
Maricopa County Department of Transportation

# Active Transportation Plan

Final Report

October 2018

walk

bike

move

*into the future*


AHEAD


Gavilan Peak Parkway, Anthem

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# ACKNOWLEDGEMENTS

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## Board of Supervisors

District 1 – Denny Barney
District 2 – Steve Chucri
District 3 – Bill Gates
District 4 – Clint Hickman
District 5 – Steve Gallardo

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Air Quality
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Flood Control District
Office of Enterprise Technology
Parks and Recreation
Public Health

## STUDY PARTNERS

Thank you to the study partners for their commitment of time, information sharing, and technical guidance throughout the planning process.

### Cities, Towns, and Communities

Ak-Chin Indian Community
City of Avondale
City of Buckeye
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City of El Mirage
Town of Fountain Hills
Town of Gila Bend
Town of Gilbert
City of Glendale
City of Goodyear
City of Litchfield Park
City of Maricopa
City of Mesa
Town of Paradise Valley
City of Peoria
City of Phoenix
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City of Scottsdale
City of Surprise
City of Tempe
City of Tolleson
Town of Wickenburg
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Valley Metro

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Thank you to the residents of Maricopa County for their participation in this planning process and their passion for improving the place they call home.

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central creative relationships that build
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# 1 | Plan Overview


"When the spirits are low, when the day appears dark, when work becomes monotonous, when hope hardly seems worth having, just mount a bicycle and go out for a spin down the road, without thought on anything but the ride you are taking.

– Sir Arthur Conan Doyle
*Author*

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# PLAN OVERVIEW

In 2016, Maricopa County Department of Transportation (MCDOT) initiated the Active Transportation Plan (ATP) to develop a comprehensive guide that outlines a vision for active transportation within unincorporated Maricopa County.

## Maricopa County

Located in south-central Arizona, Maricopa County is the fourth most populous county in the Nation. At more than 9,200 square miles, Maricopa County is approximately the size of the state of Vermont. MCDOT's planning efforts focus on approximately 7,000 square miles of unincorporated area. These efforts include coordination with numerous federal, state, and local agencies, including adjacent counties, cities, and towns.

As illustrated in Figure 1.1, the ATP focuses on unincorporated areas spread throughout the region. Major communities include Sun City, Sun City West, Sun Lakes, Anthem, Laveen, and Waddell. County islands, unannexed areas surrounded by a city or town, are also located throughout the region.

### Maricopa County Snapshot

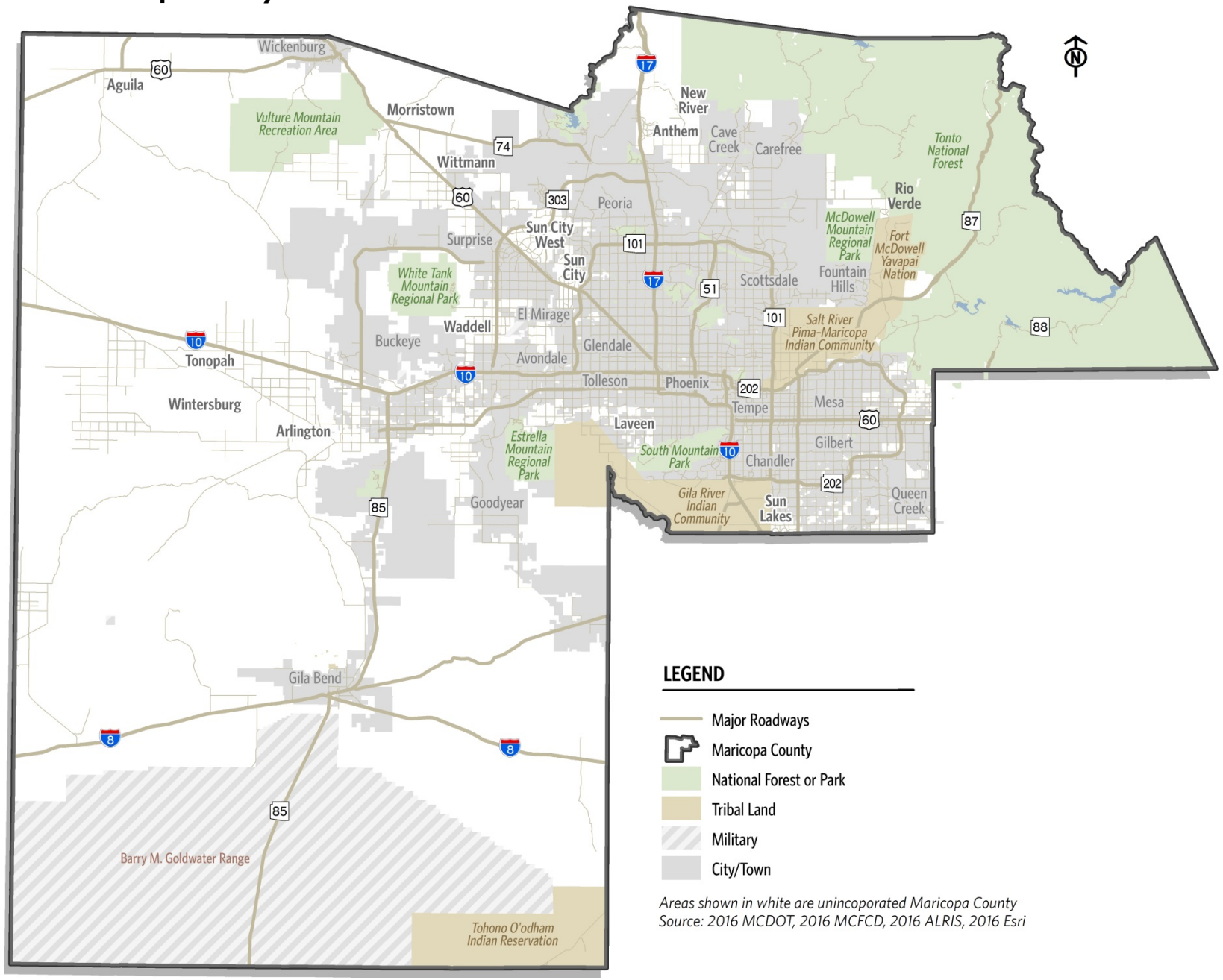
- Established as a county on February 14, 1871
- Measures 132 miles from east to west and 103 miles north to south
- 27 cities and towns are within the County's outer boundaries
- Home to one of the Nation's largest regional park systems with nearly 200,000 acres of open space parks

## Purpose of the Plan

The purpose of the ATP is to develop a blueprint for a complete and accessible active transportation network that encourages activity, emphasizes local and regional connectivity, is equitable, and provides persons of all ages and abilities with transportation choices. Ultimately, the ATP is an action plan that guides decisions and investments about when, where, why, and how to logically and meaningfully increase active transportation in Maricopa County. The actions and needs identified in the ATP will strategically overcome network gaps, support growth, and increase transportation options along MCDOT roadways.

The ATP updates and supersedes the existing MCDOT *1999 Bicycle Transportation System Plan (BTSP)*. While the1999 BTSP focused on bicycle lanes and paved shoulders suitable for confident and experienced bicyclists, the ATP explores pedestrian and bicycle facilities needs to accommodate all users, regardless of their age or ability. Since 1999, MCDOT has taken significant strides in providing more walking and biking opportunities; however, Maricopa County is growing and changing. New developments and changing travel behaviors are altering how and why people travel. Careful and strategic planning is needed to ensure that MCDOT's active transportation network meets current and future needs.

**Figure 1.1: Maricopa County Overview**



## What is Active Transportation?

Active transportation includes any self-propelled, human-powered mode of transportation that engages people in active participation, including walking, biking, jogging, skateboarding, inline skating, and the use of assistive mobility devices. Just as roads connect motorists to destinations, active transportation networks allow the public to travel without the use of a car. Transportation fulfills a basic need, enabling people to go to work, school, shopping, and medical appointments; visit friends and family; and participate in civic or worship activities.

Investing in walking, biking, and other forms of active transportation results in a more balanced, accessible transportation system. Active transportation benefits also include the alleviation of socioeconomic and health disparities, the support of economic diversity and prosperity, and assists in creating a more livable and sustainable community.

### By investing in active transportation, MCDOT is choosing to ...

**Connect People and Places**

**Improve User Convenience and Comfort**

**Provide Affordable Transportation Options**

**Enhance Transportation for all People and all Abilities**

**Promote Public Fitness and Health**

**Support Local and Regional Development**

## Why Active Transportation Matters

Active transportation is an important component to the overall mobility of a community and region, providing a low-cost and accessible form of transportation. Below is a snapshot of a few of the benefits of active transportation.

### Changing Travel Habits

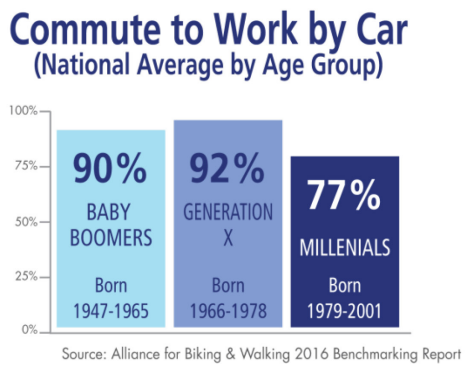
The Arizona Public Interest Research Group report "Bikes, Trains, and Less Driving", noted that between 2005 and 2012, Arizona saw a 10.5 percent decline in annual vehicle miles traveled per capita. Several studies have shown that millennials (those born between 1979 and 2001) are driving less, owning fewer cars, and/or not getting their driver license. To accommodate these changing travel behaviors, alternative transportation options are needed.

### Dependency on Walking and Biking

A large number of Maricopa County residents do not have access to a vehicle and rely on walking, biking, and transit to reach their destination; many are incapable of driving due to age, illness, or disability; and still others elect to find alternatives to driving to save money or as a form of exercise. As older adults begin to drive less, a robust active transportation network is needed to allow them to travel independently.

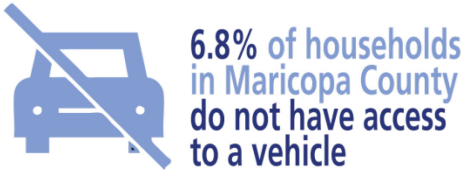
### Creates a Stronger Economy

Active transportation investments provide numerous economic benefits including lower transportation costs for individuals; savings to public agencies and jurisdictions from less wear and tear on streets; a greater ability for public agencies and jurisdictions to attract new residents and employers; and a potential boost in tourism. Research by the League of American Bicyclists shows that nationally bicycling contributes an estimated $133 billion to the US economy annually, supports nearly 1.1 million jobs, and generates $47 billion in tourism activity during bike trips and tours. ADOT's "Economic Impact Study of Bicycling in Arizona" reported that $88 million in economic effects is generated each year from out-of-state bicycle tourists visiting Arizona.



Source: Alliance for Biking & Walking 2016 Benchmarking Report

Source: National Household Travel Survey



Source: 2011-2015 American Community Survey

Source: AAA Cost of Driving (2017)

## Good for Business

Numerous studies have shown, on average, pedestrians and bicyclists spend more at local retail establishments than motorists. The Portland State University report "Business of Cycles: Catering to the Bicycle Market" found that those who drive to a store spend more per visit, while those that walk or bike to a store spend less each visit, but shop more often and spend more overall. A case study conducted by the city of Salt Lake City found that the installation of bike lanes along a key business corridor resulted in an eight percent increase in sales for businesses along the roadway.


## Increases Livability

Baby boomers, retirees, and millennials are increasingly moving to locations where they can walk or ride a bike to access their daily needs. Research conducted by the Bureau of Transportation Statistics shows that nearly two-thirds of homebuyers consider the walkability of an area in their purchase decision. Numerous studies have found that companies increasingly want to locate in walk and bike friendly places as a way to attract workers, especially in high tech and creative fields.


## Encourages Physical Activity

Lack of physical activity is associated with increased risk of many health problems, particularly obesity, diabetes, and heart disease. By definition, active transportation allows people to integrate physical activity into everyday life by enabling them to walk or bike to their destinations. The Centers for Disease Control and Prevention recommends at least 2.5 hours of moderate exercise each week. Implementing walking and biking facilities provides access to places where residents can be physically active.


## Improves Environmental Quality

In enabling people to make trips by foot or bike instead of by car, active transportation can help address a number of environmental challenges. Research shows that approximately 60 percent of vehicle pollution happens within the first few minutes. Replacing these short vehicle trips with walking and biking trips can not only reduce car related emissions, but also reduce noise pollution and congestion. Other environmental benefits include energy savings, less water pollution, reduced dependency on fossil fuels, and even reduced pressure to develop agricultural and open spaces.


## Who is MCDOT Planning For?

The MCDOT ATP is a plan for all nonmotorized roadway users. The ATP examines facility needs to accommodate all user types and levels of comfort, including children, commuters, those without access to a vehicle, casual bicyclists, recreational walkers, and other vulnerable users.

### Pedestrians

Walking is the most common form of transportation, as every trip begins and ends by foot. At some point in the day, everyone is a pedestrian. Pedestrians can be categorized into the following:

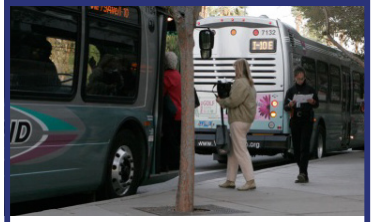
#### Utilitarian Walker

Walking to complete daily errands, such as shopping, medical appointments, to visit friends/family, etc.

**NEEDS**

- Connected and accessible sidewalks and paths
- Direct connections from residential areas to shopping and services
- Access to transit centers and bus stops
- Shelter and shade at bus stops

#### Commuter



Persons that walk or utilize transit as their primarily means of transportation to work.

**NEEDS**

- Direct access routes to major employment centers
- Connected and accessible sidewalks and paths
- Access to transit centers and bus stops
- Shelter and shade at bus stops

#### Recreation/Fitness

Those running, jogging, enjoying a leisurely stroll, or walking their dog.

**NEEDS**

- Low stress facilities (i.e., wide sidewalk, sidewalk on local road, shared use path, etc.)
- Direct connections to residential areas
- Access to parks, open space, and trails

#### On Small Wheels

Persons utilizing scooters, skateboards, inline skates, etc. to travel faster than by foot.

**NEEDS**

- Connected sidewalks and paths
- Firm and stable surfaces in good condition
- Smooth sidewalk/street transitions
- Gradual cross slopes at driveways

#### Vulnerable Users

Children, the elderly, and persons with cognitive, visual, or physical disabilities.

**NEEDS**

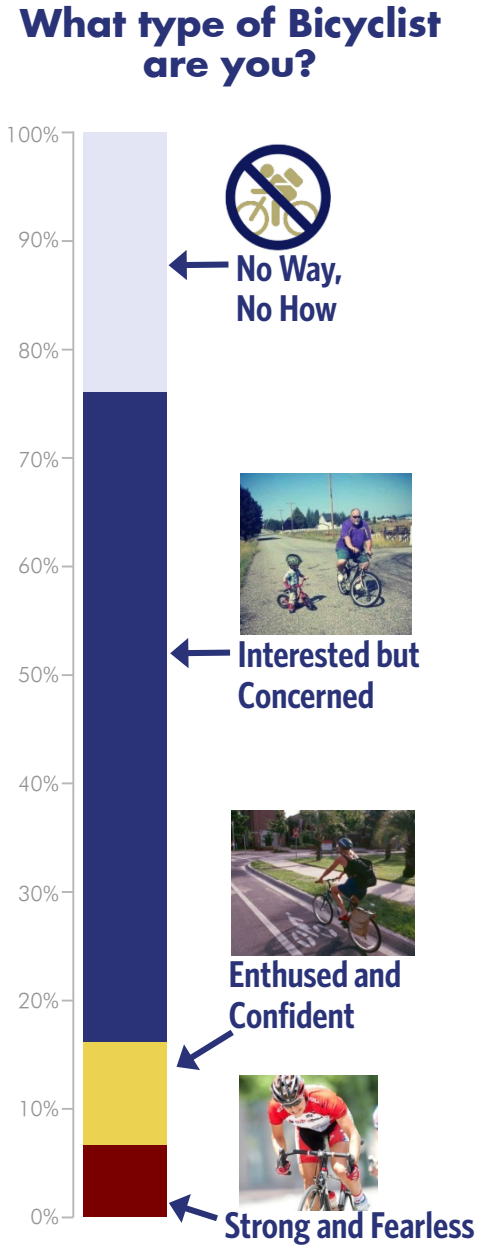
- Wider, more comfortable facilities with space to maneuver
- Firm, stable surfaces
- Gradual cross slopes at driveways
- Extended signal timing at wide intersections
- Detectable warnings at crossings

Source: http://kickpushcare.com; https://www.azcentral.com

## Bicyclists

Understanding the skill level of current and potential bicyclists is important when creating an active transportation plan. Bicycle infrastructure should be planned and designed with the expected purpose and skill level of the intended users. To understand a potential user's comfort and willingness to ride a bike on a given roadway, Roger Geller, developed a bicyclist classification system for the city of Portland, Oregon. This concept was later defined for the Nation by Jennifer Dill and Nathan McNeil at Portland State University. The classification system categorizes the general population by their different needs and biking comfort levels given roadway conditions. The bicycle classification system categories include the following four groups:

- **Strong and Fearless (~6% of the population).** Characterizes a person who considers bicycling a strong part of their identity and will ride anywhere regardless of roadway conditions or weather. This type of bicyclist may ride faster than other users, prefers direct routes, and will typically choose roadway connections over shared use paths and trails.
- **Enthused and Confident (~9% of the population).** These bicyclists are comfortable riding on roads with motor vehicle traffic, but prefer to use low traffic stress roads or shared use paths.
- **Interested but Concerned (~60% of the population).** This group represents the majority of the population and identifies persons who are interested in bicycling or enjoy riding a bike, but are afraid to ride on roadways. Through experience, education and encouragement, people may become "enthused and confident" riders.
- **No Way, No How (~ 25% of the population).** Persons in this category are not interested in bicycling due to their inability to bicycle, perceived safety issues, lack of interest, or other constraints. Through education, some people in this category may eventually ride a bike.




Source: Dill & McNeil (2012) "Four Types of Cyclists?"

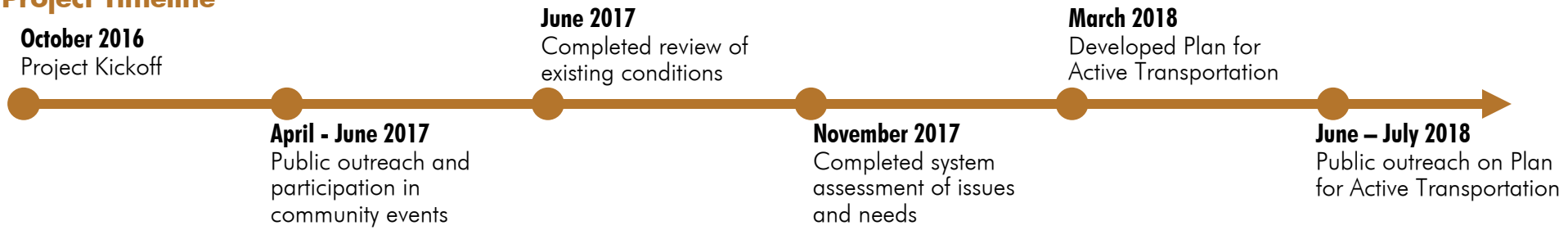
## ATP Development Process

In 2014, during the development of the *MCDOT Transportation System Plan 2035*, MCDOT recognized the need to develop a complementary plan to better discuss, identify, and plan for active transportation needs on MCDOT roadways. The development of the ATP began in October 2016 and was completed in six key steps:

- **Established Objectives and Strategies.** Developed measurable goals and objectives to help achieve MCDOT's vision for active transportation.
- **Existing Conditions Assessment.** A comprehensive inventory and analysis was performed to understand current pedestrian and bicycle facility locations and conditions.
- **Public and Stakeholder Outreach – Phase 1.** Five open houses, two stakeholder workshops, participation in community events, and an online mapping tool were utilized to solicit input about current walking and bicycling conditions in the County.
- **Assessed System Issues and Needs.** A comprehensive system assessment was conducted to identify system gaps, assess pedestrian and bicycle friendliness of major corridors, and predict potential nonmotorized travel demand.
- **Develop Plan for Active Transportation.** To address all issues and needs identified in previous steps, a plan for a complete active transportation network was developed that closes system gaps, connects communities, and provides opportunities for people of all ages and abilities to walk and/or bike.
- **Public and Stakeholder Outreach – Phase 2.** Finally, a review period will be provided for the public to read and provide feedback on the ATP recommendations.

The development of the ATP was framed by the League of American Bicyclist's six "E's" of pedestrian and bicycle planning: Engineering, Education, Encouragement, Enforcement, Evaluation, and Equity. Engineering is addressed through a proposed regional active transportation network, while program and policy recommendations direct Education, Encouragement, Enforcement, and Evaluation. Equity is a principle that informs each of the "E's".

### Project Timeline



## Study Partners

The development of the ATP was a collaborative effort with numerous partners to ensure that recommendations addressed the regional connectivity needs within Maricopa County. Study partners included representatives from Maricopa County; local and regional governments within and adjacent to Maricopa County; and state and federal agencies. Study partners were instrumental in the identification of:

- Gaps in MCDOT's active transportation network that have potential for resolution through partnership opportunities with neighboring jurisdictions
- Regional connection needs
- Partnership opportunities to co-fund larger improvement projects that expand regional active transportation

Of upmost importance, study partners are active transportation champions that serve as drivers of the ATP within their agency and community. In a collaborative spirit of supporting active transportation throughout Maricopa County, MCDOT hosted four workshops and coordinated with stakeholders throughout the duration of the project. Detailed information on the partnership process and input received from study partners is provided in Chapter 5.

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# 2 | Plan Vision


Maricopa County Department of Transportation envisions a transportation network with connections and choices for people of all ages and abilities to walk, bike, and move.

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## PLAN VISION

The ATP develops a long term vision for active transportation on MCDOT roadways, including clear and measurable objectives and strategies to help achieve MCDOT's vision.

### Vision for Active Transportation in Maricopa County

Since the development of an active transportation network takes time, understanding the direction of the County (i.e., a vision for future active transportation) is paramount. The vision statement shown below was developed in collaboration with the Stakeholder Advisory Committee and the study team.

**Maricopa County Department of Transportation envisions a transportation network with connections and choices for people of all ages and abilities to walk, bike, and move.**

MCDOT's vision for an active transportation network addresses local and regional connectivity issues and needs. MCDOT envisions a complete active transportation network that includes a mixture of facility types, such as:

- Pedestrian facilities: sidewalks, shared use paths, roadway crossings, and ADA facilities.
- Bicycle facilities: bike lanes, paved shoulders, shared use paths, and connections to off-street trails.

## Study Goals, Objectives, and Strategies

Goals are general statements that the ATP aims to achieve over time. Objectives and strategies are specific actions that will guide the decision making process to help achieve the goals of the study. The goals from previous MCDOT plans, including the *Transportation System Plan (TSP) 2035* served as the foundation for the ATP and are supported by *Vision 2030*. The objectives and strategies for the ATP were then developed and refined through multiple collaborative workshops with numerous stakeholders. These stakeholders include various Maricopa County departments, Maricopa County Department of Public Health, Arizona Alliance of Livability Communities, and local and state agencies in Maricopa County.

## GOAL 1: Provide a System that is Safe and Efficient for All Modes of Travel

### Objective: Plan a continuous and interconnected active transportation network

**Strategies:**

1. **Connect** a broad range of destinations, including neighborhoods, schools, employment centers, shopping centers, medical centers, recreation areas, and regional activity areas
2. **Eliminate gaps** in the active transportation network to connect users to key activity centers, public transit facilities, and community amenities
3. Increase **connectivity and route directness** between existing facilities and cities by adding crossings
4. **Identify and prioritize** improvements based on current safety issues, usage, functionality, and impact on quality of life
5. Implement active transportation **improvements and strategies** to reduce the number of pedestrian and bicycle collisions, injuries, and fatalities

### Objective: Create flexible street design to accommodate all users in all areas

**Strategies:**

1. Develop **flexible street cross sections and guidelines** for different land uses and transportation contexts, ranging from rural to urban area types
2. **Plan, design, construct, and apply context-sensitive and flexible street cross sections/treatments** to accommodate the needs of all mobility types, users, and ability levels

## GOAL 2: Promote Quality of Life and Economic Vitality

### Objective: Provide active transportation options for people of all ages and abilities

**Strategies:**

1. Identify **active transportation infrastructure needs** for everyone regardless of physical, social, and economic capabilities
2. Improve existing infrastructure to accommodate **people of all abilities**
3. Offer a **viable and affordable** means of transportation for the **most vulnerable users and traditionally underserved communities** by connecting residents to destinations such as schools, workplaces, parks, shopping centers, libraries, etc.

