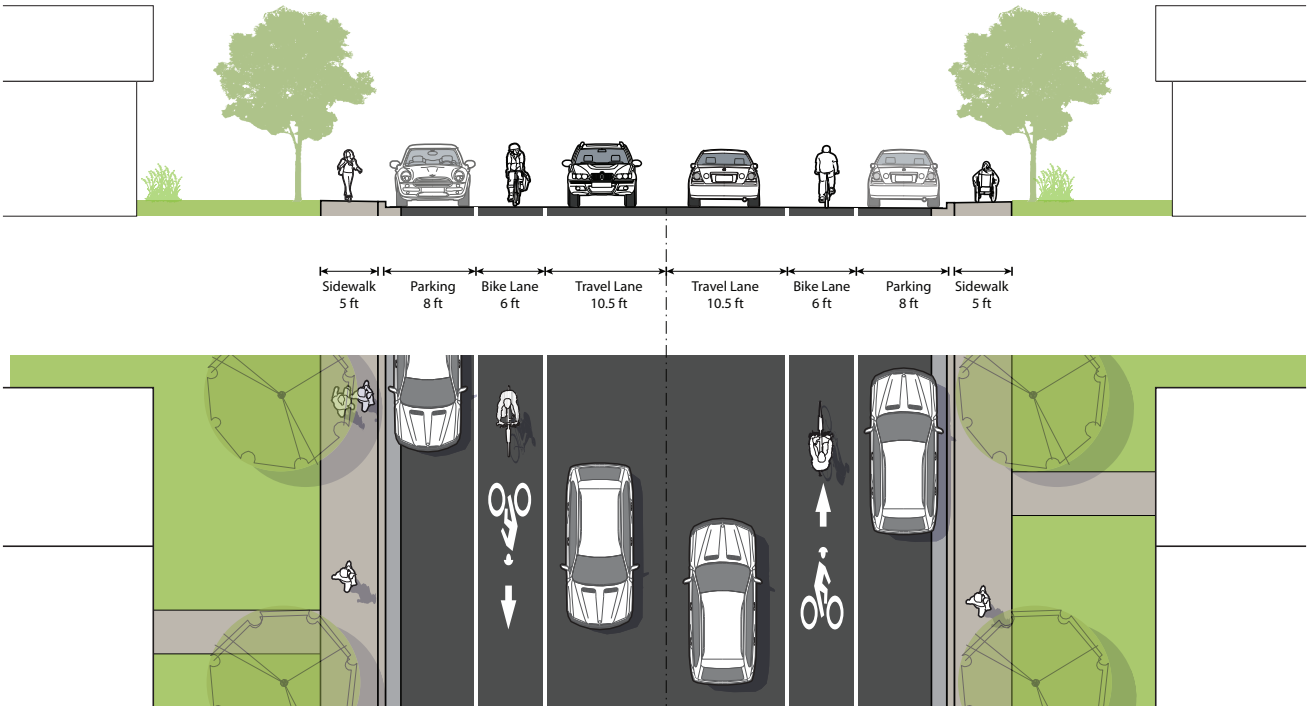
*Striped buffers over 2 feet in width should include a diagonal or chevron hatch to avoid appearing as a separate lane.

FRONTING LAND USES ON ONE SIDE BUFFERED BIKE LANES

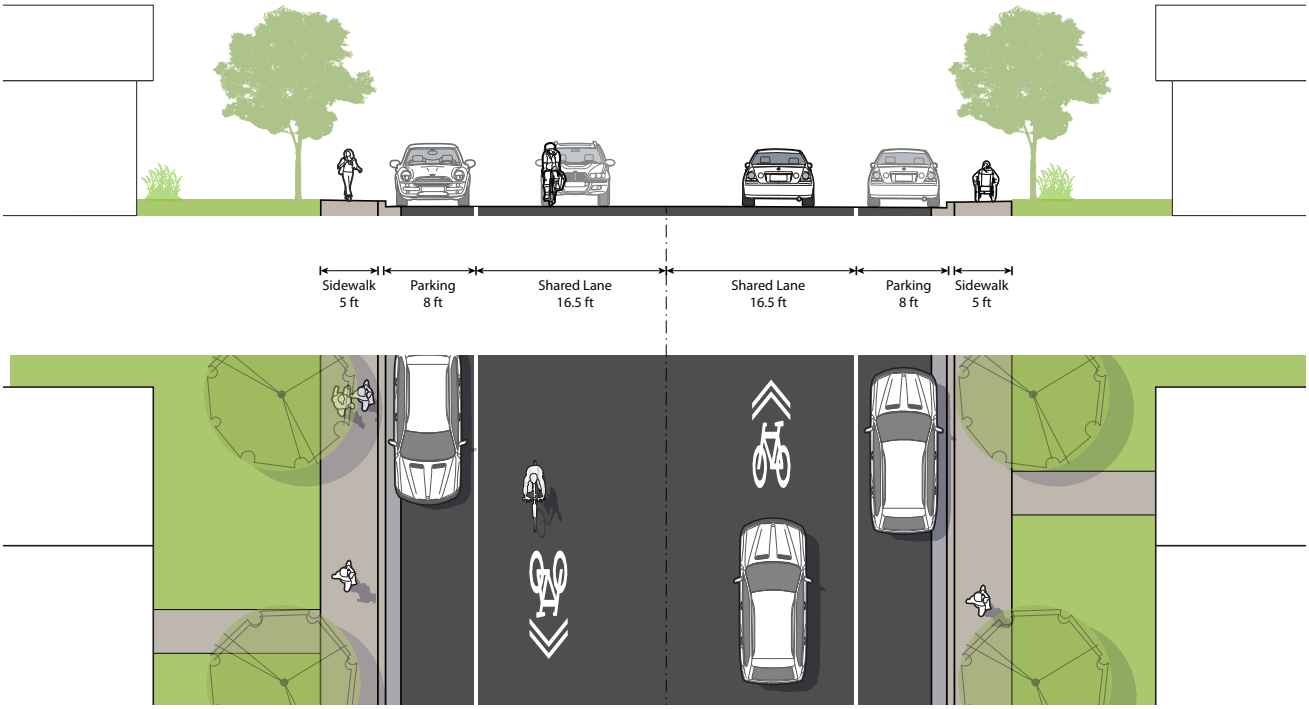


*On-street parking restricted to side with fronting land uses. Buffer widths and locations are flexible. Buffers may be appropriate on both sides of bike lanes adjacent to on-street parking depending on parking turnover and roadway speed. Striped buffers over 2 feet in width should include a diagonal or chevron hatch to avoid appearing as a separate lane.

FRONTING LAND USES ON BOTH SIDES (> 25 MPH) BIKE LANES



FRONTING LAND USES ON BOTH SIDES (≤ 25 MPH) NEIGHBORHOOD BYWAY



*Only recommended on low-volume streets where traffic speeds can be kept below 25 mph through traffic calming measures