### Objective: Enhance community livability and support economic growth through aesthetically pleasing, sustainable, and context-sensitive design

**Strategies:**

4. Provide opportunities for residents to use active transportation to **access daily activities, support the local economy, and be physically active**
5. Encourage the **business community and developers** to incorporate active transportation facilities beyond the required design standards
6. **Preserve and enhance** the natural environment, improve air quality, and promote active lifestyles within neighborhoods

### Objective: Foster an active-living culture

**Strategies:**

7. **Identify improvements** that enhance first/last mile transit access, remove barriers, provide students with better routes to school, and increase the number of people walking and bicycling
8. **Support programs** that educate, encourage, create greater awareness, and support active forms of transportation
9. Strengthen partnerships with **local, regional, and state health organizations** in an effort to increase physical activity through increased bicycling and walking

## GOAL 3: Encourage a Seamless Regional Transportation Network

### Objective: Build, maintain, and sustain neighborhood, community and regional partnerships and relationships

**Strategies:**

1. Support and collaborate with local and regional transportation/transit/recreation agencies to **plan and fund** active transportation improvements, especially across jurisdictional boundaries and within County islands
2. Provide **robust and diverse opportunities** for the public and community groups and organizations to participate in the active transportation planning process
3. Participate in **regular forums** to educate, openly discuss, and garner input from partners and the public, including traditionally underrepresented neighborhoods

### Objective: Facilitate on-going coordination for local and regional projects

**Strategies:**

4. Ensure **compatibility** with existing and future planned local projects, regional trail initiatives, and regional transportation plans and improvements
5. Reach out to partners and the public to keep them **informed** of plans and projects by providing adequate information and time

## GOAL 4: Protect Past and Future Transportation Investments through Strategic System Preservation

### Objective A: Maintain, enhance, and expand the current active transportation network

**Strategies:**

1. Identify, prioritize, and evaluate recommended projects according to the **Six E's** (Education, Encouragement, Equity, Engineering, Enforcement, and Evaluation)
2. Identify **project and program recommendations** that are realistic, well-informed, measureable, and implementable
3. Maintain transportation infrastructure in a **state-of-good-repair** and seek opportunities for innovative approaches to implement active transportation facilities
4. **Balance funding priorities** of active transportation infrastructure between capital investment and maintenance and operational needs
5. Consider **lifecycle costs** when assessing whether to maintain or reconstruct a facility
6. Develop **performance measures** and assess annual achievements and successes

### Objective B: Develop a system that meets current and future travel needs

**Strategies:**

7. When planning and **designing new roads**, include context-sensitive pedestrian and bicycle facilities
8. When **retrofitting or rebuilding** existing roads, incorporate active transportation facilities to close system gaps, enhance bike- and walk-sheds, and provide opportunities for physical activity

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# 3 | Who We Are


"Bicycling is a big part of the future. It has to be. There's something wrong with a society that drives a car to work out in a gym."

– Bill Nye the Science Guy
*Scientist and TV Host*

# WHO WE ARE

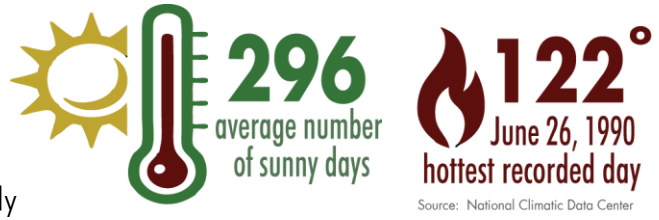
This chapter presents a synopsis of key population, land use, commuting characteristics, socioeconomic and public health conditions as they relate to walking and biking within Maricopa County.

## About Maricopa County

Situated in the heart of the Sonoran Desert in south-central Arizona, Maricopa County is Arizona's most populous county and is the fifth largest in land area. Due to the vast size of Maricopa County, landscapes sharply contrast between urbanized areas and rural desert valleys. Only about 30 percent of Maricopa County is privately owned land, with the rest of the land comprised of national forests and wilderness areas, Native American communities, military land, and other large landholders.

### Weather

Maricopa County's year-round sunny conditions providing ample opportunities for walking and biking. During warm summer months, daytime temperatures often reach triple digits, which can make mid-day walking and bicycling trips uncomfortable. A hotter climate, however, does not necessarily mean that walking and bicycling become a less viable means of transportation. Often desert communities see a shift in walking and bicycling times to early morning and late evenings during hot summer months.




### Population Overview

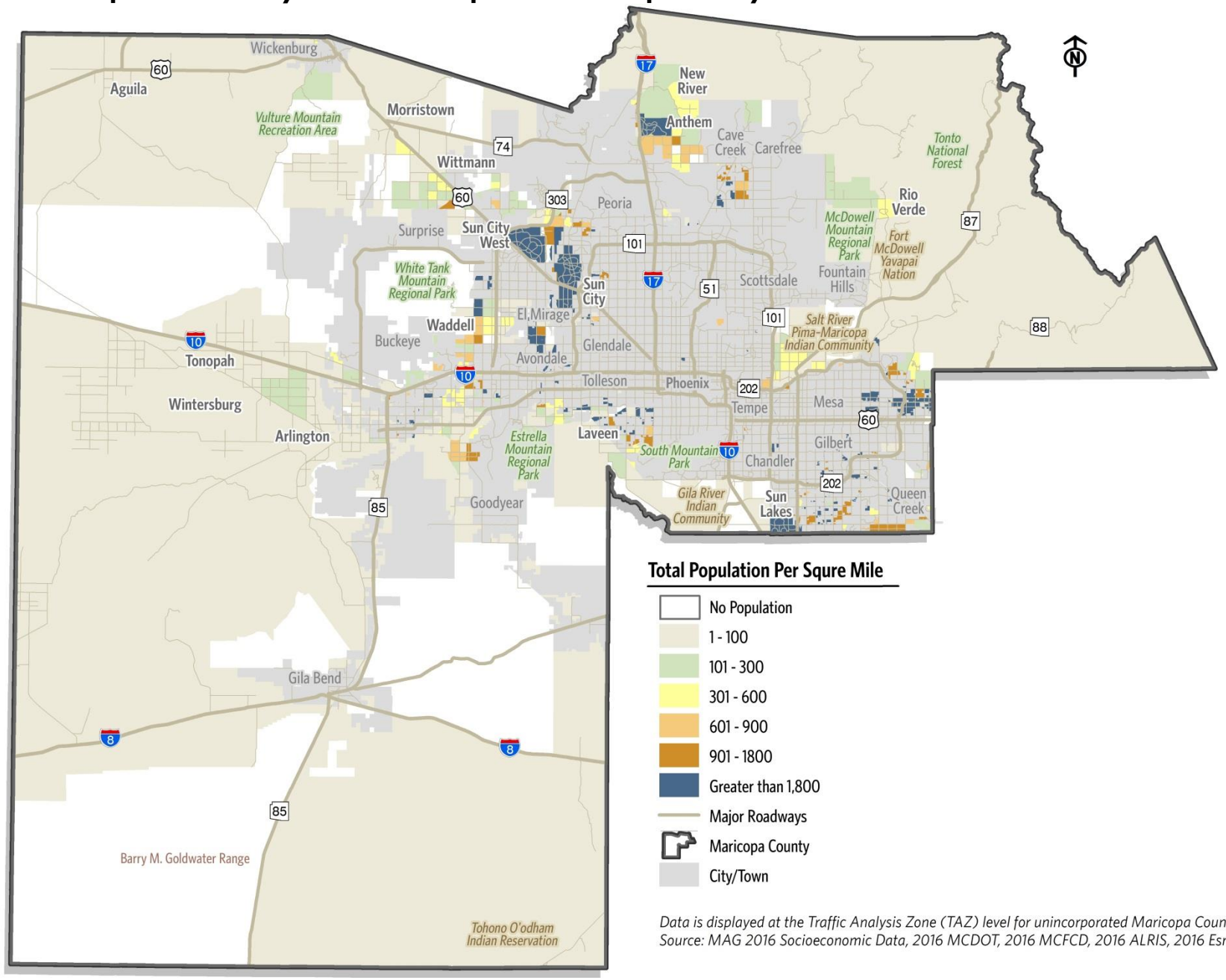
According to MAG socioeconomic data projections, Maricopa County has a total population of 4,056,115, with approximately 20 percent of the population residing in fully or partially unincorporated areas. Partially unincorporated areas are areas that are partly located within a city/town boundary. Table 3.1 summarizes current population information within unincorporated Maricopa County, incorporated areas, and partially unincorporated areas. As illustrated in Figure 3.1, the most populous places within the unincorporated County include Sun City, Sun City West, Sun Lakes, Anthem, Citrus Park, and within numerous County islands east of Mesa, southwest of Phoenix, north of Avondale, and south of Gilbert.

**Table 3.1: Maricopa County Population**

| Geographic Area | Total Population | Transient and Seasonal Population |
|---|---|---|
| Unincorporated | 181,467 | 21,253 |
| Partially Incorporated | 614,585 | 41,483 |
| Incorporated | 3,260,063 | 304,249 |
| **Total Maricopa County** | **4,056,115** | **366,985** |

Source: MAG 2015 Socioeconomic Data

**Figure 3.1: Population Density within Unincorporated Maricopa County**



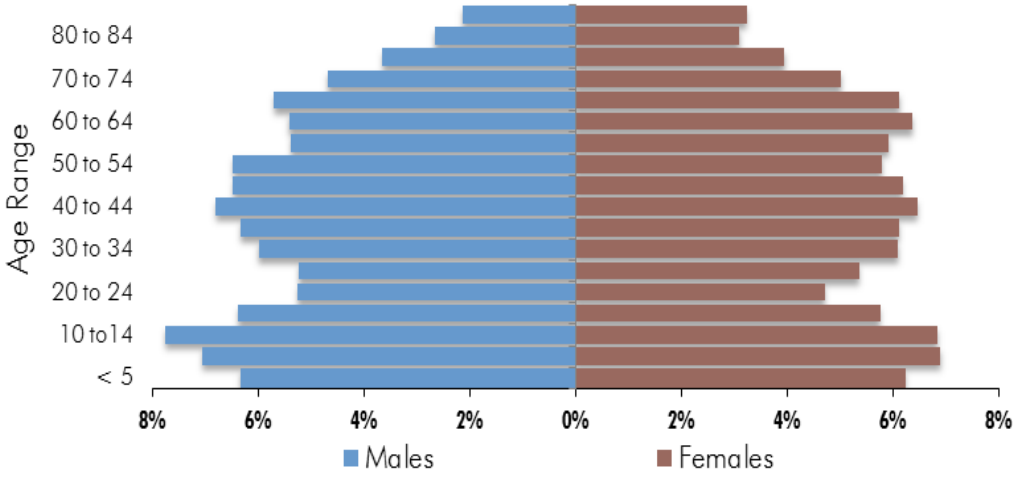

*Data is displayed at the Traffic Analysis Zone (TAZ) level for unincorporated Maricopa County only*
*Source: MAG 2016 Socioeconomic Data, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Age Composition

According to the US Census Bureau 2011-2015 American Community Survey (ACS), elderly populations (persons aged 65 and older) account for approximately 20 percent of the County's population and children under the age of 18 are approximately 25 percent of the County's population. Figure 3.2 illustrates the location of areas with a high density of elderly and children populations.

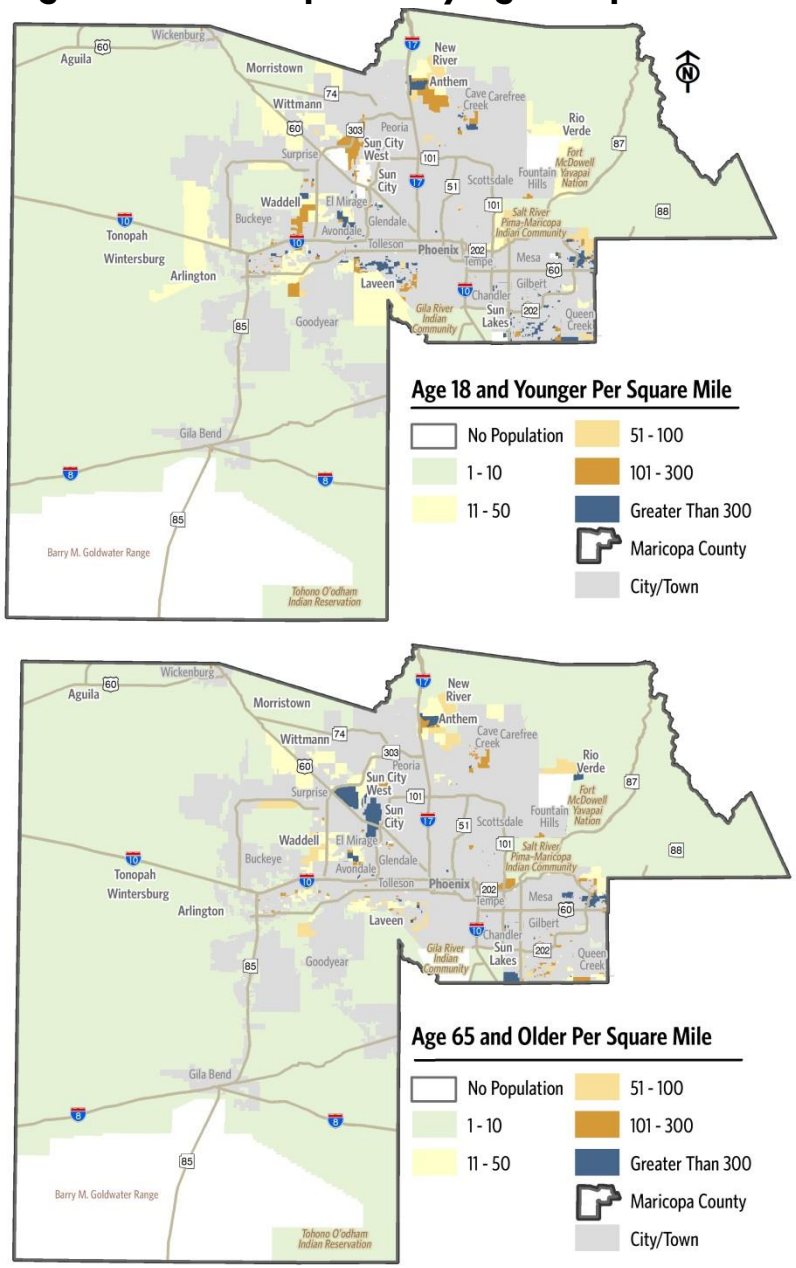
Analyzing an area's age composition helps decision-makers understand the potential need for increased walking and biking options. As people age, a person typically begins to drive less and requires alternative modes of transportation for medical appointments, shopping, and visiting family and friends. Younger population groups are also frequent active transportation users, who often walk and bike to school, to visit friends, and for recreational purposes. In addition to providing active transportation facilities to walk/bike, decision-makers must also consider improving safety for these vulnerable groups.

### Maricopa County Age Composition




*Source: 2011-2015 American Community Survey*
*Data extracted from Census Block Groups which may include portions of incorporated towns/cities*

### Figure 3.2: Maricopa County Age Composition




*Data shown for unincorporated Maricopa County only*
*Source: 2011-2015 American Community Survey, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Land Use and Major Destinations

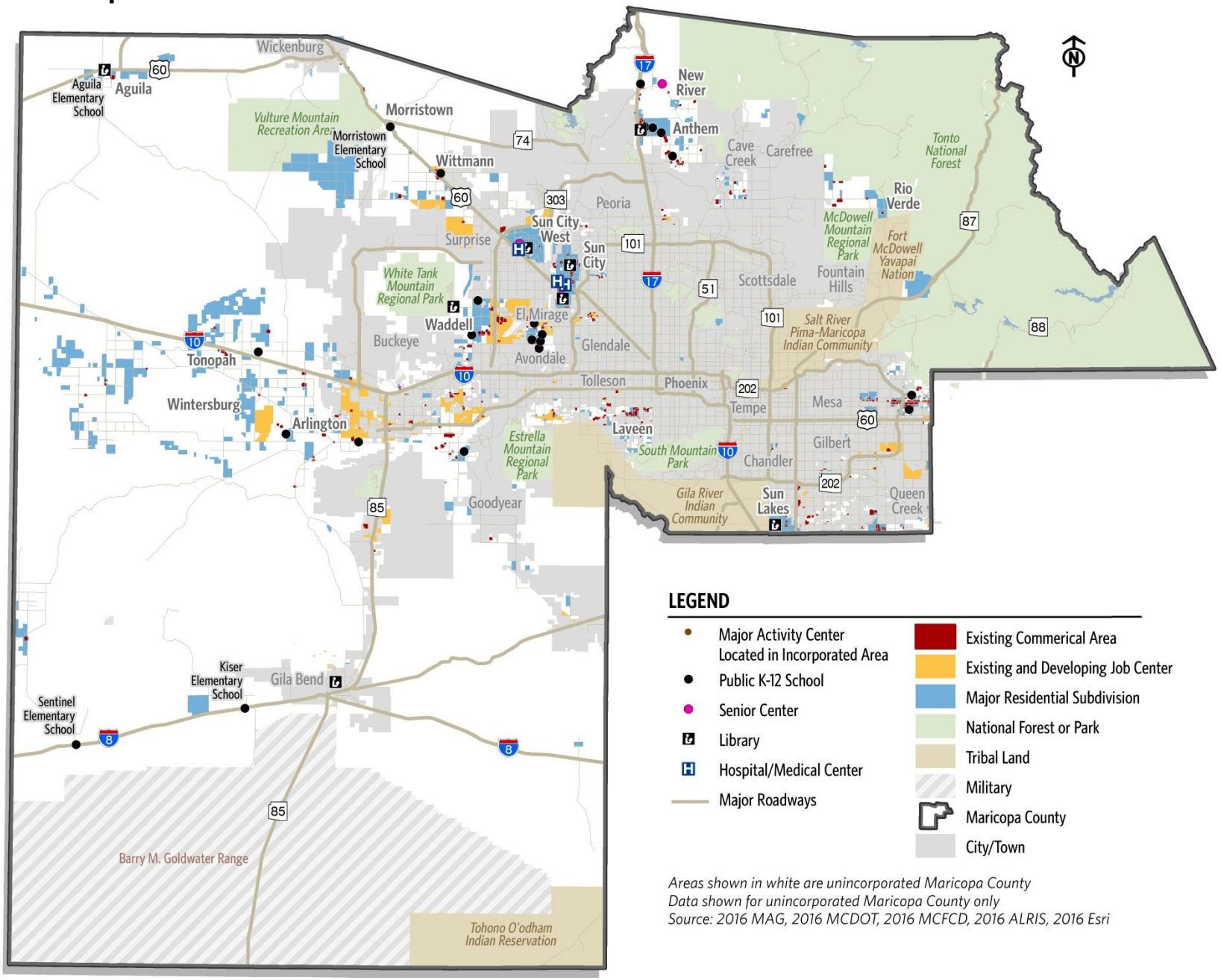
Land use and active transportation are directly connected. Dense, mixed-use areas typically create more walk and bike friendly environments than suburban and rural areas. Decades of sporadic suburban growth in rural areas have created isolated developments with limited connectivity to the existing active transportation network. Figure 3.3 illustrates major active transportation generators in unincorporated Maricopa County, which includes:

- **Major Employment Centers.** In total, there are more than 1.6 million employees in Maricopa County. Within unincorporated Maricopa County, major employment centers are located along I-17 near Anthem, in Sun City and Sun City West, north of Litchfield Park, southwest of Phoenix, and in the southeast valley. Improving active transportation connectivity to these major employment centers will provide critical nonmotorized access for employees.
- **Schools.** In total, there are over 1,100 schools in Maricopa County with over 720,000 students. Within unincorporated Maricopa County, there are 54 schools. The largest schools in the unincorporated Maricopa County include Deer Valley Unified School District 97 and Laveen Elementary School District 59. Providing active transportation facilities to schools is imperative since parents are more likely to let their children walk or bike to school if facilities are present.
- **Health Care Facilities.** More than 160 medical/health care facilities are located in unincorporated Maricopa County. Often these medical/health care facilities are attractions for persons walking, biking, or using transit.
- **Commercial Centers.** Major retail centers are located near most major subdivisions. Big box retailers and grocery stores are typically the anchor store for these centers. Commercial centers have the potential to generate significant pedestrian and bicycle traffic.
- **Retirement Communities.** Retirement communities are scattered throughout unincorporated Maricopa County. Active transportation can provide elderly persons a way of accessing jobs, services, and goods without relying on driving, as well as facilitate healthy aging through physical activity. Major retirement communities include Sun City, Sun City West, and Sun Lakes.

### Regional Recreation Centers

Maricopa County is home to one of the largest regional parks system in the nation, with nearly 200,000 acres of open space parks that include hundreds of miles of trails, campgrounds, and nature centers. Maricopa County manages 13 regional parks and recreation centers that have an estimated 2.1 million visitors annually. Major regional parks include Estrella Mountain, White Tank Mountain, McDowell Mountain, Usery Mountain, San Tan Mountain, Lake Pleasant Regional Park, and the new Vulture Mountain Recreation Area. When active transportation facilities are connected to these regional recreation centers, they serve as an extension of the recreation network and make the park more accessible.

**Figure 3.3: Major Destinations**




*Areas shown in white are unincorporated Maricopa County*
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MAG, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

**Figure 3.3: Major Destinations (Continued)**

Western Portion of the Phoenix Metropolitan Area

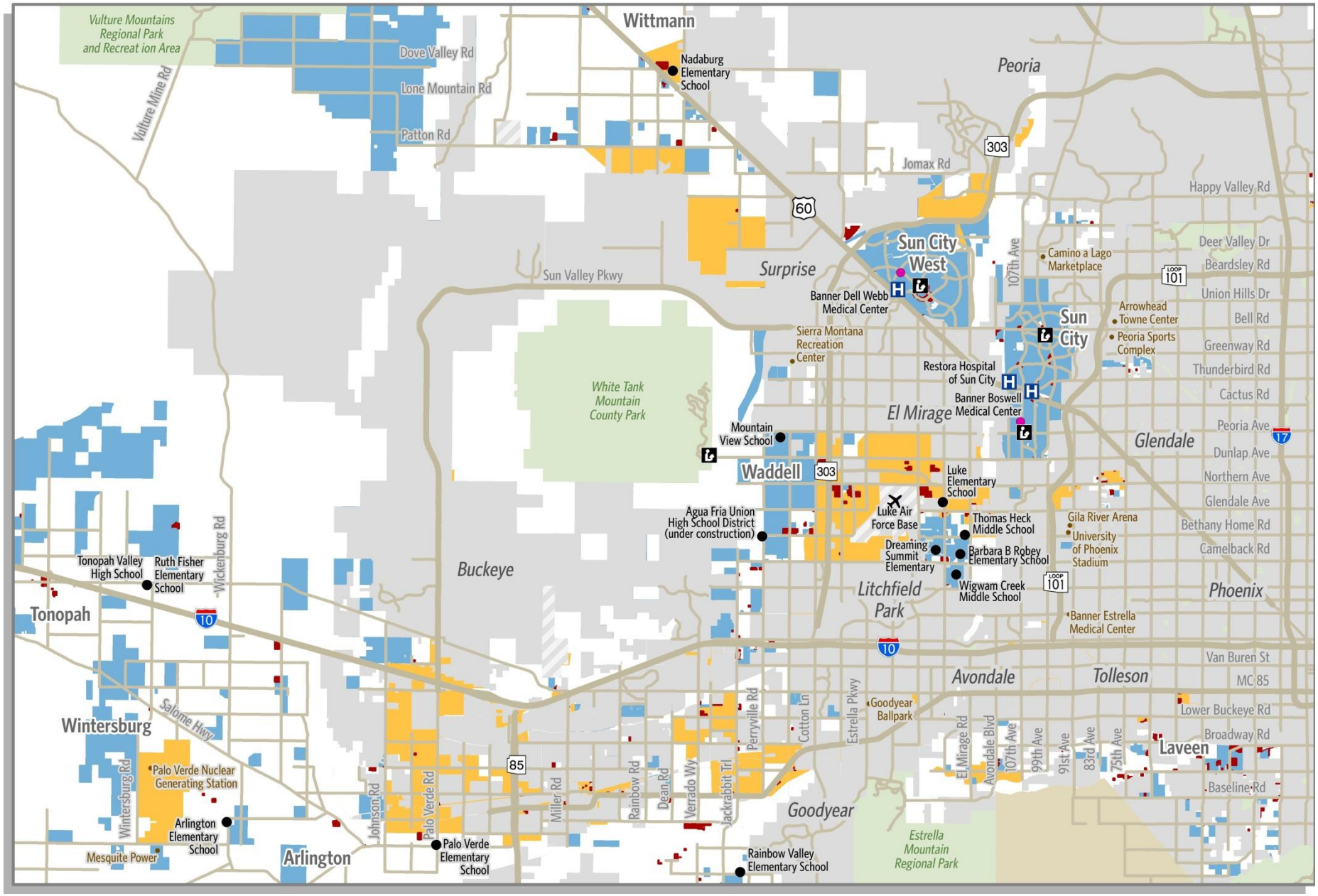
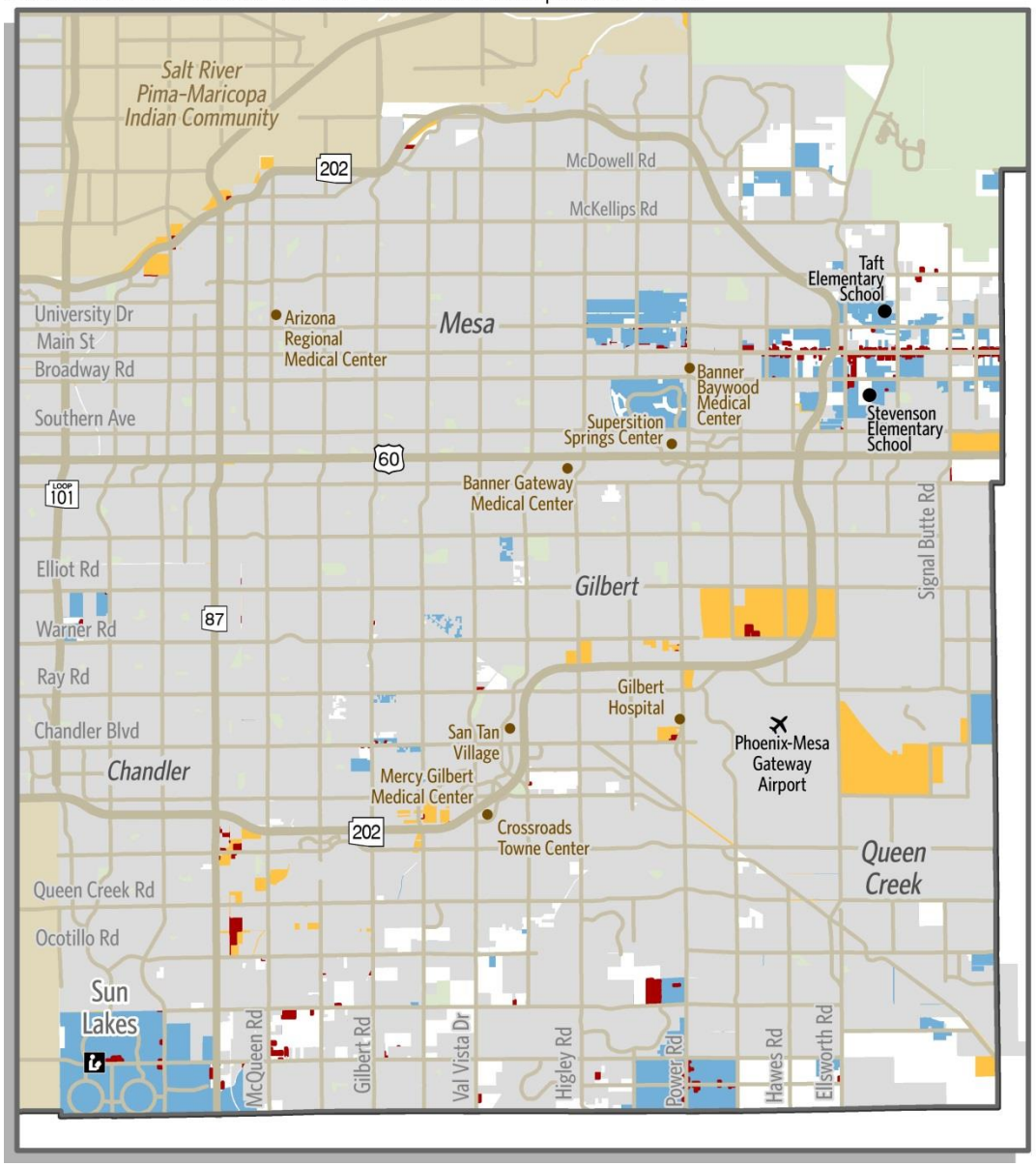


**Figure 3.3: Major Destinations (Continued)**

Southeastern Portion of the Phoenix Metropolitan Area




Anthem and New River Area


**LEGEND**

- Major Activity Center Located in Incorporated Area
- Public K-12 School
- Senior Center
- Library
- Hospital/Medical Center
- Major Roadways
- Existing Commerical Area
- Existing and Developing Job Center
- Major Residential Subdivision
- National Forest or Park
- Tribal Land
- Military
- Maricopa County
- City/Town

*Areas shown in white are unincorporated Maricopa County*
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MAG, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Commute and Travel Behavior

Knowing where, and for what purpose people walk or bike, can help MCDOT develop effective projects and programs to better serve residents. The 2015 ACS states that approximately 2.5 percent of workers age 16 and older commute to work daily by walking or biking. These statistics include only a portion of active transportation commuters as it doesn't measure activities such as trips to stores, to schools, or for recreational purposes.

### Maricopa County Regional Travel Reduction Program (TRP) Travel Survey

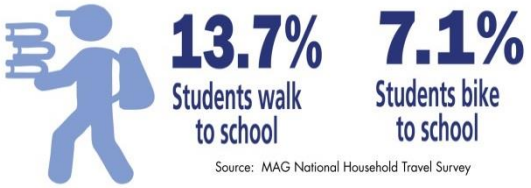
The Maricopa County Regional Travel Reduction Program (TRP), which surveys employers and students to determine commuting habits, provides a more accurate assessment of the total number of employees/students traveling by alternative modes. According to the 2015 TRP survey, commuters walking and biking account for nearly five percent of alternative mode trips. Of students that use alternative modes, over 8.6 percent walk, this is an increase of 0.9 percent since the 2014 survey.

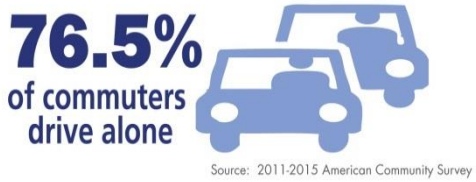
Results of the 2015 TRP survey show employees drive 15.0 miles to work on average, while students travel an average of 7.1 miles to school. Overall, 27.6 percent of all TRP participants drive less than five miles to work/school. These five-mile trips have the potential to be converted to active transportation through a connected, efficient pedestrian and bicycle network.

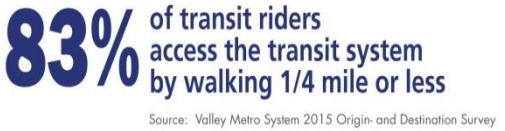
### MAG National Household Travel Survey

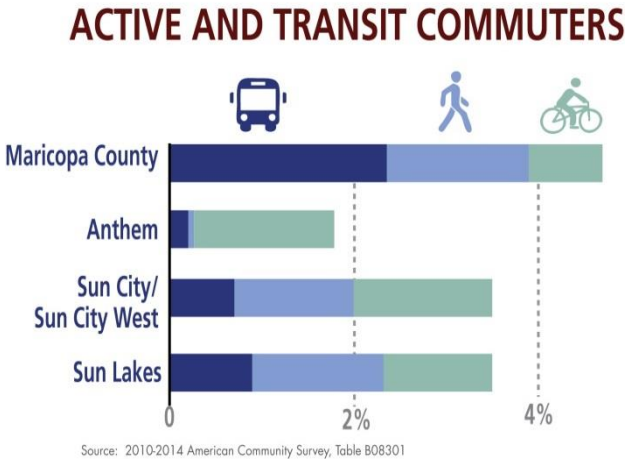
In 2009, the National Household Travel Survey (NHTS) conducted a special survey of over 4,700 households in the MAG region to identify travel behaviors in Maricopa County. The survey found that approximately six percent of households did not have access to a vehicle and households with access to only one vehicle were primarily located in retirement communities, such as Sun City, and in low income areas.

The survey also conducted a mode choice analysis, which identified what percent of the population utilizes different transportation modes. Results showed that the auto is the dominant mode of transportation (87 percent of all trips). Walk trips were nine percent of overall trips, while bike trips constituted about one percent of overall trips.

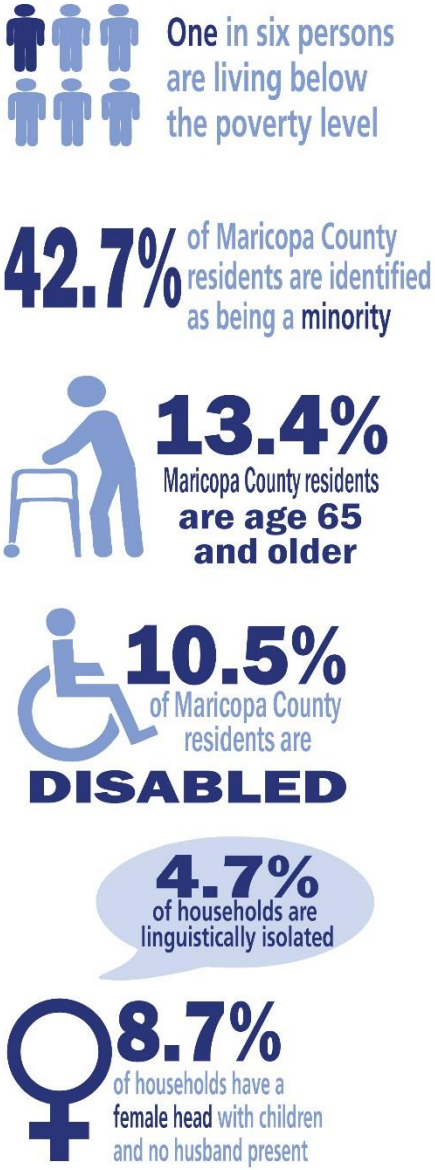
## Socioeconomic Equity Analysis

A socioeconomic equity analysis model was developed for the ATP to identify areas with a high percentage of population groups that traditionally rely on active transportation as their primary means of transportation. Providing active transportation connections to areas with a high concentration of disadvantaged population groups may help alleviate wider social issues such as access to jobs, healthy food, education, and healthcare.

The socioeconomic equity analysis model identified levels of socioeconomic need using an index of the following indicators:

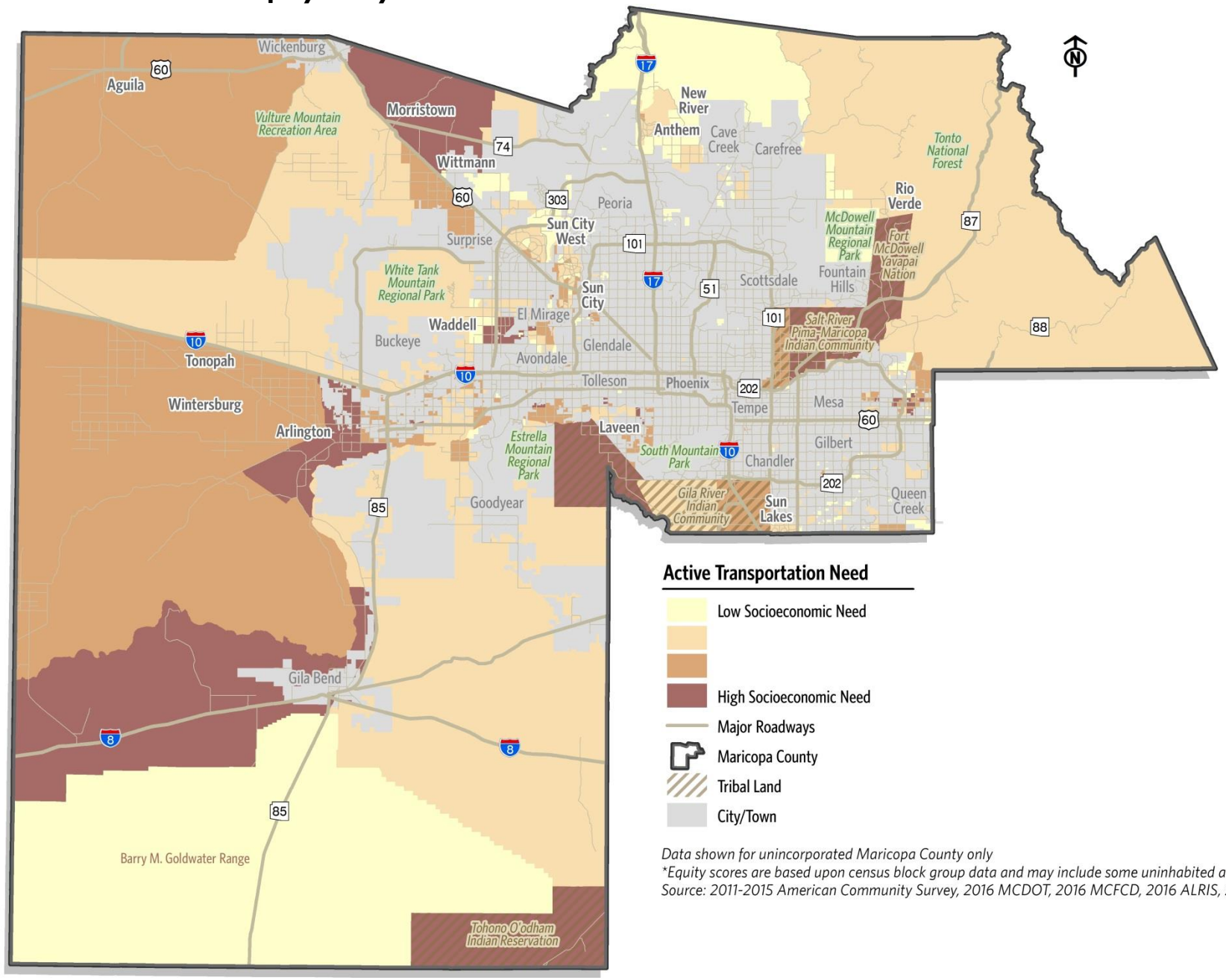
- Age – children and elderly populations
- Ethnicity – minority populations
- Disabled Populations – persons that have cognitive, visual and physical disabilities
- Low-Income – households that are financially less likely to own a vehicle
- Vehicle Ownership – households with limited or no access to a vehicle

Results of this model are displayed in Figure 3.4. Areas with the highest percentage of population groups that traditionally rely more on walking, bicycling, or transit as their primary form of transportation are depicted as having the higher socioeconomic need. As stated by the goals of the ATP, presented in Chapter 2, MCDOT expressed its commitment to providing active transportation options to vulnerable users and traditionally underserved communities. As the ATP is implemented, social equity impacts should be considered in the prioritization process.




Source: 2011-2015 American Community Survey
Data represents the entire Maricopa County region, including incoporated and unincorporated areas.

**Figure 3.4: Socioeconomic Equity Analysis**




*Data shown for unincorporated Maricopa County only*
**Equity scores are based upon census block group data and may include some uninhabited areas.*
*Source: 2011-2015 American Community Survey, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

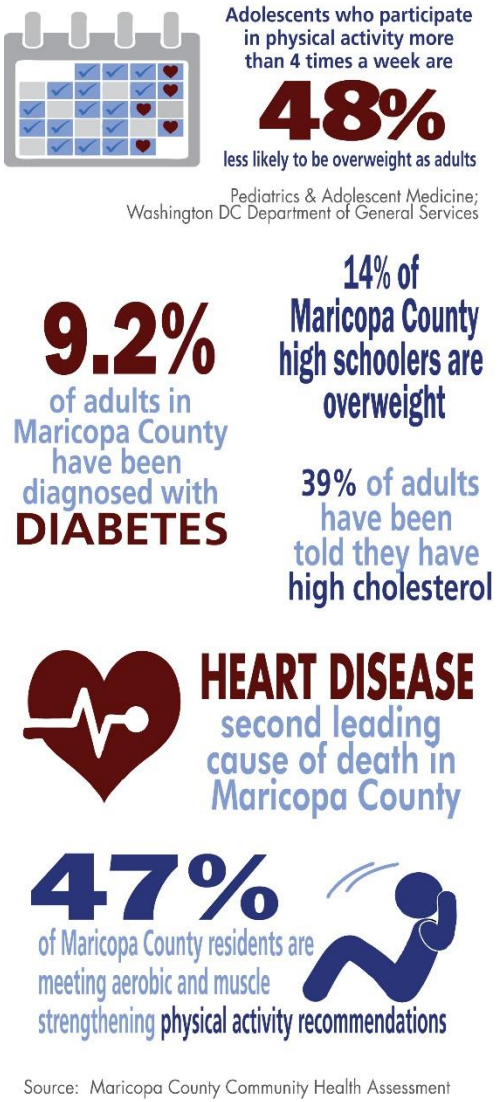
## Health Equity Analysis

As part of the ATP process, a health equity model was developed to identify areas with disproportionately high rates of chronic diseases that may be prevented or controlled through physical activity. Studies show that physical inactivity is linked to higher rates of heart disease and stroke. According to the Maricopa County Community Health Improvement Plan, cardiovascular disease is the second leading cause of death in Maricopa County. Furthermore, approximately 64 percent of Maricopa County residents are overweight or obese. Providing pedestrian and bicycle facilities that are accessible and convenient may encourage activity limited, overweight, and obese population groups to incorporate physical activity into their lifestyle.

The health equity analysis model identified the rate of the following health indicators:

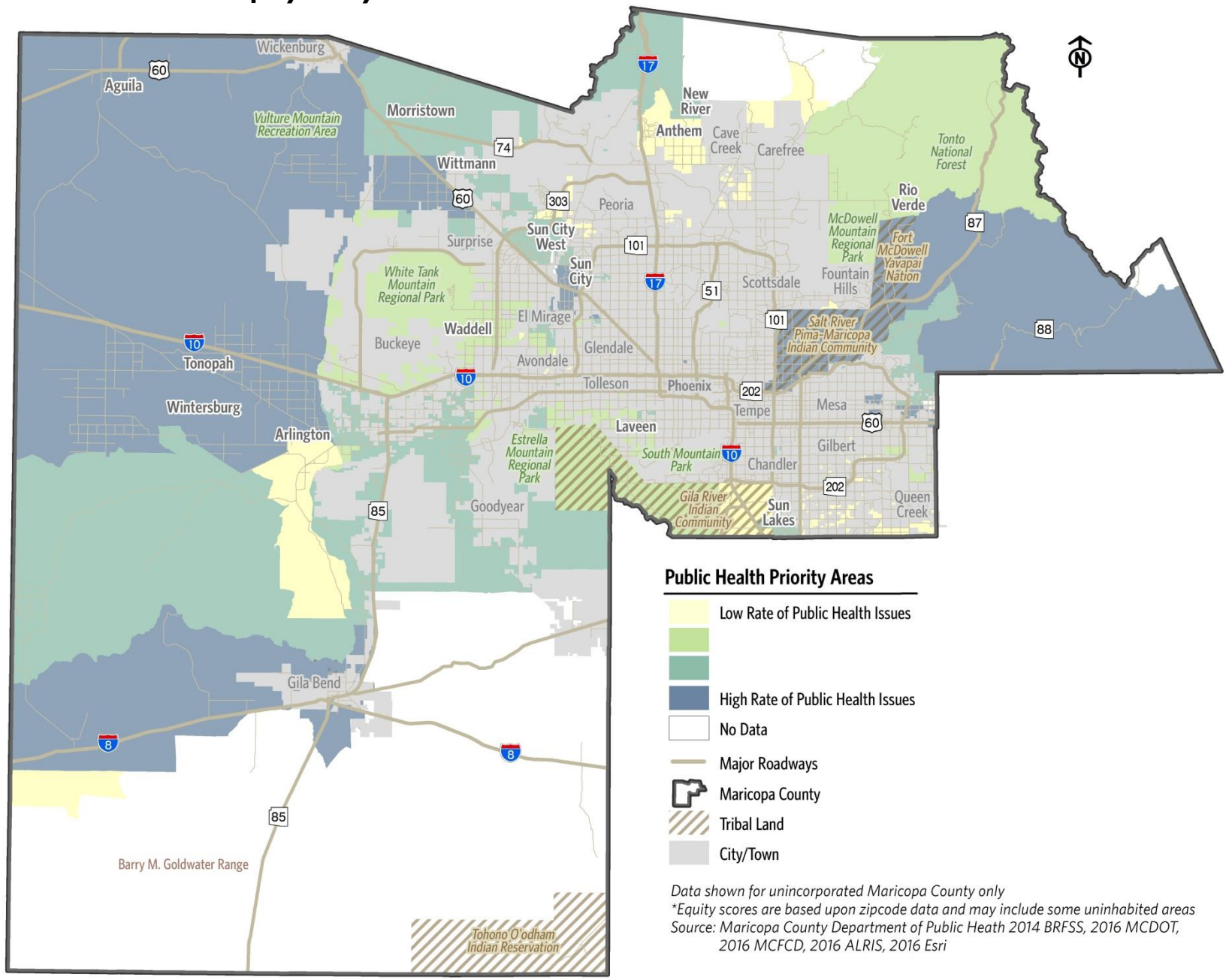
- Cardiovascular disease
- Stroke
- Diabetes
- Asthma

Results of the model are displayed in Figure 3.5. Utilizing the model, identifying the presence and completeness of active transportation facilities in areas with the highest rates of chronic health diseases can help MCDOT align with its goals of fostering an active-living culture. By providing convenient active transportation facilities people may be more inclined to walk or bike, and in turn help control chronic diseases while also improving mood and lowering stress levels.




Source: Maricopa County Community Health Assessment

**Figure 3.5: Public Health Equity Analysis**




*Data shown for unincorporated Maricopa County only*
**Equity scores are based upon zipcode data and may include some uninhabited areas*
*Source: Maricopa County Department of Public Heath 2014 BRFSS, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

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# 4 | What We Discovered

"Walking is the best possible exercise. Habituate yourself to walk very far."

– Thomas Jefferson
*3rd President of the United States*

# WHAT WE DISCOVERED

This chapter presents a synopsis of key roadway and active transportation conditions within Maricopa County. The purpose of this chapter is to create an overall understanding of the region as it is now, what it can become, and to develop a data-driven foundation upon which future recommendations can be built.

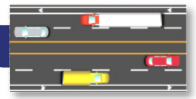
## Existing Roadway Network

Travel corridors connect communities, land uses, employment centers, and link people to goods and services. Traditionally, roadways are grouped into a hierarchical classification, which helps identify the roadway's function, design, speed limits, access control, and adjacent land use development. Understanding roadway classification is imperative when planning an active transportation network. Vehicle volumes, number of lanes, lane width, road condition, and speed limits impact a pedestrian and bicyclists level of comfort.

MCDOT maintains a mixture of local, collector, and arterial roadways. Arterial roads are higher-volume corridors that help distribute goods and traffic throughout the region, while collectors have lower traffic volumes that provide connections to the regional arterial network. As illustrated in Figure 4.1, because of the noncontiguous layout of unincorporated County land, MCDOT maintains very few arterials that traverse long distances. Within County islands, MCDOT maintains small segments of arterials that provide intercity linkages, connecting unincorporated areas with adjacent cities.

Due to high traffic volumes, arterials traditionally have numerous businesses, commercial services, transit stops, and other major destinations that attract pedestrians and bicyclists and, in turn, potentially create conflicts with motorists, particularly at intersections. Greater separation between the vehicle lanes and active transportation infrastructure is desirable along arterials. On lower classification roads such as collectors and local streets, bicyclists feel comfortable sharing lanes (on roads with less traffic) and pedestrians feel safer because of the lower traffic volumes and more frequent crossing opportunities.


### Arterial

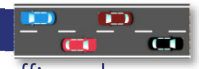


- Major roadways with multiple lanes and higher traffic volume and speeds
- Typically lined with businesses, transit, and major destinations
- Connects regional destinations and communities

### Collector

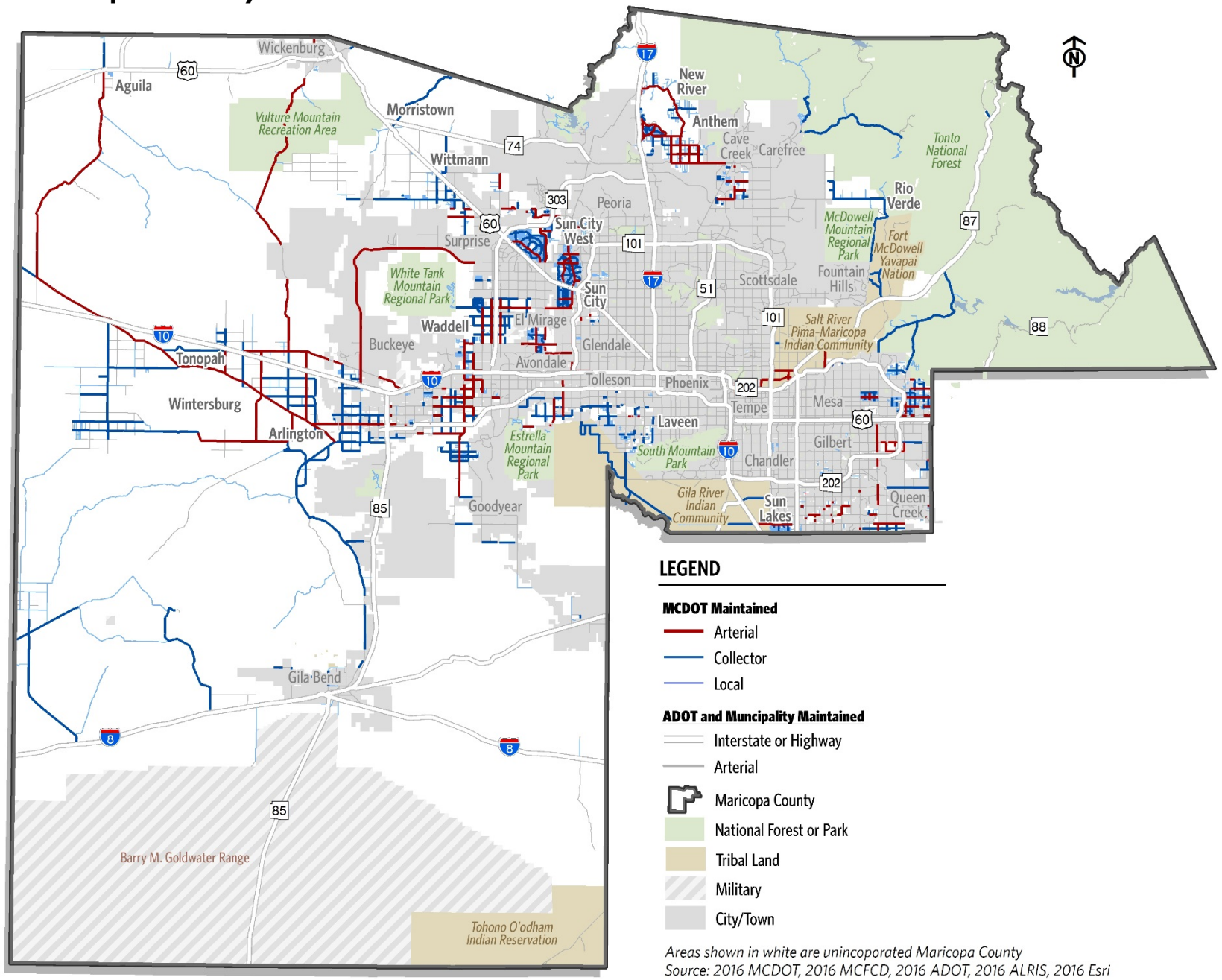
- Larger corridors that have moderate traffic volumes and speeds
- Distributes traffic from local roads and neighborhoods to arterials

### Local



- Minor roadways with lower traffic volumes and speeds
- Provides direct access within neighborhoods

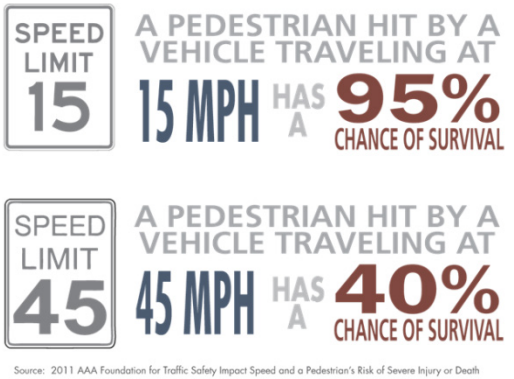
**Figure 4.1: Major Roadway Corridors**




*Areas shown in white are unincoporated Maricopa County*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ADOT, 2016 ALRIS, 2016 Esri*

## Roadway Speed Limits

Speed is a significant factor in determining the potential use of pedestrian and bicycle facilities. The National Highway Traffic Safety Administration (NHTSA) reports that the occurrence of pedestrian crashes and risk of severe injury or death are both strongly associated with the travel speed of the motor vehicle at the time of the crash. AAA Foundation for Traffic Safety's *2011 Impact Speed and a Pedestrian's Risk of Severe Injury or Death* report found that at 15 mph, pedestrians had a 95 percent survival rate, compared to 40 percent at 45 mph. Risk of injury also increases significantly with age. For example, a 70-year old pedestrian struck by a vehicle traveling at 25 mph has a similar risk of severe injury or death as a 30 year-old struck at 35 MPH. Figure 4.2 illustrates posted speed limits on MCDOT maintained roads.

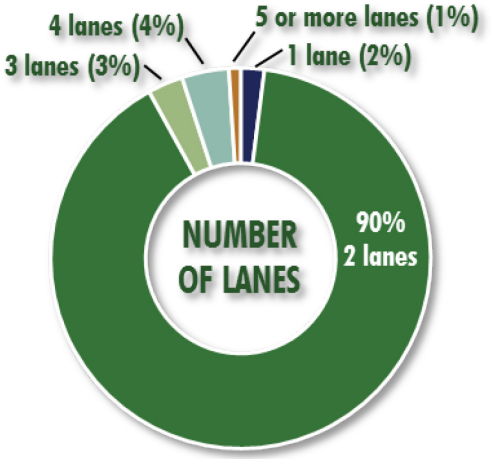



## Vehicle Volumes

Similar to speed, traffic volume is a significant factor in determining the potential use of a pedestrian or bicycle facility. Roadways with high traffic volumes and high vehicle speeds may reduce a pedestrian or bicyclist's level of comfort, discouraging them from utilizing a corridor. Figure 4.3 illustrates current vehicle volumes on MCDOT roadways.

## Number of Lanes, Widths, and Right-of-Way

Travel lane characteristics, in conjunction with available right-of-way, play a key role in the expansion potential of pedestrian and bicycle facilities. Number of lanes and their widths are integral in determining the stress level for bicyclists. In urban areas, right-of-way often is limited, making pedestrian and bicycle improvements challenging. Figure 4.4 illustrates the number of lanes on MCDOT roadways.

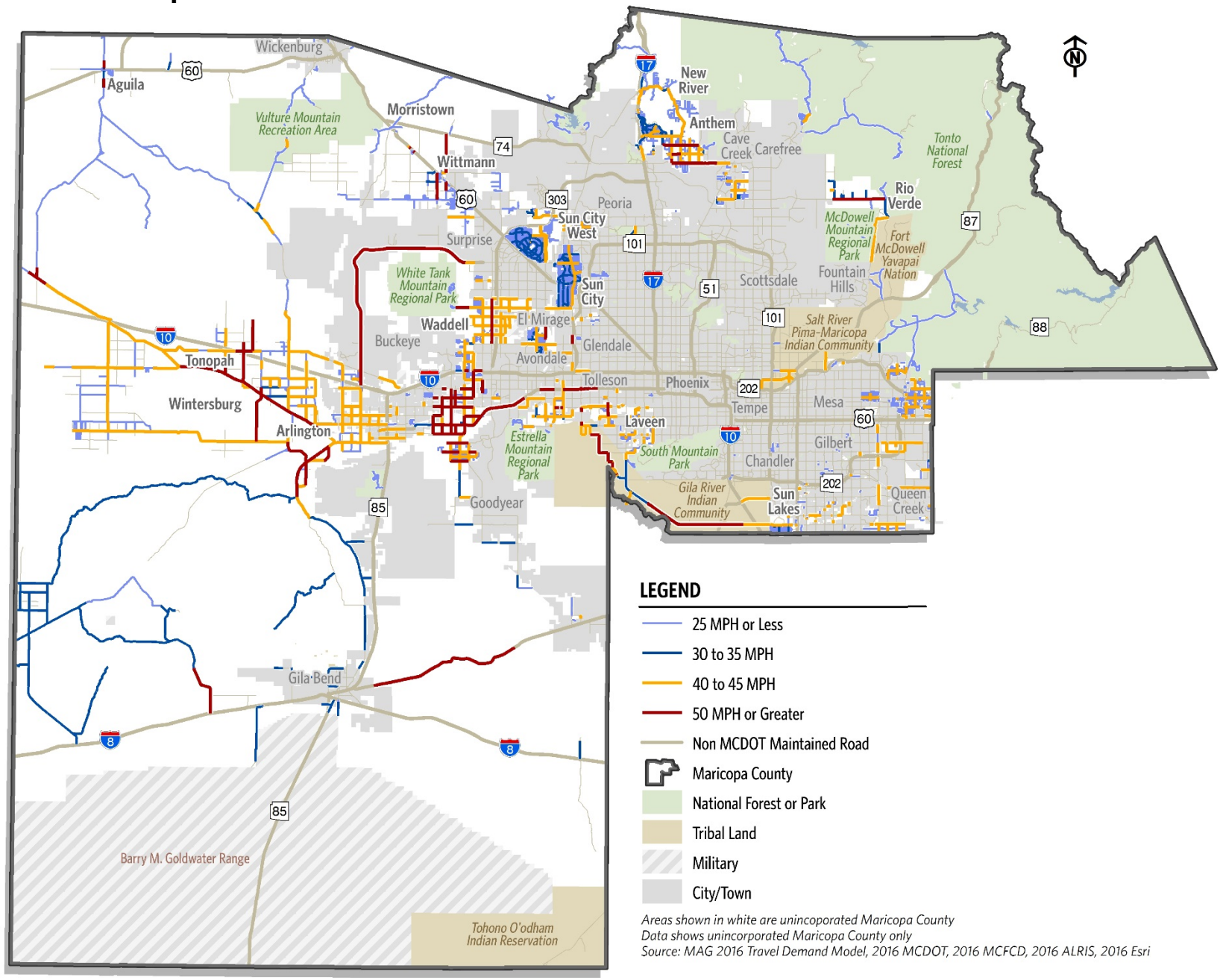



Source: 2016 Maricopa County Department of Transportation

## Pavement and Shoulder Conditions

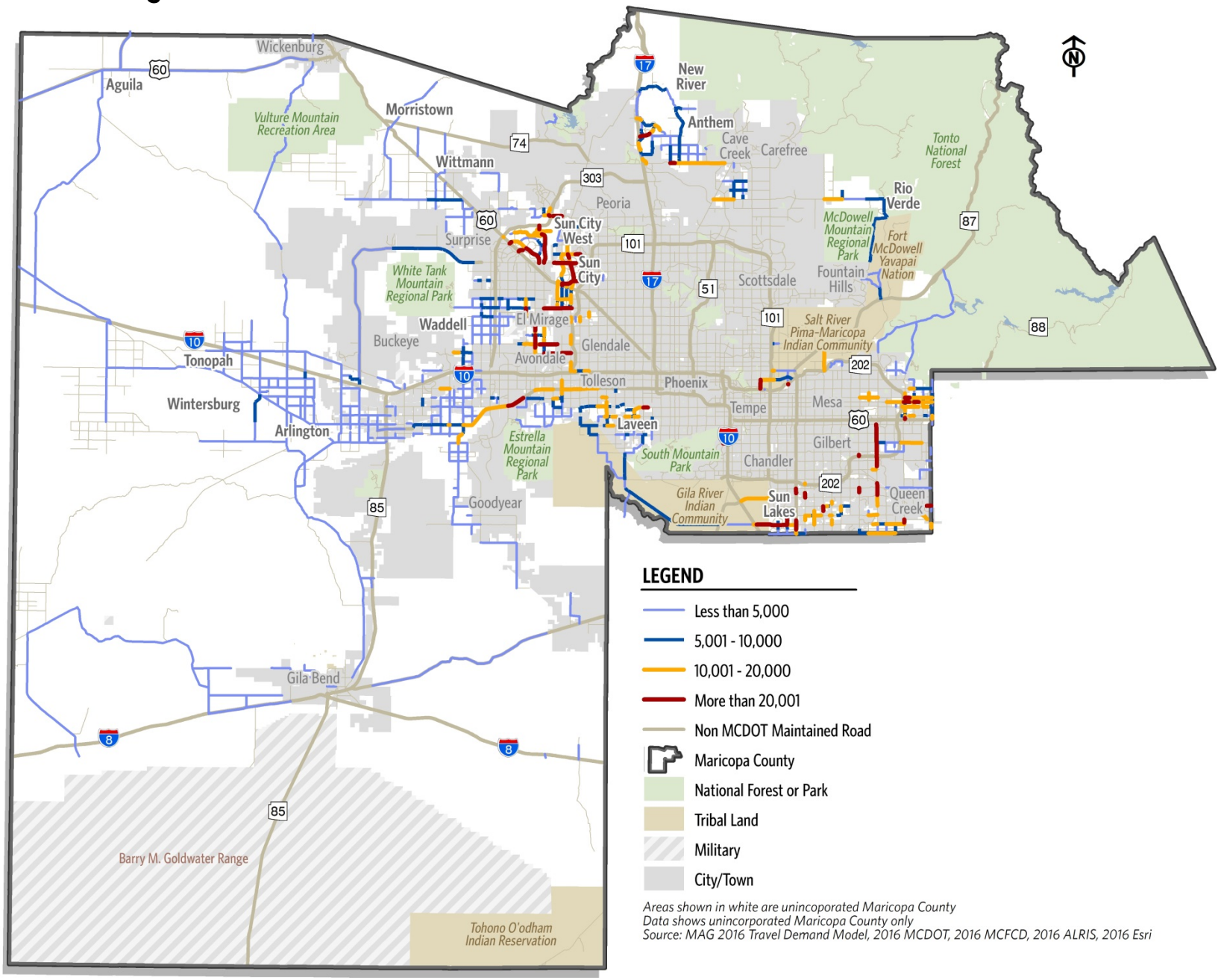
Pavement surface, shoulder width, and condition are key factors of a bicyclist's level of comfort and safety. Bicyclists have a greater sensitivity to surfaces that are not clean or are in poor condition than motorists, as potholes and rough surfaces greatly affect a bicyclists control and their perception of comfort and safety. 2016 pavement condition ratings show that the 98 percent of MCDOT roadways are in good to excellent condition.

## Figure 4.2: Posted Speed Limits



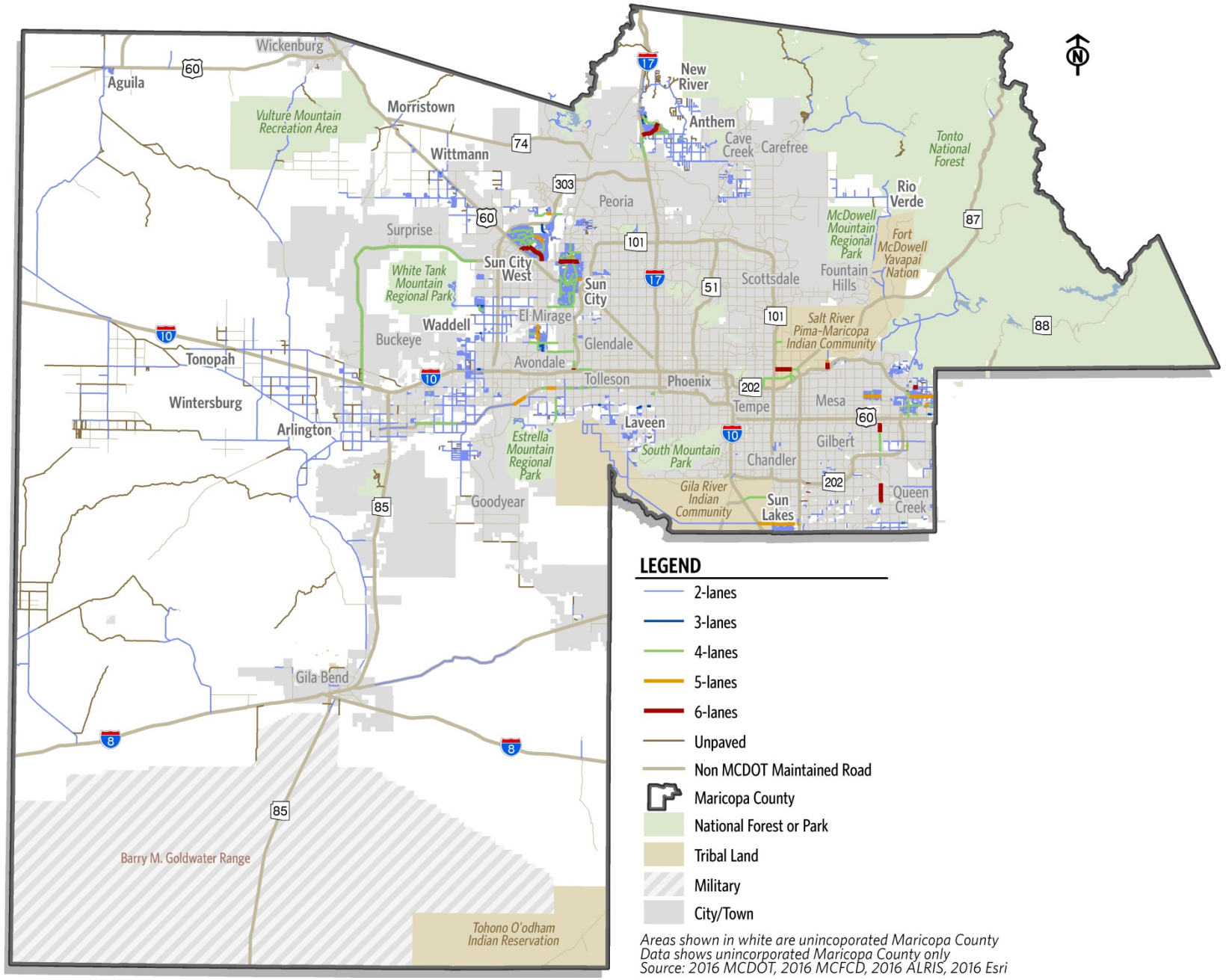

*Areas shown in white are unincoporated Maricopa County*
*Data shows unincorporated Maricopa County only*
*Source: MAG 2016 Travel Demand Model, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Figure 4.3: Existing Vehicle Volumes




*Areas shown in white are unincoporated Maricopa County*
*Data shows unincorporated Maricopa County only*
*Source: MAG 2016 Travel Demand Model, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

**Figure 4.4: Number of Travel Lanes**




*Areas shown in white are unincoporated Maricopa County*
*Data shows unincorporated Maricopa County only*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Safety Analysis

Analysis of pedestrian- and bicycle-related crash data provides MCDOT with important safety information to help make informed decisions on improvements. A crash data analysis of pedestrian- and bicycle-related crashes over a five-year period (2011 to 2016) was conducted. Figure 4.5 illustrates the location of pedestrian and bicycle related crashes that have occurred in Maricopa County. Crash information is based on historical crash records reported by the Arizona Safety Data Mart and may include crashes adjacent, but not located on, MCDOT roadways. As shown in Table 4.1, the Arizona Safety Data Mart indicates there were 122 pedestrian-related and 193 bicycle-related crashes located on or adjacent to MCDOT roadways between 2011 and 2016.

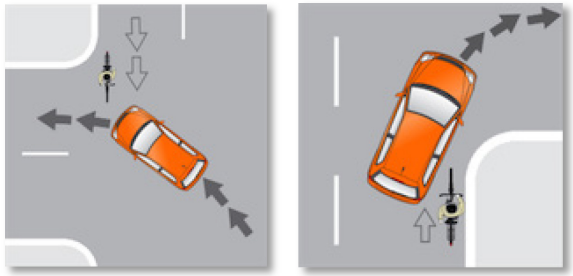
**Table 4.1: Total Pedestrian and Bicycle Related Crashes**

| | Total Crashes | Pedestrian Related | % Pedestrian | Bicycle Related | % Bicycle |
|---|---|---|---|---|---|
| Maricopa County | 389,648 | 3,524 | 0.9% | 4,971 | 1.3% |
| Unincorporated Maricopa County | 15,241 | 146 | 1.0% | 211 | 1.4% |
| MCDOT Maintained Roads | 12,191 | 122 | 1.0% | 193 | 1.6% |

Source Arizona Safety Data Mart (8/2011 – 7/2016)
Data may include crashes located adjacent, but not located on, MCDOT roadways

### Driver Action

Nearly 10 percent of pedestrian-related and over 21 percent of bicycle-related crashes occurred when a motor vehicle was turning right. This maneuver, often called a "right hook," takes place when a driver cuts off a pedestrian or bicyclist by turning right across their path onto a road or a driveway. In addition, over 11 percent of pedestrian-related and 10 percent of bicycle-related crashes occurred when motorists made a left turn. These crashes are commonly due to a motorist not seeing a pedestrian or bicyclist when the motorist is turning onto a road or at an intersection.



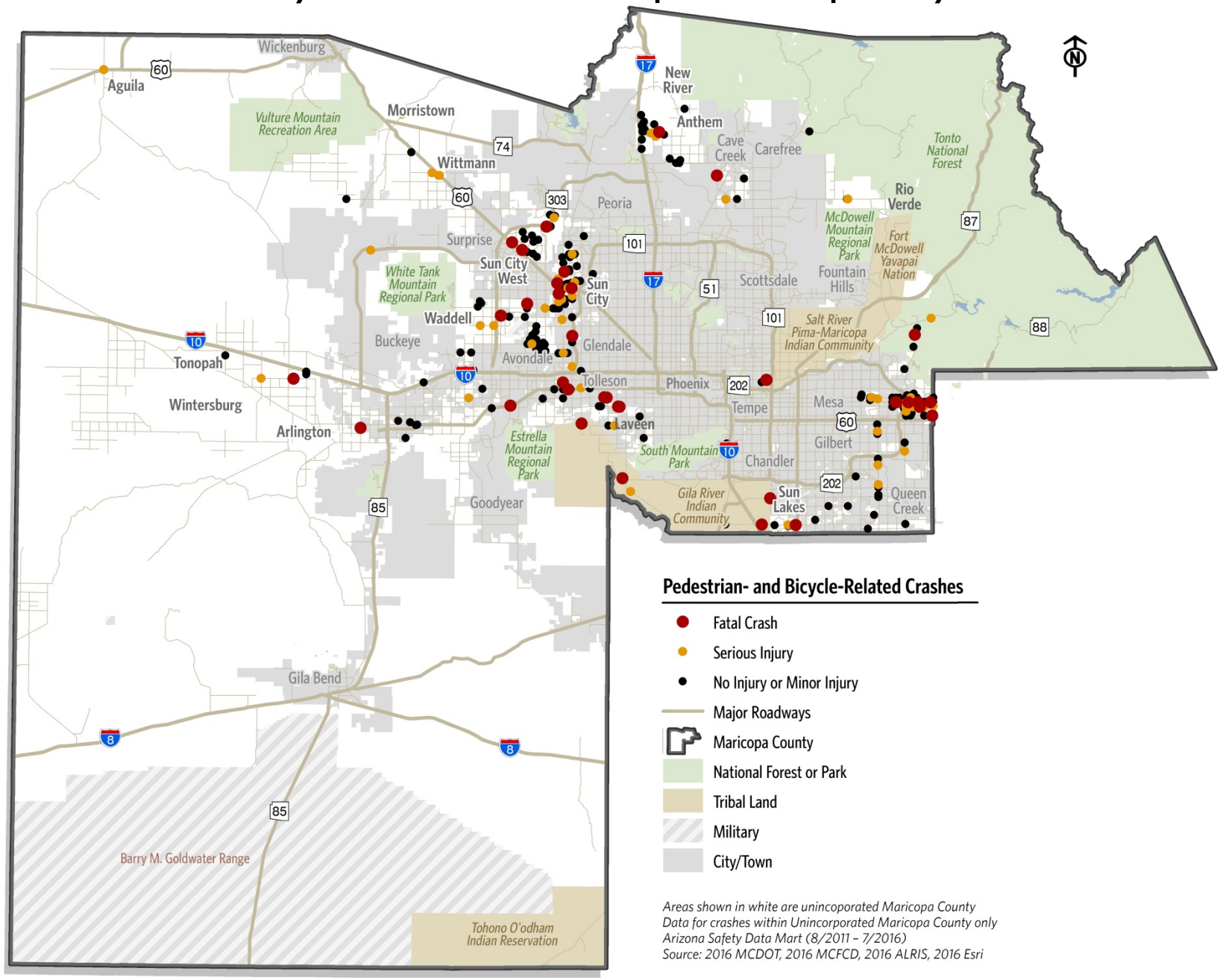
**Left-Hook** **Right-Hook**

### Location

Over 50 percent of the 315 pedestrian- and bicycle-related crashes on/adjacent to MCDOT roadways were intersection related. Corridors with the highest number of pedestrian and bicycle crashes include:

- Broadway Road (Ellsworth Road to Crismon Road) east of Mesa
- Thunderbird Road (91st Avenue to Del Webb Boulevard) in Sun City
- Dysart Road (Glendale Avenue to Indian School Road) west of Phoenix
- Ellsworth Road (Wier Street to Apache Trail) east of Mesa
- Indian School Road (111th Avenue to 103rd Avenue) in the Avondale area

**Figure 4.5: Pedestrian- and Bicycle-Related Crashes in Unincorporated Maricopa County**




*Areas shown in white are unincoporated Maricopa County*
*Data for crashes within Unincorporated Maricopa County only*
*Arizona Safety Data Mart (8/2011 - 7/2016)*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

## Existing Pedestrian Facility Locations and Conditions

Walking is the oldest and most basic form of transportation. Sidewalks provide a place for people to walk for commuting or recreational purposes; they are especially important for providing independence to the mobility impaired or persons without access to a vehicle. In addition to sidewalks, pedestrian facilities such as crossings, curb ramps, curb extensions, traffic calming features, and other improvements help create a more comfortable walking environment.

### Examples of Typical Pedestrian Facilities along MCDOT Roadways

#### Arterials Sidewalks

- Pathway along major travel routes with higher vehicle volumes


#### Collector Sidewalks

- Pathway that connects residential and commercial areas to arterials with medium to low vehicle volumes

#### Local Sidewalks

- Pathways on lower volume roads that provide local access to homes, business, schools, etc.
- Lower vehicle speeds

#### Buffered Sidewalks

- Pathway offset from a roadway by a landscape, rock, or natural buffer

#### Curb Ramps and Crosswalks

- Curb ramps provide a detectable warning for physically impaired pedestrians
- Crosswalks improve the visibility of pedestrians walking across a road

#### Pedestrian Hybrid Beacon

- Traffic signal activated by a pedestrian to stop traffic to allow for the crossing of a road

Most trips begin and end as walking trips even when a car, bicycle, bus, or train is involved. In order to understand the walking environment along MCDOT roadways, an extensive mapping exercise and inventory of sidewalks and curb ramps was conducted. The MCDOT *Roadway Design Manual (RDM)* provides guidelines for pedestrian facilities, including:

- 5-foot (minimum) sidewalk for all urban street cross sections (except the Arizona Parkway, for which a 6-foot minimum sidewalk is recommended)
- For existing 4-foot sidewalks, a 5x5-foot passing zone shall be provided at intervals not to exceed 200-feet for American Disabilities Act (ADA) compliance
- Detectable warnings are required whenever the walking surface is not separated from the roadway by curbs, railings or other approved elements

Figure 4.6 illustrates the location and width of pedestrian sidewalks.

## Sidewalk Locations

Within unincorporated Maricopa County, streets with sidewalks are primarily located in residential developments. Sun City, Sun City West, Anthem, and housing communities in Waddell, Litchfield Park, east Mesa, and Laveen have extensive sidewalk networks. Sporadic corridor and business development has caused gaps in MCDOT's existing pedestrian network, which creates barriers to pedestrian travel.

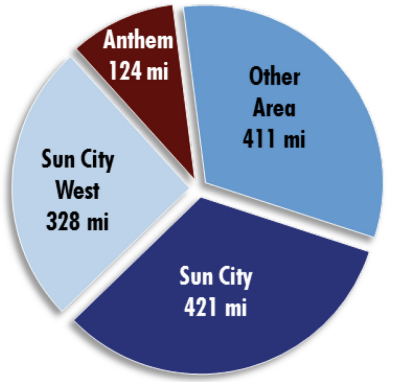
## Sidewalk Conditions

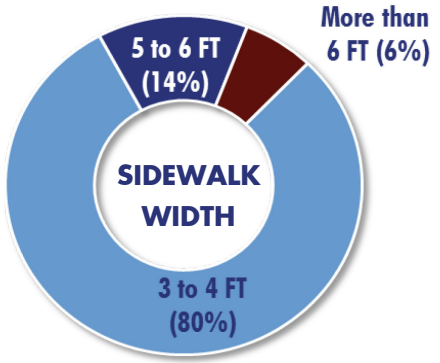
Sidewalks are the backbone of any pedestrian network; their condition affects all pedestrians, particularly individuals with disabilities. Uneven surfaces, obstructions, or poor sidewalk conditions create deterrents or barriers in the pedestrian network.

## Signage and Pedestrian Signal Detection

To complete the pedestrian network, sidewalks are supported by a collection of facilities to create a more visible, navigable, and enjoyable walking experience. Facilities include sigange, crosswalks, curb ramps, median refuge islands, overpasses, and signalized pedestrian crossings. MCDOT currently has three Pedestrian Hybrid Beacon (PHB) pedestrian crossings signals that stop roadway traffic to allow pedestrians to cross.

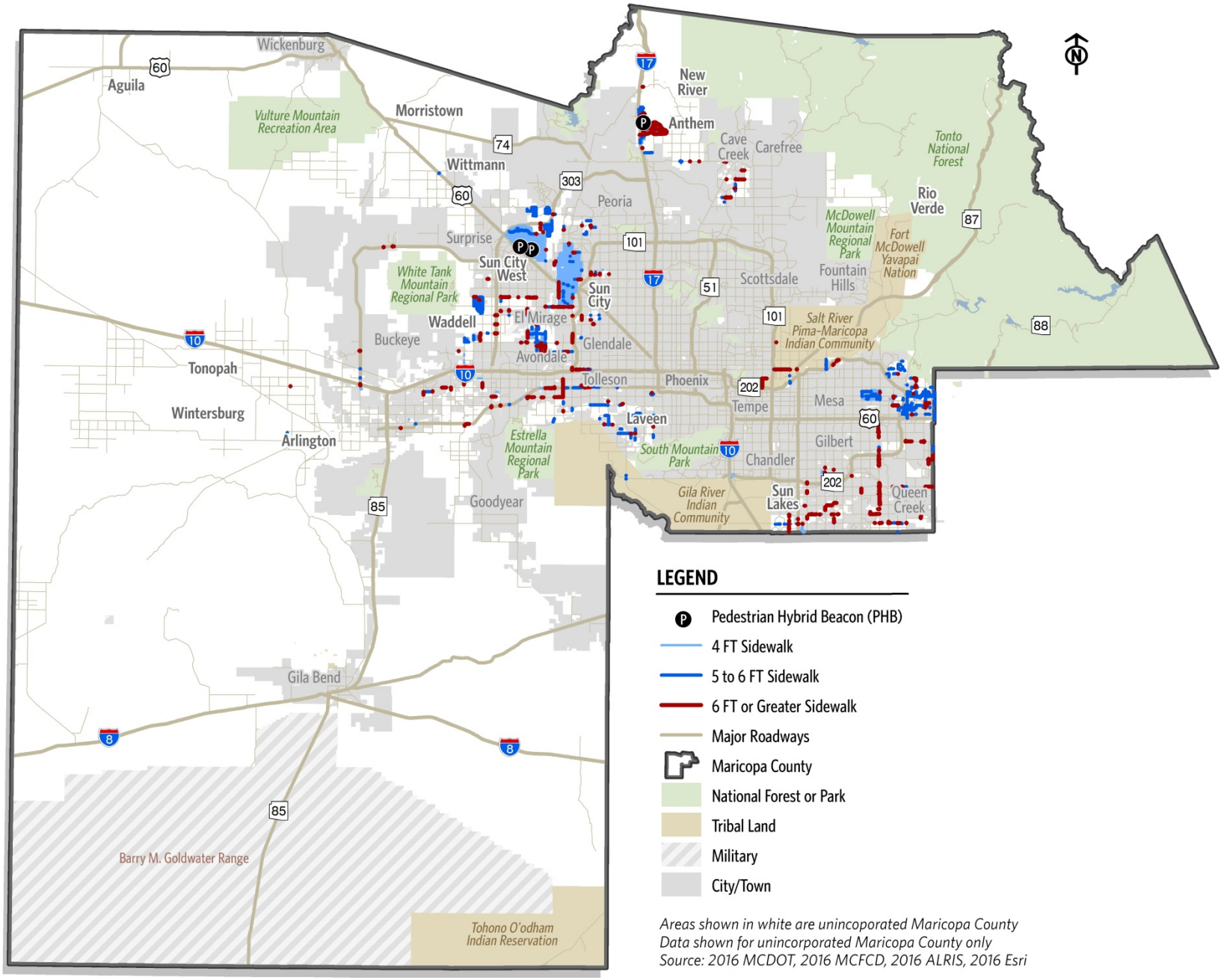

**58%** of all sidewalks in unincorporated Maricopa County are located within **Sun City and Sun City West**




Data represents facilities located along MCDOT roadways only.

## Figure 4.6: Location of Pedestrian Facilities

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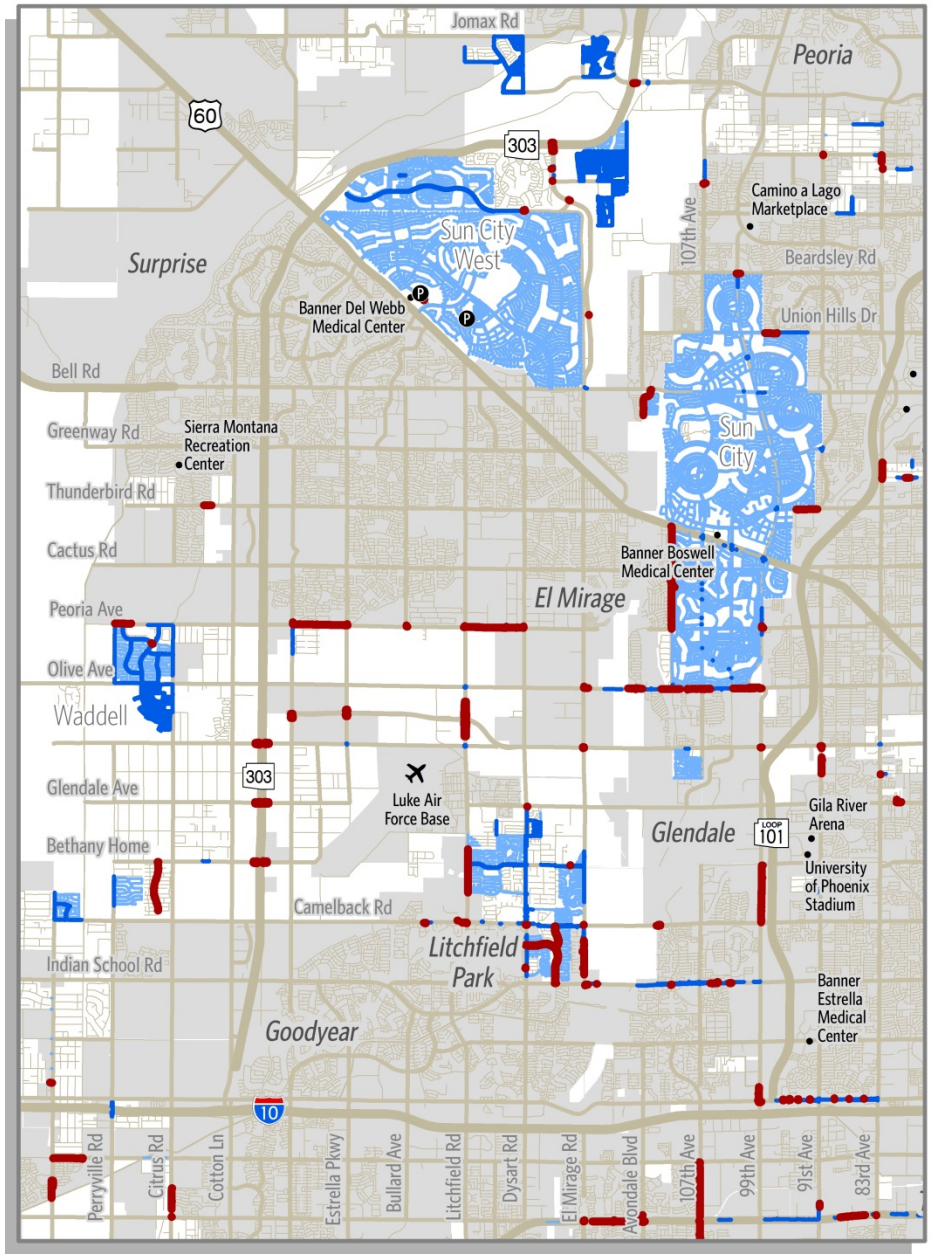
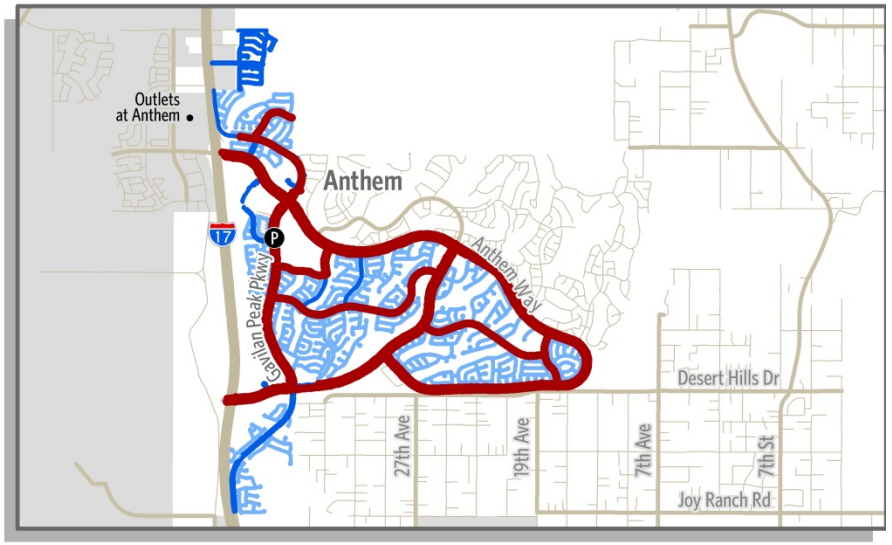
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

**Figure 4.6: Location of Pedestrian Facilities (Continued)**

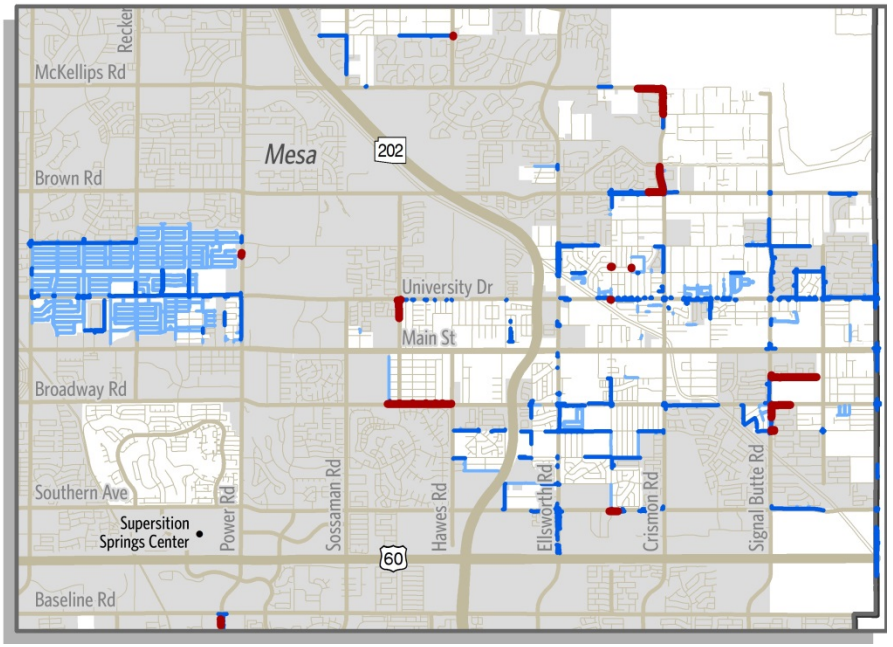
Western Portion of the Phoenix Metropolitan Area




Anthem Area




East Mesa Area



## Existing Bicycle Facility Locations and Conditions

Bicycling is an essential component of any transportation system benefiting numerous areas including health, economics, environment, and equity. Since the *1999 Bicycle Transportation System Plan*, MCDOT has made a considerable amount of progress in providing bicycle facilities along MCDOT roadways. New facilities are routinely being installed during new roadway construction and pavement maintenance. MCDOT's extensive bicycle network is comprised of bike lanes, paved shoulders, signed bike routes, and access to shared use paths.

### Examples of Bicycle Facilities along MCDOT Roadways


**Bike Lane**
- Striped lane with pavement markings and signs that designate an exclusive lane for bicycle use


**Buffered or Protected Bike Lane**
- Increases riding space and comfort by adding a painted buffer to a standard bike lane

**Bike Route**
- Routes where the travel lane is shared by drivers and bicyclists, typically on lower stressed streets

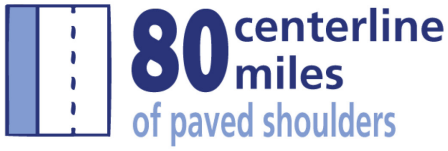
**Shared Use Path**
- Off-street facilities dedicated exclusively for nonmotorized travel

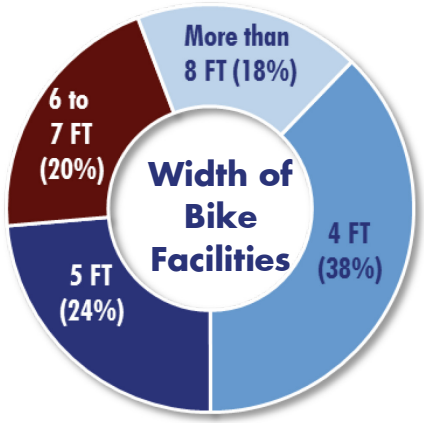
**Unpaved Shared Use Path**
- Unpaved, off-street facilities for pedestrian, bicycle, or equestrian use

**Paved Shoulder**
- Paved shoulders on the edge of pavement to allow bicyclists more separation from vehicle

## Location and Types of Bicycle Facilities

In total, there are 113 miles of bicycle lanes and routes and 80 miles of paved shoulders on MCDOT roadways. As illustrated in Figure 4.7, bicycle facilities are located throughout Maricopa County, including both rural and urban areas. Paved shoulders are primarily found on regional corridors in the urban fringe, such as Sun Valley Parkway, MC-85, and Beltline Road. Conversely, bike lanes are located both in residential and commercial areas, as well as on rural roads leading to parks and recreation areas. There are also13 miles of shared use paths within unincorporated Maricopa County that are privately maintained. Shared use paths are largely located around master plan communities in southwest Phoenix, which may be attributed to developers constructing the paths during development.


Data represents facilities located along MCDOT roadways only. For on-road bicycle facilities, total miles represent roadway centerline miles with bicycle facilities

The MCDOT RDM provides guidelines for bicycle lane width, locations, and pavement markings as adopted by MCDOT. In the RDM all arterial and most collector roadway cross sections include bike lanes, with the exception of Urban Minor Collector. Guidelines include:

- Paved shoulders may be designated as bicycle lanes/routes by MCDOT
- The minimum bike lane width on urban (curbed) roadways where parking is prohibited is 4-foot, measured from the edge of the vehicle lane to the gutter pan.
- The minimum bike lane width on streets with no parking is 5-foot
- Shared use paths require a 10-foot minimum width; however, a 12-foot width is recommended in high use areas

## Regional Bikeway Network

Regional bicycle networks help to resolve complex, interrelated issues concerning traffic congestion, air quality, public health, and livability. MCDOT's bicycle network is supported by a larger, countywide network of bicycle facilities that have been developed and are maintained by the numerous municipalities and agencies in the region. Collectively, this regional bicycle network consists of a combination of bike lanes, bike routes, paved shoulders, and shared use paths. While the network is vast and far-reaching, MCDOT has a tremendous opportunity to collaborate with neighboring jurisdictions to expand the region's bicycle network.

## Figure 4.7: Location of Bicycle Facilities

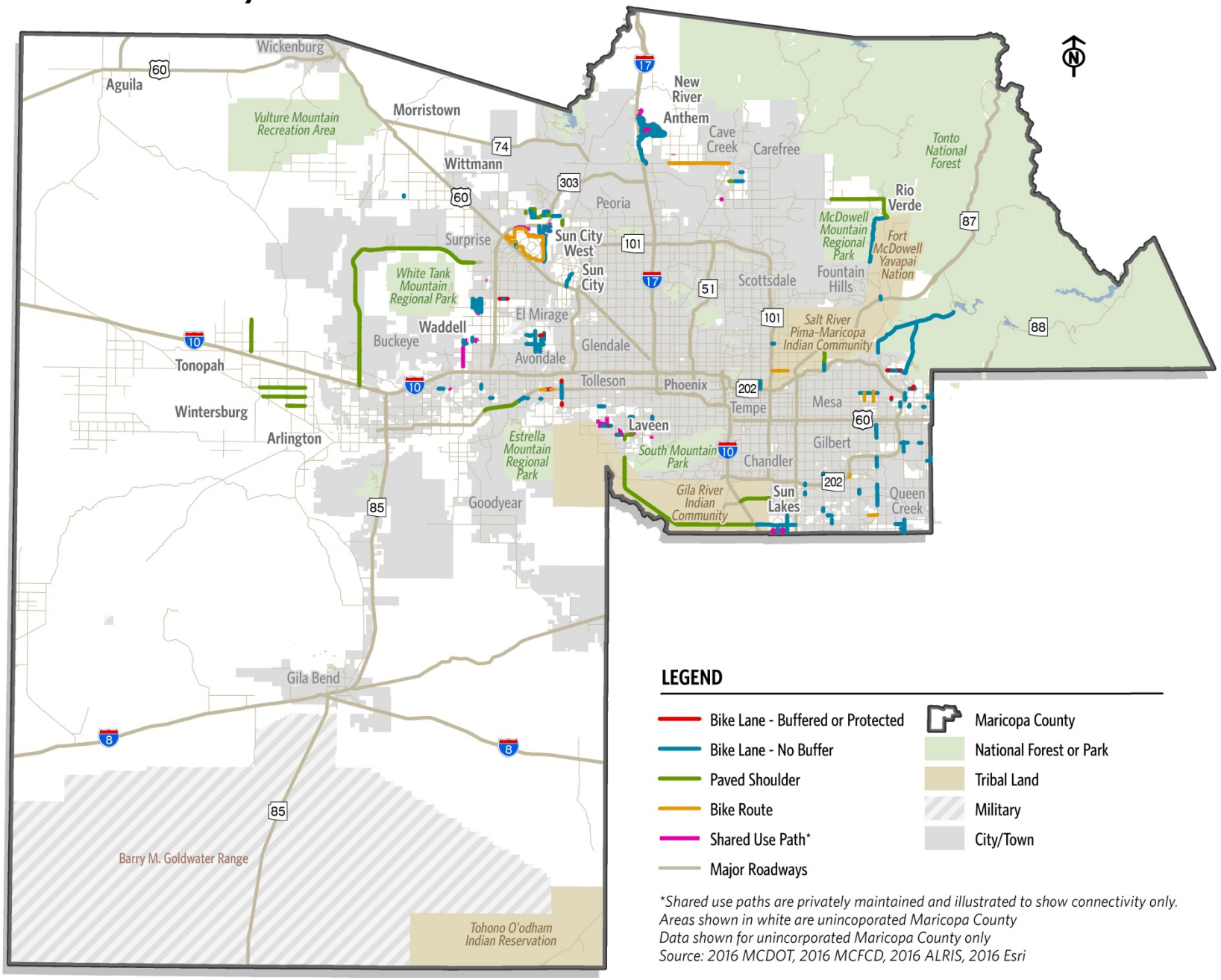
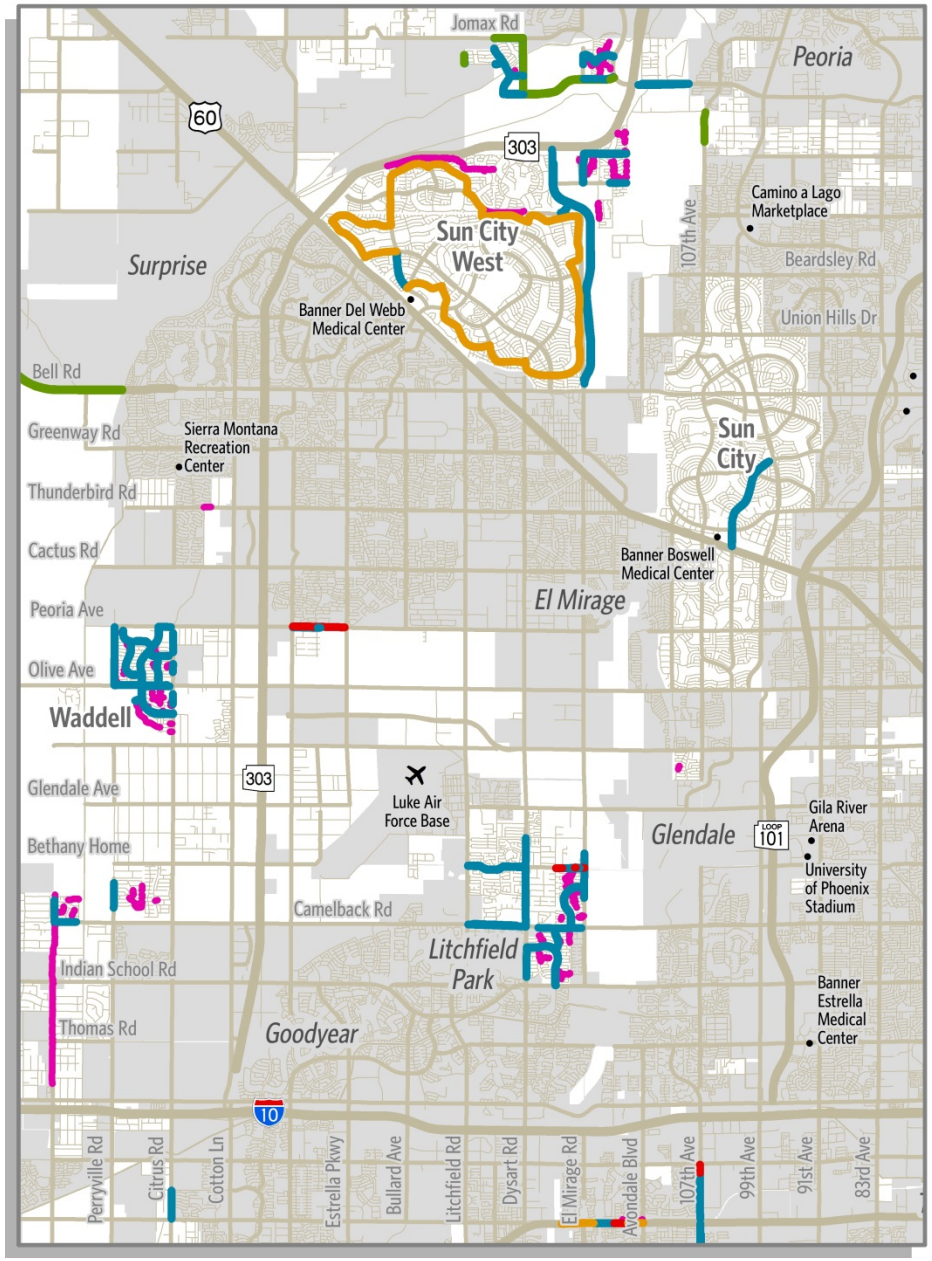
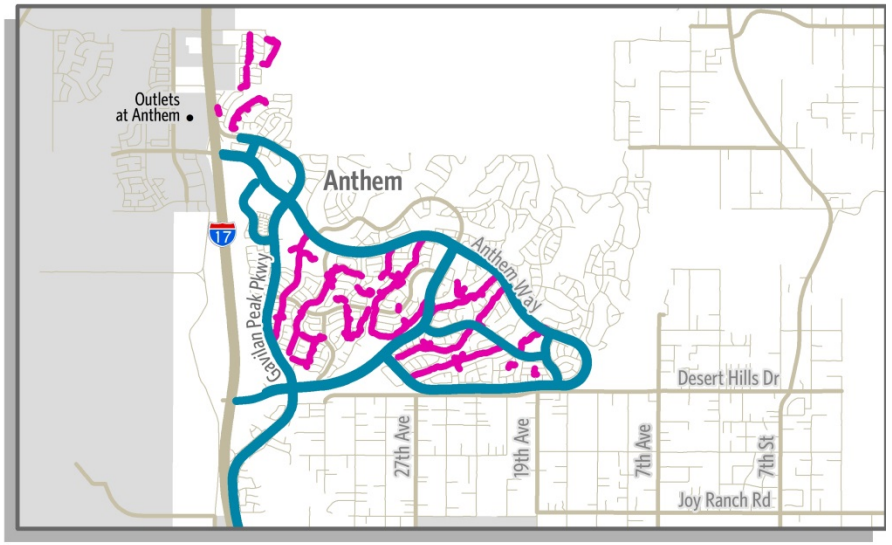


**Figure 4.7: Location of Bicycle Facilities (Continued)**

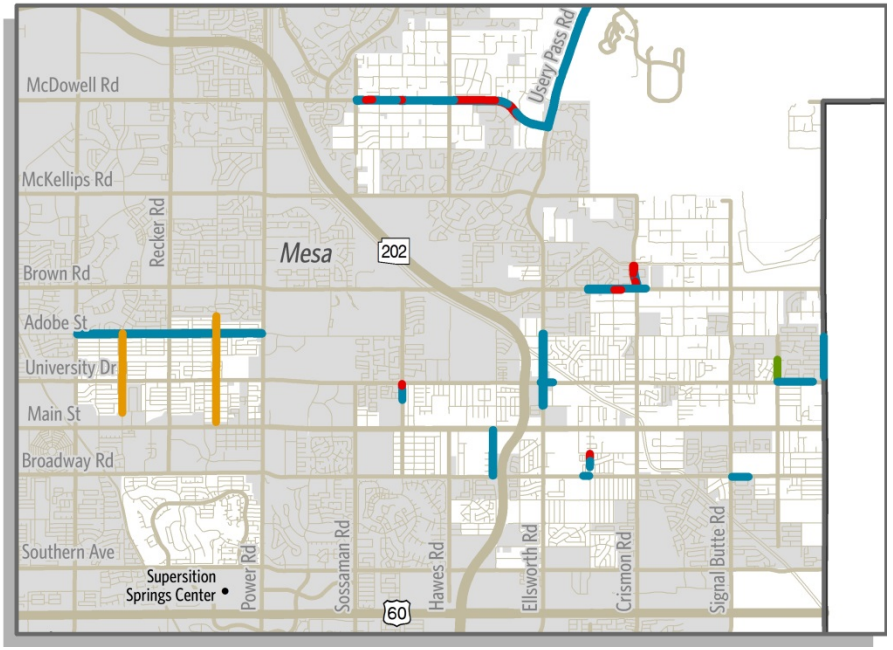
Western Portion of the Phoenix Metropolitan Area




Anthem Area




East Mesa Area



## Active Transportation Demand Model

Referred to as Latent Demand, the active transportation demand model estimates the level of potential walking and biking trips based on where people live, work, play, access transit, go to school, and other factors known to influence travel behavior. The goal of this analysis is to determine where people would use active transportation if facilities made it convenient and comfortable to do so. The model looks at potential trip generators (i.e., where people begin or end their trips such as home or work), as well as trip attractors (i.e., school, library, places to shop, etc.).

The results of the active transportation demand model, shown in Figure 4.8, show a high demand for walking and biking not only in urban County islands, but also in select suburban and rural areas. Unincorporated areas with highest potential demand for active transportation include:

- Sun City
- Sun City West
- Anthem
- New River
- Rio Verde
- Sun Lakes
- Scattered County islands throughout the County

Demand results provide important information on where active transportation investments are most needed. It is important to note though, that distance is an important predictor on where active transportation investments may be the most impactful. Even if an appealing and comfortable path is available, the average person is unlikely to travel more than five miles by bike or a mile on foot to commute to work or school, grocery shopping, etc.

### Input Factors

**POPULATION DENSITY**
Areas with high population densities generate higher walking and biking activity

**EMPLOYMENT DENSITY**
Higher densities of workers translates to higher propensity for people to walk or bike

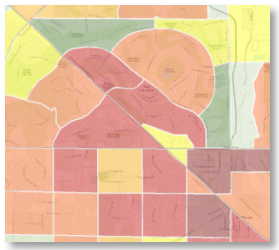
**SCHOOLS**
Schools generate a significant amount of walking and biking activity by populations that are unable to drive

**CRITICAL FACILITIES**
Hospitals, libraries, and other key activity centers are major attractors for walking and biking

**TRANSIT**
The majority of transit trips start or end with a walking or biking trip

**MAJOR DEVELOPMENTS**
Major developments, where people can complete errands, work, go shopping, etc., are major generators of walking and bicycling trips

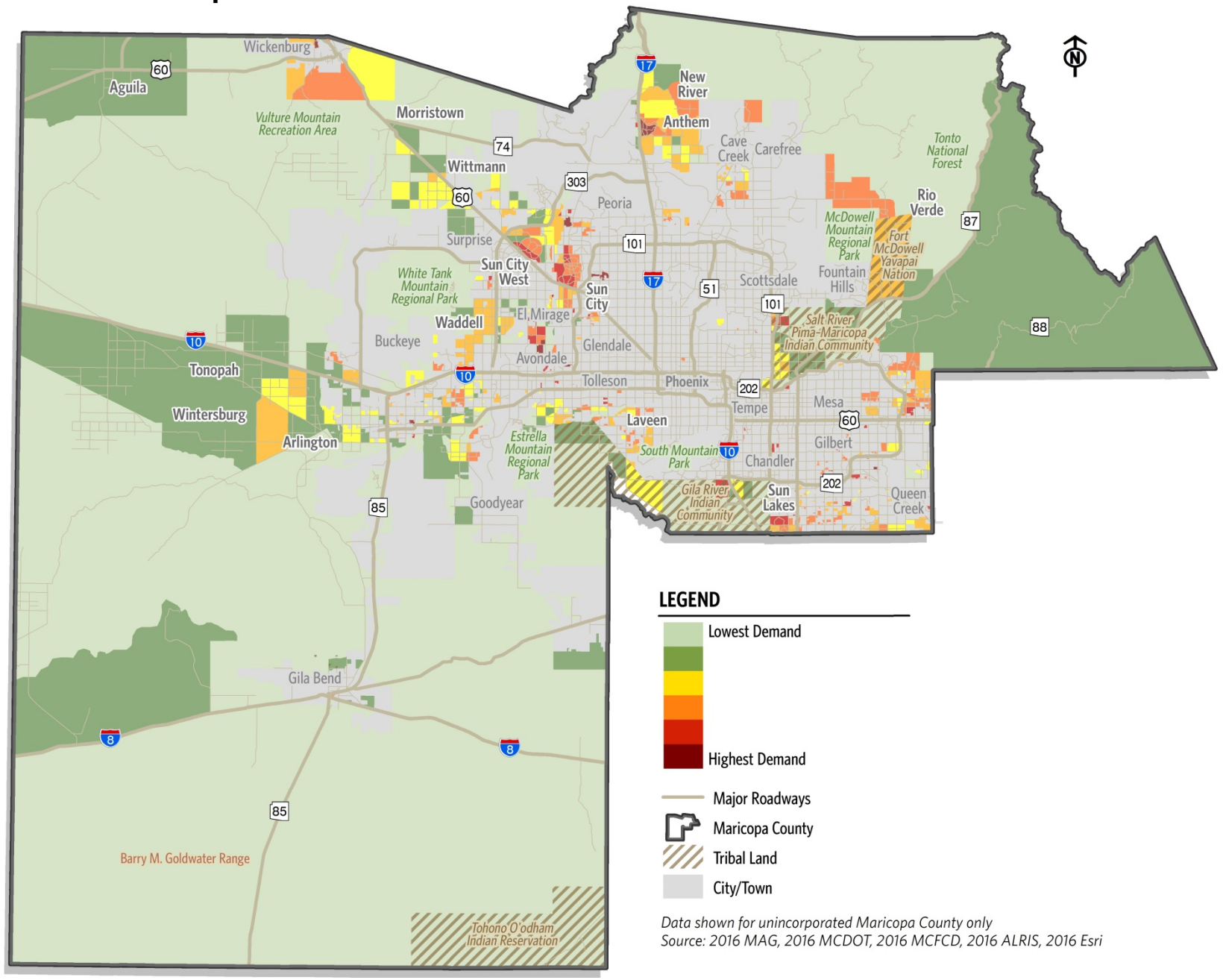
### Active Transportation Demand



The demand model estimates each areas active transportation demand based on the number of input factors in a given area. Areas with higher demand indicate the highest potential for active transportation usage.

Lowest Demand — Medium Demand — Highest Demand

**Figure 4.8: Active Transportation Demand**




*Data shown for unincorporated Maricopa County only*
*Source: 2016 MAG, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

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## Pedestrian Level of Comfort

While each person experiences a different level of comfort when walking, there are basic roadway characteristics that affect the user experience. Nationally, there is no standard methodology to quantify a pedestrian's level of comfort; however, a pedestrian's comfort is primarily affected by factors such as:

- Sidewalks: existing/non existing, buffer, condition
- Roadways: width, speed limit, vehicle volumes

Generally, wider pedestrian spaces, lower speed limits, and the presence of a buffer correlate to a higher comfort level. An incomplete sidewalk network, higher speeds, and a greater number of lanes correlate to a lower comfort level. Bicycle lanes or on-street parking act as buffers between pedestrians and vehicle traffic, increasing comfort. Examples of the sidewalks by their comfort level are illustrated below.

**MORE COMFORTABLE** → **LESS COMFORTABLE**

**Off-Street Shared Use Path**

**Buffered Sidewalk**

**Sidewalk Adjacent to the Roadway**

**Sidewalk in Poor Condition or with Obstructions**

**No Sidewalk**

Sidewalks in poor condition also lower a pedestrian's level of comfort, as they pose tripping hazards and making pushing a stroller, skateboarding, or the use of an assistive mobility device more difficult. To identify the potential comfort of the MCDOT pedestrian network, a complete inventory of sidewalk locations, condition, width, and presence of curb ramps was conducted. The inventory was the basis for developing a comprehensive list of pedestrian needs, presented in Chapter 6.

## Bicycle Level of Traffic Stress (LTS)

The Bicycle Level of Traffic Stress (LTS) of a roadway is a method of quantifying the perceived sense of comfort associated with biking along a given roadway. Originally developed by Alex Sorton and the Northwestern University Traffic Institute, LTS has become the industry standard for assessing the comfort and connectivity of bicycle networks. For the MCDOT ATP, the following roadway characteristics were used to predict the stress experience (or comfort level) of bicyclists:

- Posted speed limit
- Number of travel lanes
- Annual average daily traffic volumes (AADT)
- Presence and conditions of bicycle facilities

Each roadway was assigned an LTS score between 1 (low stress) and 5 (high stress). The most desirable bicycling score, LTS 1, is assigned to roads that would be suitable for most children to ride. Roadways that are scored LTS 4 or 5 are only suitable for "strong and fearless" bicyclists who tolerate roadways with high vehicle speeds and volumes.

The results of the LTS analysis is illustrated in Figure 4.9. The majority of MCDOT roadways provide the lowest level of traffic stress LTS 1 (shown in light blue). These low stress facilities are primarily smaller, local roadways within residential areas. Moderate to high stress roadways are primarily arterials that provide regional connections. It is important to note that this analysis represents existing stress level conditions; therefore, the addition or widening of bicycle facilities may improve a user's perceived level of comfort and in turn improve a roadway's LTS score.

**Total Miles by Level of Traffic Stress**

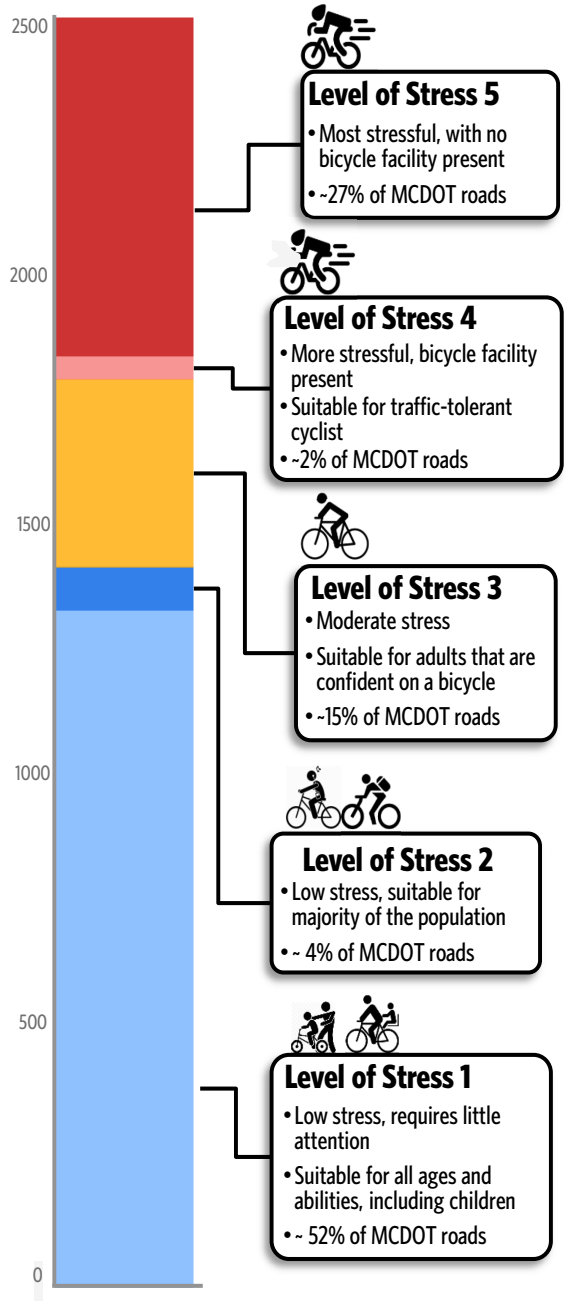
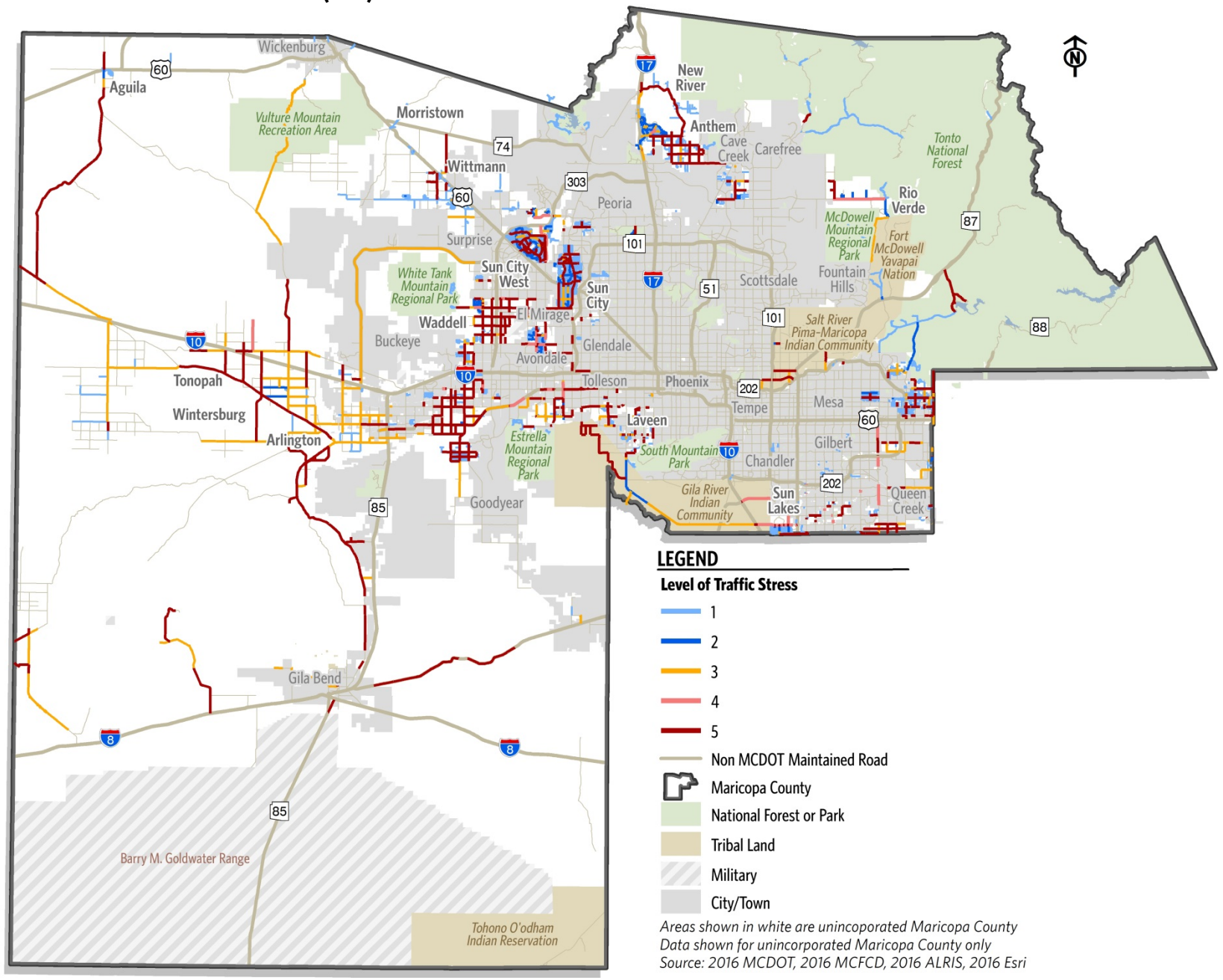


**Figure 4.9: Level of Traffic Stress (LTS) Results**




*Areas shown in white are unincoporated Maricopa County*
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

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# 5 | What We Heard

"When walking, you see things that you miss in a motor car or on the train. You give your mind space to ponder."

–Tom Hodgkinson
*Writer*

# WHAT WE HEARD

In order to determine the needs of current and future users of MCDOT's active transportation network, diverse public outreach efforts were conducted to collect input from residents, visitors, and people who work in Maricopa County. The goals of the ATP's outreach included:

- Encourage local agencies to participate in development of the ATP to ensure regional connectivity
- Provide early and on-going opportunities to engage residents in the planning process through open houses and online outreach
- Actively seek input from all users, including advocacy groups and traditionally underrepresented populations

## Planning Partners

MCDOT formed a Stakeholder Advisory Committee (SAC) to bring together planning partners in a collaborative spirit of supporting active transportation throughout Maricopa County as a region. Members of the SAC are active transportation champions that serve as drivers of the ATP within their agency and communities. Over 100 representatives were invited to participate in the SAC, including representatives from cities and towns within and adjacent to Maricopa County, as well as regional, state, and federal agencies with jurisdictional responsibility related to active transportation facilities.

The SAC met regularly throughout the project to provide technical guidance, discuss opportunities, share resources or partner on potential projects, and support MCDOT's vision. Four workshops were held engaging the SAC in the ATP development process. Each workshop included a mapping exercise to allow potential partners provide feedback on identified gaps and needs in the local and regional network. Workshops included:

- Visioning Workshop (March 2017) – introduced the SAC to the MCDOT ATP, presented the work plan, and facilitated an open discussion on study objectives and strategies.
- Workshop 2 (June 2017) – presented results of existing conditions inventory and public outreach.
- Workshop 3 (September 2017) – reviewed inventory of preliminary active transportation gaps and system needs.
- Workshop 4 (November 2017) – reviewed draft list of potential projects and facilitated discussion on potential partnership opportunities.


*Word cloud of comments received during the SAC Visioning Workshop on what the MCDOT ATP should include.*

## Community Outreach

The MCDOT ATP incorporated a robust community outreach process that solicited input about existing walking and biking conditions in Maricopa County, and where the public thought improvements were needed. To garner input from a wide cross-section of the public, multiple outreach methods were utilized. Comments received supported the fact that people who live and work in Maricopa County care about safety and convenience when traveling. Priorities centered on closing gaps in the local and regional network, educating motorists on pedestrian and bicycle safety, improving crossings, and preserving and maintaining existing facilities.

### Project Website

A project website was developed and launched in March 2017, allowing the public easy access to important information about the Plan. The website also included access to the ATP Interactive Map. This Map provided an interactive opportunity allowing residents to provide information on what they felt were important Active Transportation issues throughout both incorporated and unincorporated Maricopa County.

### Public Open Houses

MCDOT hosted public open house events to provide opportunities for the public to speak one-on-one with the study team regarding specific active transportation issues and needs. Five public open houses were held in different portions of unincorporated Maricopa County ensuring the outreach included opportunities for people in various locations to attend. Meetings were held at the following locations:

- East Mesa – April 27, 2017
- Anthem – May 3, 2017
- Surprise – May 11, 2017
- Arlington – May 16, 2017
- New River – May 17, 2017

MCDOT staff and study consultants were in attendance to speak and learn from the people that came to hear more about the project. Boards were displayed for attendees to provide responses on their pedestrian, bicycle, ADA, safety, and maintenance issues, concerns, and ideas.


*MCDOT ATP postcards were distributed to encourage residents to provide feedback on active transportation needs via MCDOT's online mapping tool*

Citizens that attended the meetings shared stories of their active transportation experience and identified location-specific needs. Community members were also encouraged to input location-specific needs and issues via the online mapping tool on laptops provided at these meetings.

## Valley Bike Month

With a focus on reaching a wide-range of existing and potential users, MCDOT participated in nine separate Valley Bike Month events. At each event, MCDOT staff spoke one-on-one with participants to learn more about active transportation issues and needs in Maricopa County. Participants were also provided with a flier directing them to provide input on ATP's online mapping tool. Table 5.1 provides an overview of the Valley Bike Month events attended.


*MCDOT Project Manager, Reed Kempton, presenting an overview of the MCDOT ATP at the Arizona Bicycle Summit*

**Table 5.1: Valley Bike Month Events Attended**

| Event Name | Date | Location | Approximate Number of Attendees |
|---|---|---|---|
| Arizona Bicycle Summit | March 31, 2017 | Mesa | 70 |
| Chandler Family Bike Ride | April 1, 2017 | Chandler | 200+ |
| Cycle the Creek | April 1, 2017 | Queen Creek | 40+ |
| Tour de Tempe | April 2, 2017 | Tempe | 1,000+ |
| Tempe Bike to Art | April 8, 2017 | Tempe | 70+ |
| Scottsdale Cycle the Arts | April 9, 2017 | Scottsdale | 50+ |
| Valley Bike to Work Day | April 19, 2017 | Phoenix | Undetermined |
| Bike Buckeye | April 22, 2017 | Buckeye | 40+ |
| ABC Desert Classic | April 29, 2017 | Glendale | 150+ |

## Presentations to Advocacy and Special Interest Groups

To further engage existing and potential cyclists and walkers, MCDOT staff conducted presentations to special interest groups. These presentations allowed MCDOT staff to hear directly from everyday users about their issues and concerns, as well as gain feedback from non-users on why they are currently not using the existing active transportation system. Presentations included:

- American Society of Civil Engineers
- Arizona State Highway Engineers
- ASU Student Planning Association and Bicycle Coalition
- Coalition of Arizona Bicyclists Arizona Bicycling Summit
- MAG Active Transportation Committee
- Northwest Valley Connect
- Property Owners and Residents Association of Sun City West (PORA) Roads & Safety Committee
- Rural Transportation Summit
- Sun City Home Owners Association (SCHOA) Roads & Safety Committee
- Scottsdale Paths and Trails Subcommittee
- Scottsdale Transportation Commission

## Community Surveys

To gain a first-hand understanding of the nonmotorized needs of the public, the Maricopa County Department of Public Health (MCDPH) assisted MCDOT in conducting one-on-one community surveys. The surveys were conducted in both English and Spanish and allowed MCDOT to hear directly from those that don't traditionally participate in the public outreach process. In total, 220 people were surveyed by the MCDPH. Key findings included:

- Of those surveyed, 35 percent commented that they have trouble safely crossing roadways.
- Street lighting and pedestrian and bicycle facilities are needed along major corridors.
- Potholes and poor pavement conditions create bicycling hazards.
- The transit network needs to be expanded with more frequent service and shaded bus stops.

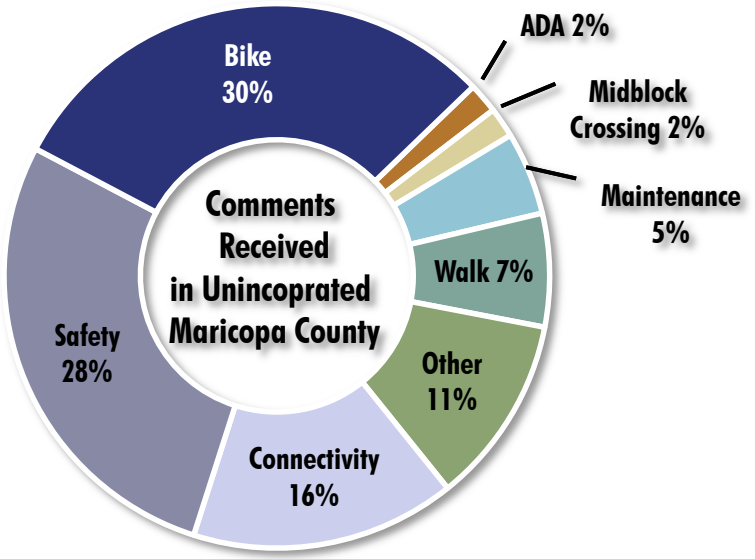
## Interactive Online Mapping Tool

To provide ample opportunities to engage the public in the development of the ATP, MCDOT created an interactive, online public mapping tool. This provided those unable to attend meetings an opportunity to provide input on existing conditions, issues, and needs in Maricopa County. The tool allowed users to comment on the map where they would like to see improvements based upon the categories of ADA, walk, bike, connectivity, maintenance, midblock crossing, safety and other.

The interactive map was available from March 29 to June 15, 2017. A total of 663 comments were received including 223 comments (34 percent) which addressed locations along MCDOT maintained roadways. Figure 5.1 illustrates areas with a high density of online comments, while Figure 5.2 illustrates the specific locations of comments. As illustrated in the Figures, a high number of comments were received in the following locations:

- Sun City – numerous comments on the need for increased pedestrian facilities, crossings, and bicycle facility improvements
- New River – requests for bicycle and safety improvements along New River Road
- Rio Verde – comments on pedestrian safety issues along Forest Road
- East Mesa – comments on the need for increased bicycle connectivity and pedestrian facilities
- Waddell – numerous requests for additional bicycle facilities to connect communities

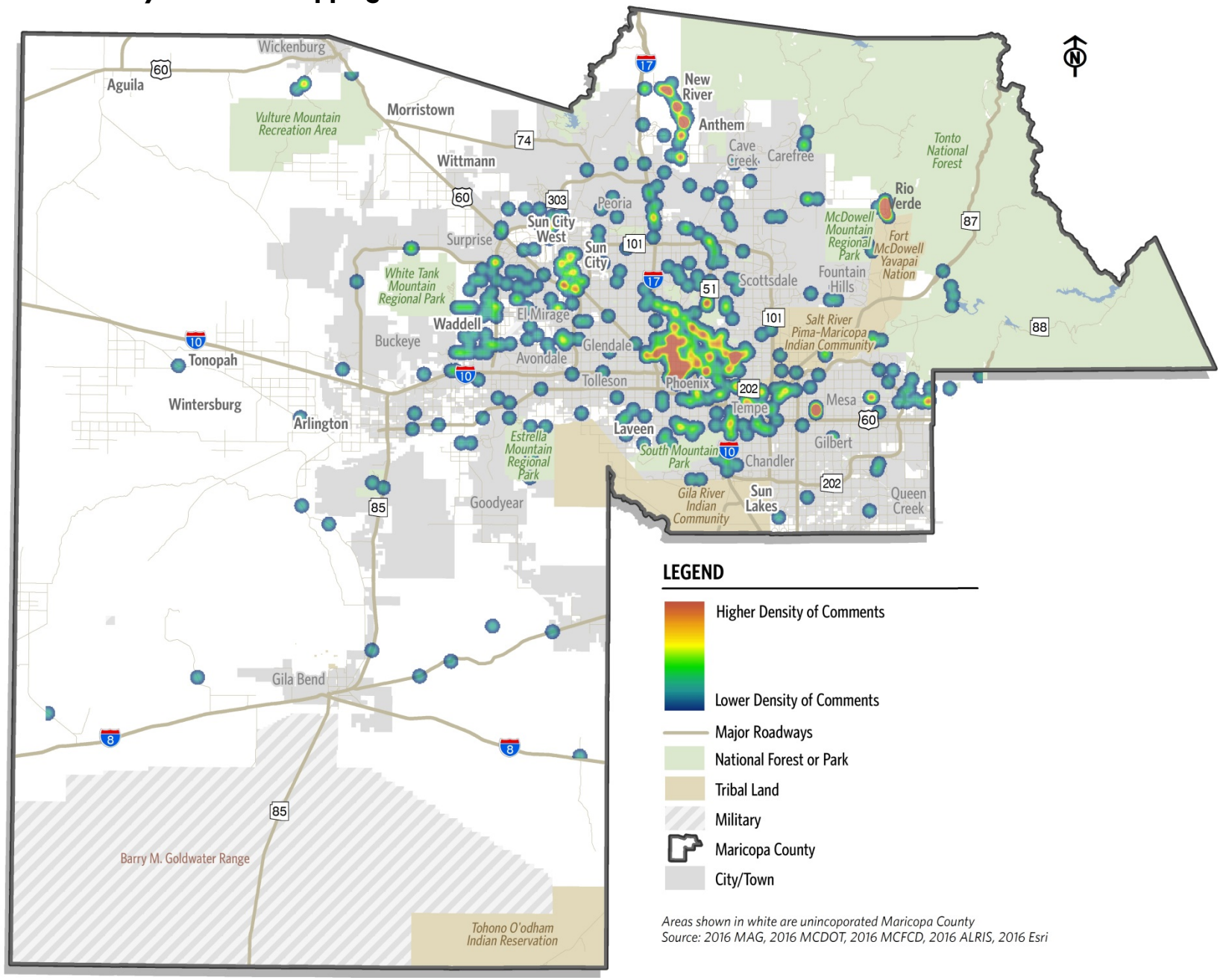
This tool resulted in a robust dataset that the planning team referenced throughout the development of the ATP.





*Screenshot of the MCDOT ATP interactive online mapping tool*

**Figure 5.1: Density of Online Mapping Tool Comments**




*Areas shown in white are unincoporated Maricopa County*
*Source: 2016 MAG, 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

**Figure 5.2: Location of Online Mapping Tool Comments**

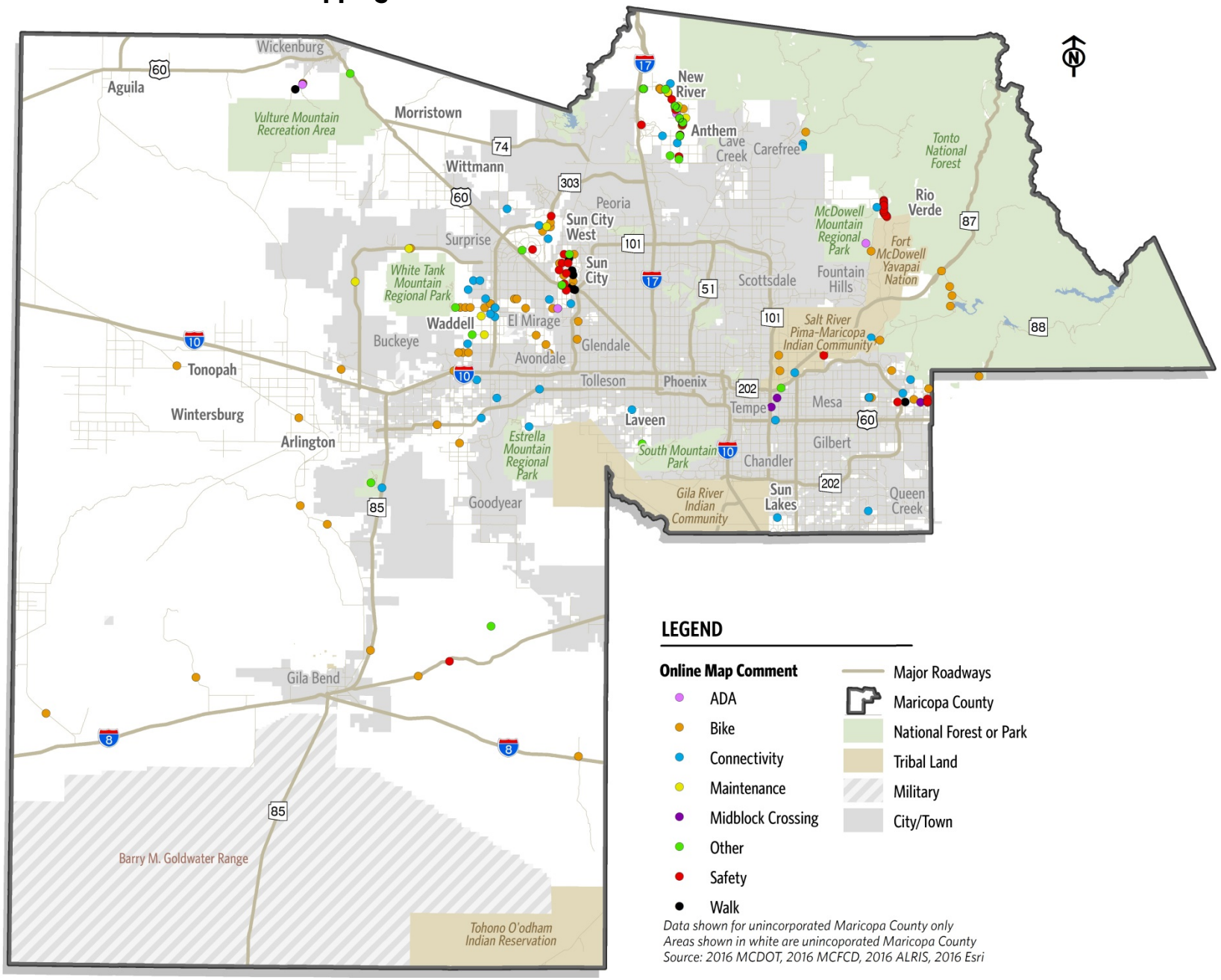
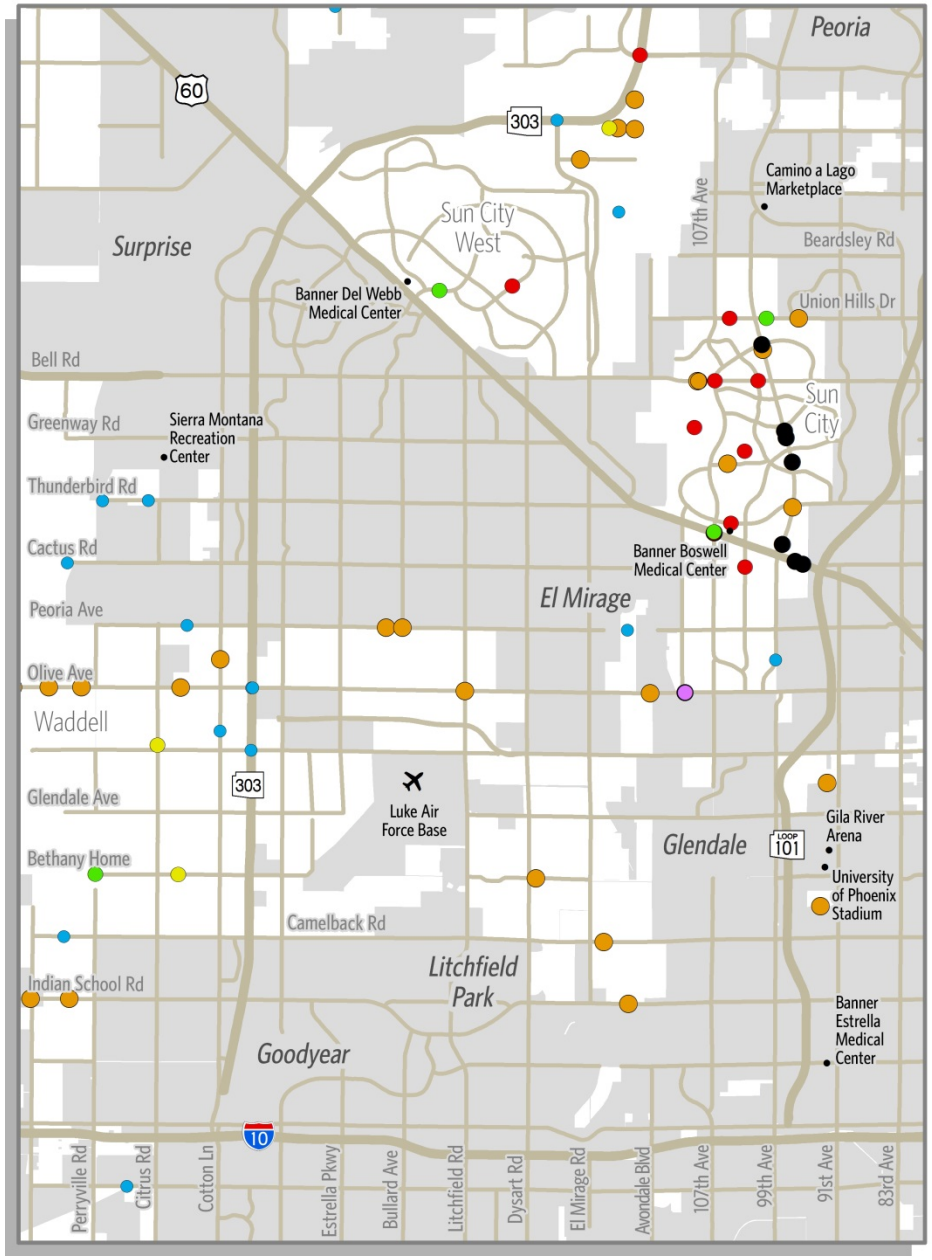
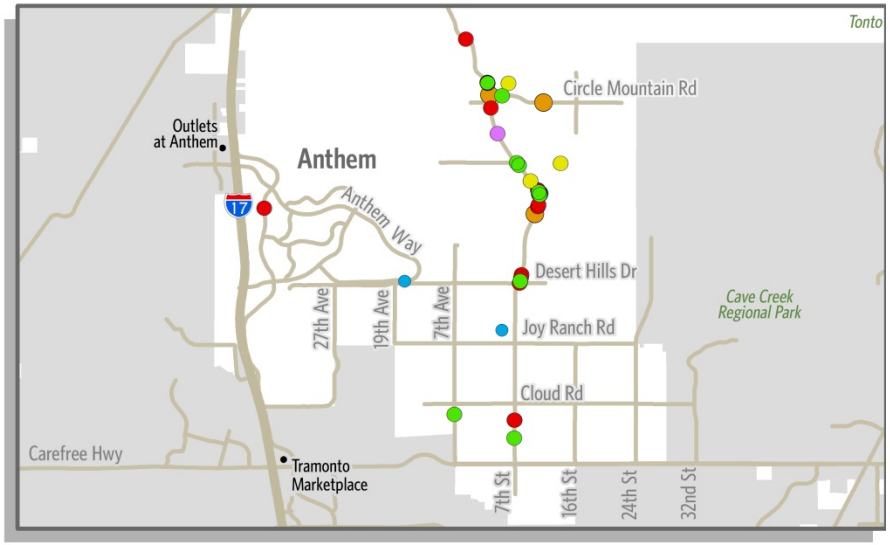


**Figure 5.2: Location of Online Mapping Tool Comments (Continued)**

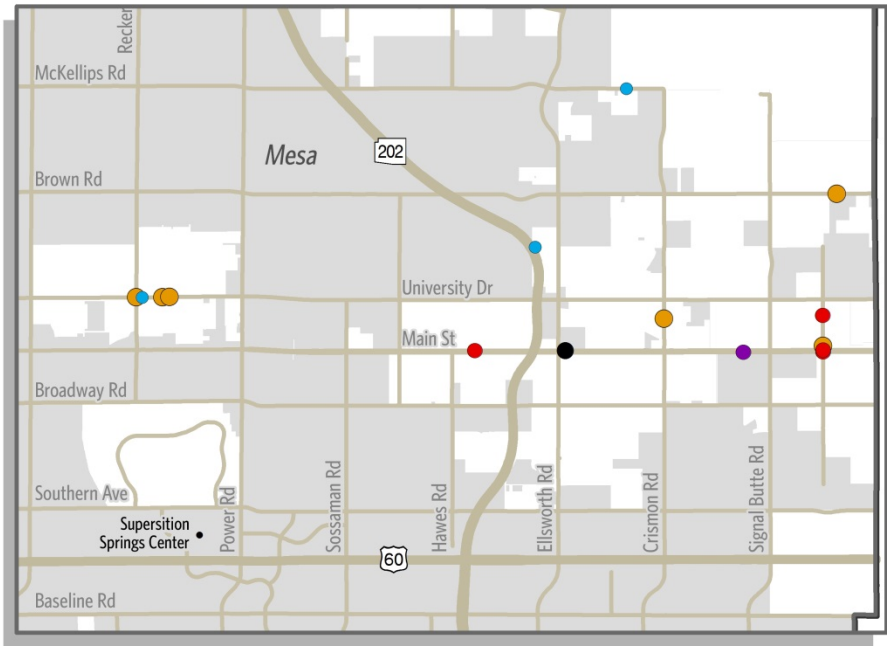
Western Portion of the Phoenix Metropolitan Area




Anthem and New River Area




East Mesa Area



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# 6 | Active Transportation Needs

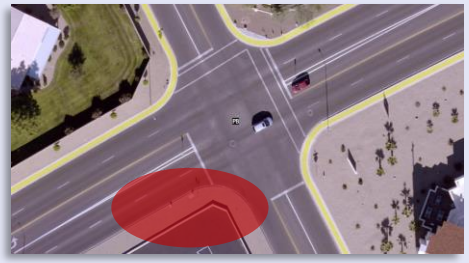
"A vigorous five-mile walk will do more good for an unhappy but otherwise healthy adult than all the medicine and psychology in the world."

– Paul Dudley White
*Founder of Preventative Cardiology*

# ACTIVE TRANSPORTATION NEEDS

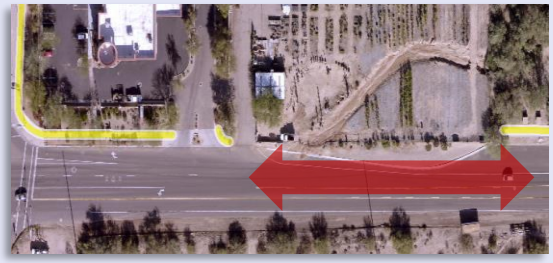
The needs identified in the ATP address gaps in the active transportation network that create barriers and may discourage people from choosing to walk, ride a bike, or access transit. Missing links in the existing active transportation network range from short facility gaps to larger geographic areas with few or limited facilities. Gaps in the network may be due to many factors, including but not limited to; inconsistent corridor development, physical constraints, and right-of-way issues. A large percentage of gaps are a direct result of decades of suburban development that sought only to accommodate automobiles. Filling-in these gaps has the potential to link thousands of people to jobs and provide choices for convenient travel by foot or bicycle. It is important to note that this Plan focuses only on connecting existing active transportation facilities and may not include all facilities missing from County roadways. It is anticipated that larger stretches of need will be completed during roadway maintenance, capacity enhancements, development or other yet unidentified methods.

## Examples of Gaps in MCDOT's Existing Active Transportation Network



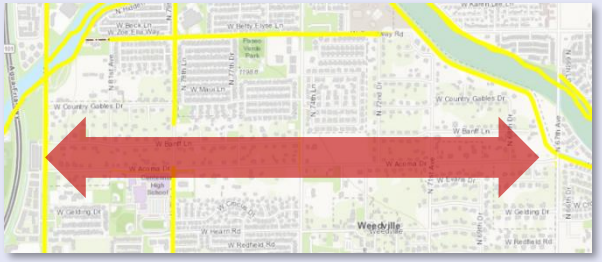
### Intersection Gap

- Crosswalk at intersection; however, no sidewalk or bicycle facilities present.



### Short Sidewalk or Bicycle Gap

- Includes small breaks in the active transportation network that may be due to sporadic corridor development.



### Corridor Gap

- Longer gaps within the existing local and regional active transportation network.

### Pedestrian Crossing Gap

- Sidewalks and ramps present; however, no designated crosswalk striped.

### Vertical Gap

- Gap that prevents a pedestrian or bicyclists from transitioning directly from the road to an off-street path.


### Recreation Connection Gaps

- Gaps in the active transportation network between existing facilities, park entrances, and major trailheads.

## Pedestrian Network Needs

A large number of MCDOT maintained roadways are rural, with very low pedestrian demand, or are local, neighborhood roadways with low vehicle speeds and volumes. Vehicles and people walking and biking on these roadways can typically share the same space. As a pedestrian leaves their neighborhood and travels along busier roadways, dedicated pedestrian facilities are needed to continue a person's sense of safety and comfort. The identified pedestrian network focuses on areas where pedestrian facilities are needed and where people are most likely to walk. Combined with MCDOT's extensive existing pedestrian network, the identified pedestrian needs create a more robust, connected, and comfortable walking network throughout Maricopa County.

### Sidewalk Repairs

Sidewalks in need of repair can limit pedestrian access and pose safety concerns. Sidewalk issues may include obstructions, large cracks, uneven surfaces, and damaged segments. Figure 6.1 illustrates the location of sidewalks identified as in poor condition and Table 6.1 provides examples of repair needs

**Table 6.1: Examples of Sidewalk Repair Needs**

| On Road | Location | General Area | Need |
|---|---|---|---|
| Dell Webb Boulevard | South of Camelot Circle | Sun City | Repair sidewalk in poor condition |
| Cicero Street | West of 96th Street | Mesa | Repair uneven sidewalk |
| University Drive | At 96th Place | Mesa | Repair sidewalk in poor condition |
| Van Buren Street | West of Citrus Road | Goodyear | Repair sidewalk in poor condition |
| 138th Drive | North of Claremont Street | Litchfield Park | Remove vegetation and repair sidewalk in poor condition |

## Pedestrian Crossing Needs

Several locations have been identified that may benefit from pedestrian crossing facilities. Potential crossing facilities typically include high visibility crosswalks and/or crossing aids such as a Pedestrian Hybrid Beacon (PHB). A PHB signal is a traffic control device that stops roadway traffic to allow pedestrians to cross a roadway typically at mid-block, while a crosswalk marking indicates the preferred location for pedestrians to cross and helps designate right-of-way for motorists to yield to pedestrians. Figure 6.1 illustrates the locations in need of pedestrian crossing facilities at intersections and Table 6.2 provides examples of these crossing needs.

**Table 6.2: Examples of Pedestrian Crossing Needs**

| On Road | Location | General Area | Need |
|---|---|---|---|
| Forest Road | Rio Verde Drive to McDowell Mountain Road | Rio Verde | Pedestrian crossing |
| Adobe Road | At 64th Street | Mesa | Pedestrian crossing |
| Power Road | At Orchard Lane | Mesa | Pedestrian crossing |

## Sidewalks Missing at Intersections

Intersections that lack pedestrian facilities create barriers and gaps in the larger pedestrian network. At intersections, it is imperative to provide a location for pedestrians to comfortably stand while waiting to cross a roadway. Missing sidewalks forces people to wait in rocks, dirt areas, or even in the street. Persons that are wheelchair bound, utilizing a cane, pushing a stroller, or even wearing high heels have additional difficulty traversing intersections that lack sidewalks. Figure 6.1 illustrates the location of intersections that need sidewalks and Table 6.3 provides examples of these intersection needs.

**Table 6.3: Examples of Sidewalks Missing at Intersections**

| On Road | Location | General Area | Need |
|---|---|---|---|
| McDowell Road | At 91st Avenue | Tolleson | Sidewalk southeast corner |
| Dynamite Boulevard | At Tatum Boulevard | Phoenix | Sidewalk southeast corner |
| Stardust Boulevard | At Echo Mesa Drive | Sun City West | Sidewalk southwest corner |

## Minor Gap Needs

Sporadic corridor and business development has caused small gaps in the existing pedestrian network, which creates a barrier to pedestrian travel. Strategically filling pedestrian facility gaps can link people to jobs, shopping, recreational opportunities, and provide choices for convenient travel by foot or with the use of assistive mobility devices. Figure 6.2 illustrates the location of these minor gaps and Table 6.4 provides examples of minor gap needs in MCDOT's pedestrian network.

**Table 6.4: Examples of Minor Gap Needs in MCDOT's Pedestrian Network**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| Recker Road | North of Butte Street | South of Cicero Street | 0.10 | Mesa | Sidewalk on east side of road |
| Alma School Road | South of Chandler Heights Road | Chandler Heights Road | 0.07 | Chandler | Sidewalk on west side of road |
| 67th Avenue | Baseline Road | South of Fremont Road | 0.18 | Phoenix | Sidewalk on west side of road |
| 79th Avenue | Acoma Drive | South of Country Gables Drive | 0.16 | Peoria | Sidewalk on south side of road |
| Stardust Boulevard | West of Echo Mesa Drive | Echo Mesa Drive | 0.04 | Sun City West | Sidewalk on east side of road |

## Corridor and Network Expansion Needs

To provide a connected pedestrian network that serves people for transportation and recreation purposes, a connected and comfortable network of sidewalks, pedestrian pathways, trails, and street crossings is necessary. Figure 6.2 illustrates the location of corridor gap needs and expansion opportunities, while Table 6.5 provides examples of corridor needs and expansion opportunities. MCDOT corridors have constraints that could limit the construction of a traditional sidewalk. These could include limited right-of-way or utilities/drainage facilities adjacent to the roadway. As MCDOT begins implementation of the ATP's findings, an engineering and design analysis should be undertaken to determine what type of facility would meet the needs of the corridor.

**Table 6.5: Examples of Corridor and Network Expansion Needs**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| Alma School Rd | Riggs Road | Oakwood Lakes Boulevard | 0.85 | Sun Lakes | Sidewalk/path connection both sides |
| 99th Avenue | Olive Avenue | Thunderbird Blvd | 3.10 | Sun City | Sidewalk/path connection both sides |
| Broadway Road | 90th Street | Central Arizona Project (CAP) Canal | 1.75 | Sun City | Sidewalk/path connection both sides |

**Figure 6.1: Sidewalk Repair, Pedestrian Crossing, and Intersection Needs in the Pedestrian Network**

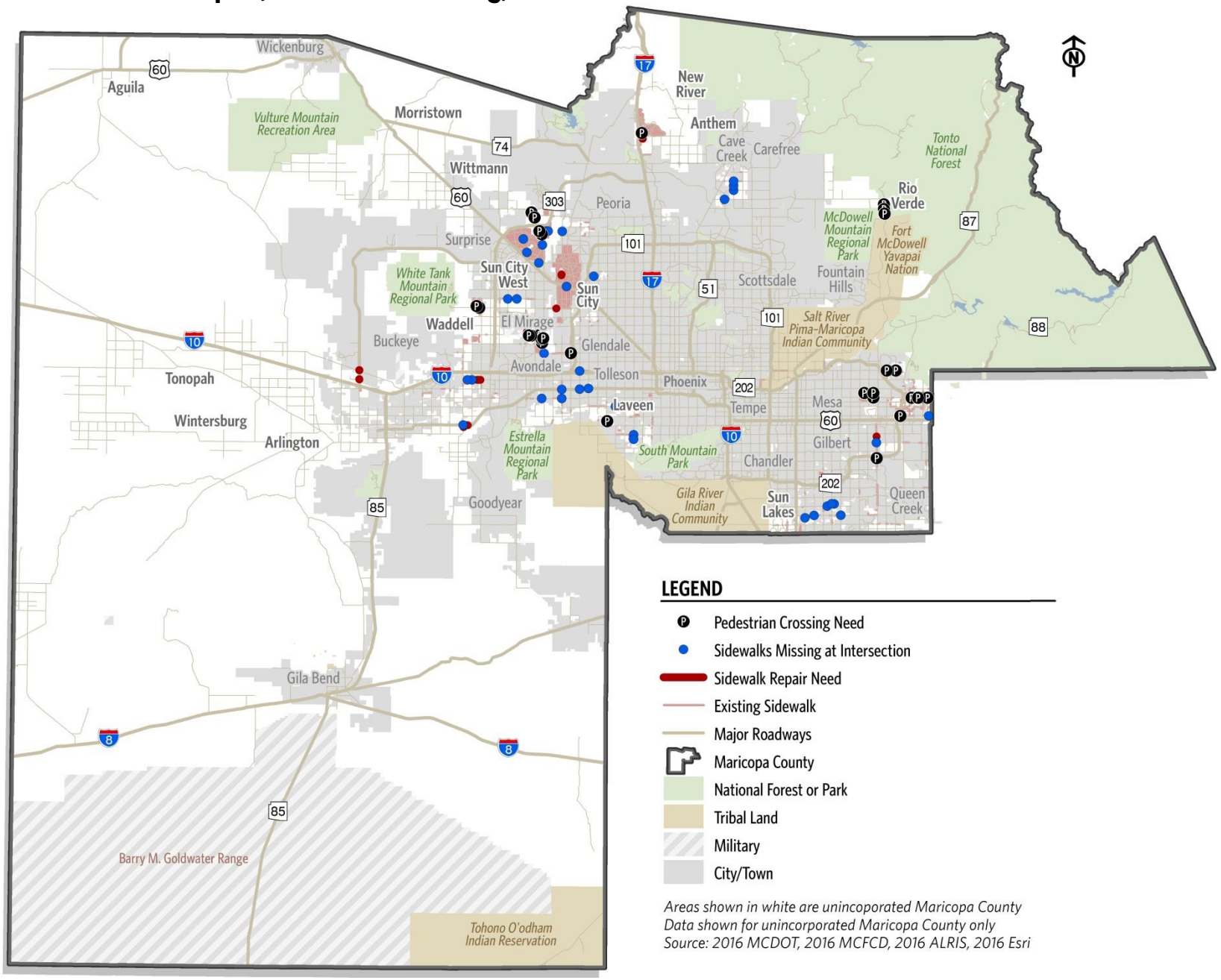
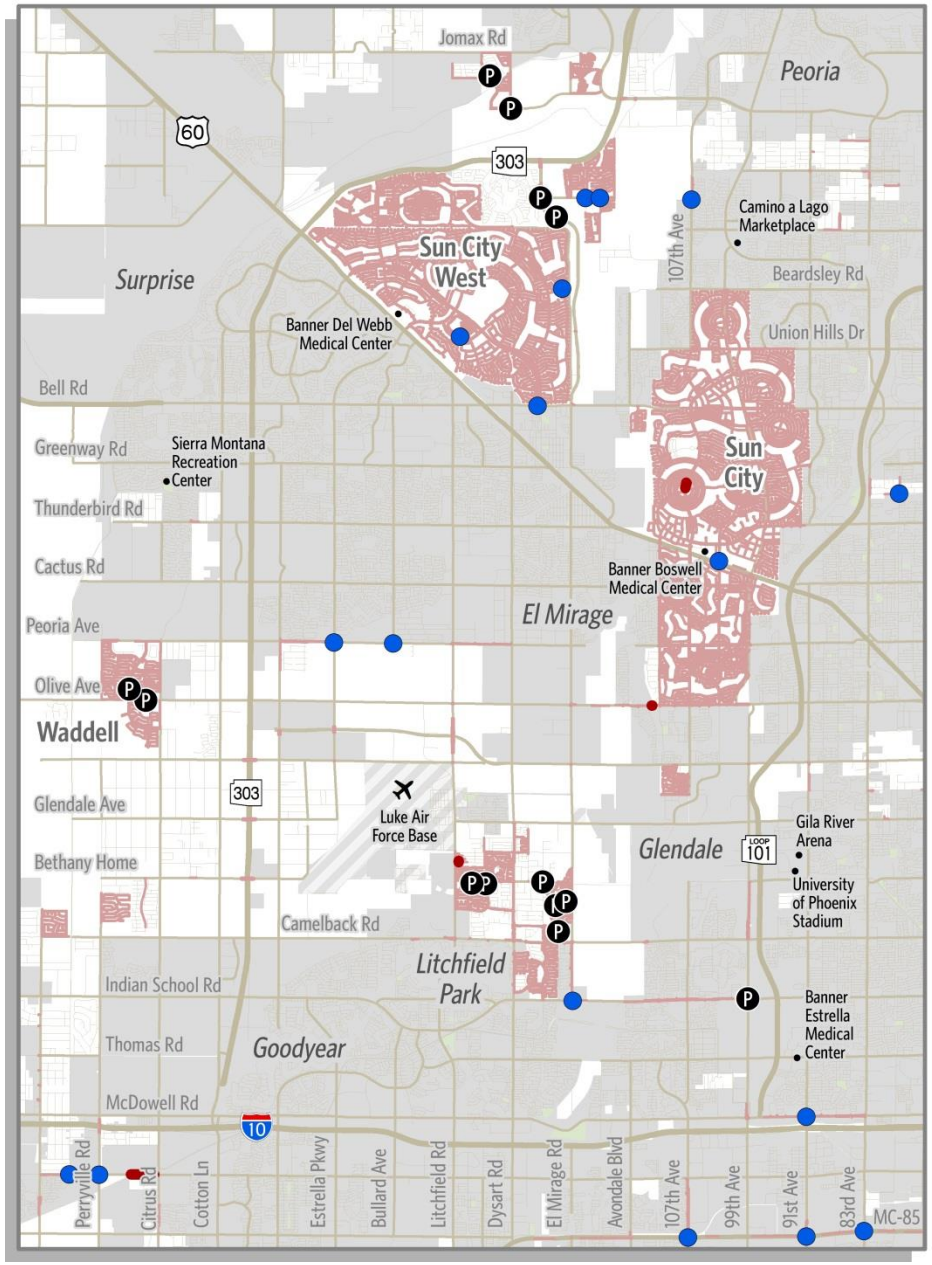


**Figure 6.1: Sidewalk Repair, Crossing, and Intersection Needs in the Pedestrian Network (Continued)**

Western Portion of the Phoenix Metropolitan Area




Anthem Area


Southeastern Portion of the Phoenix Metropolitan Area

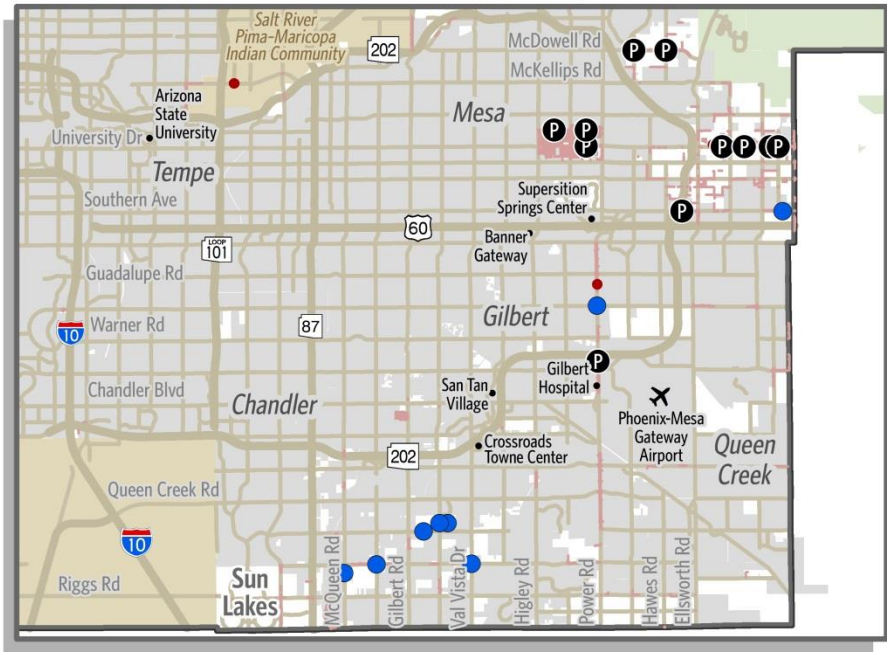
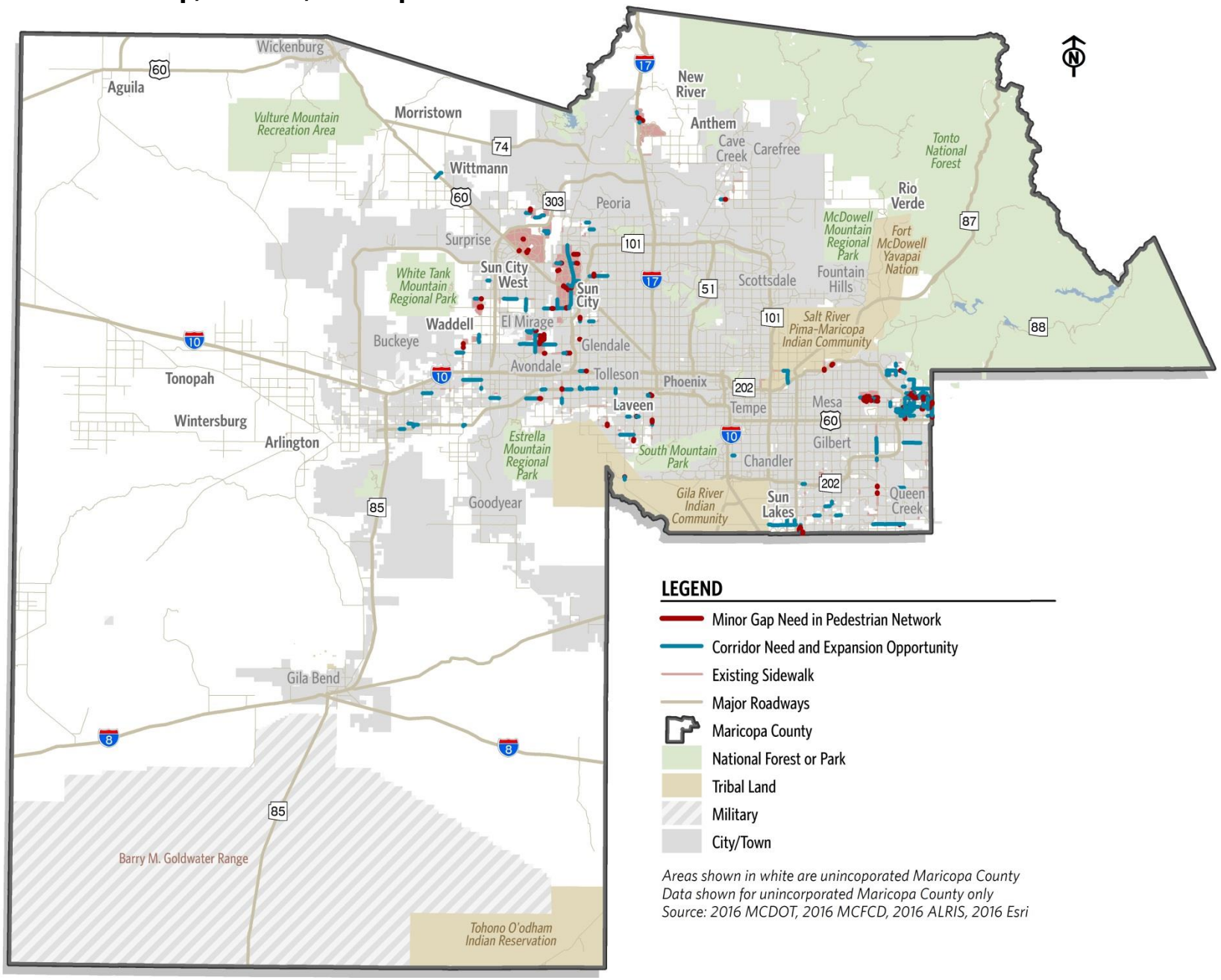


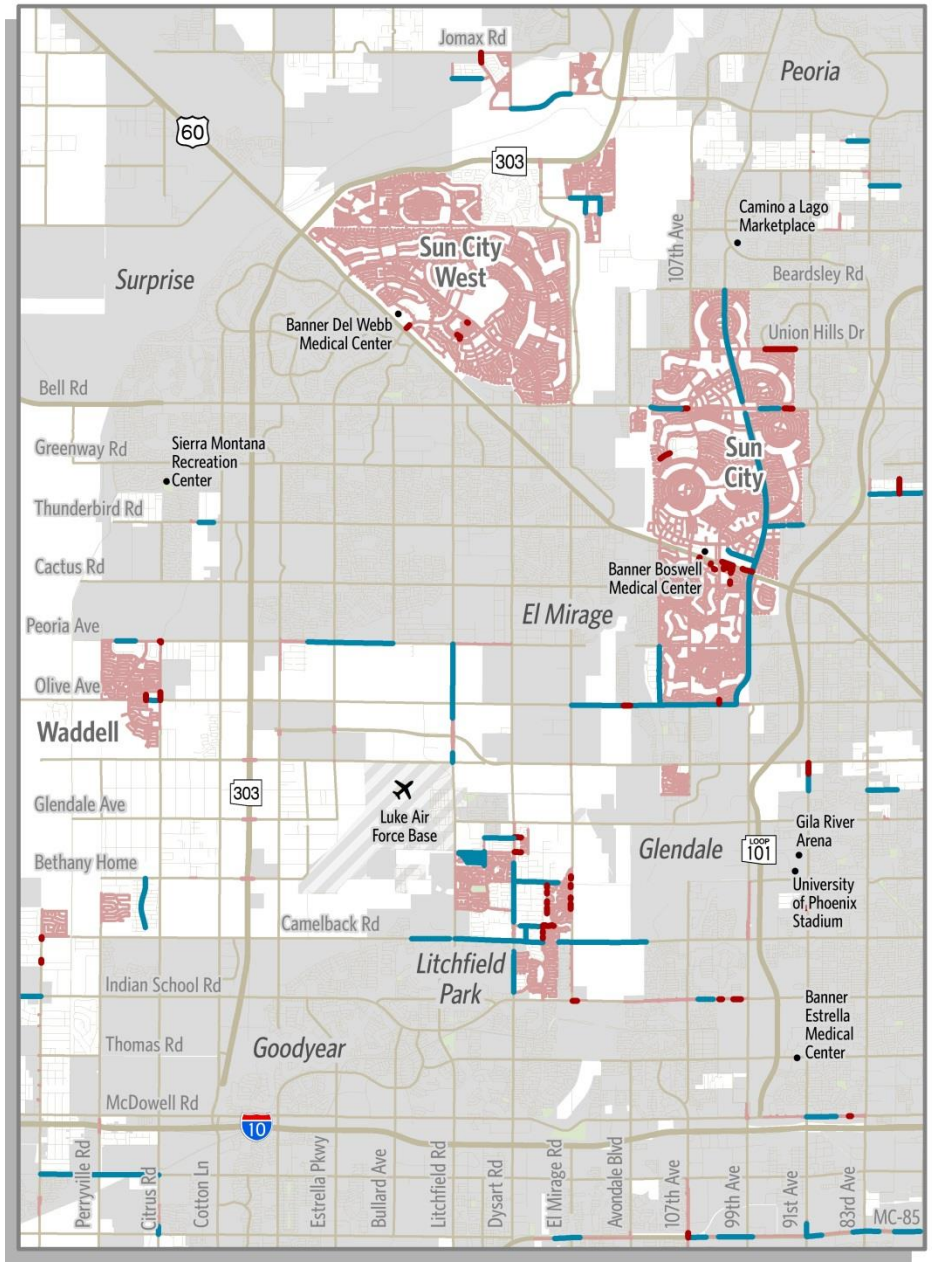
**Figure 6.2: Minor Gap, Corridor, and Expansion Needs in the Pedestrian Network**




*Areas shown in white are unincoporated Maricopa County*
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

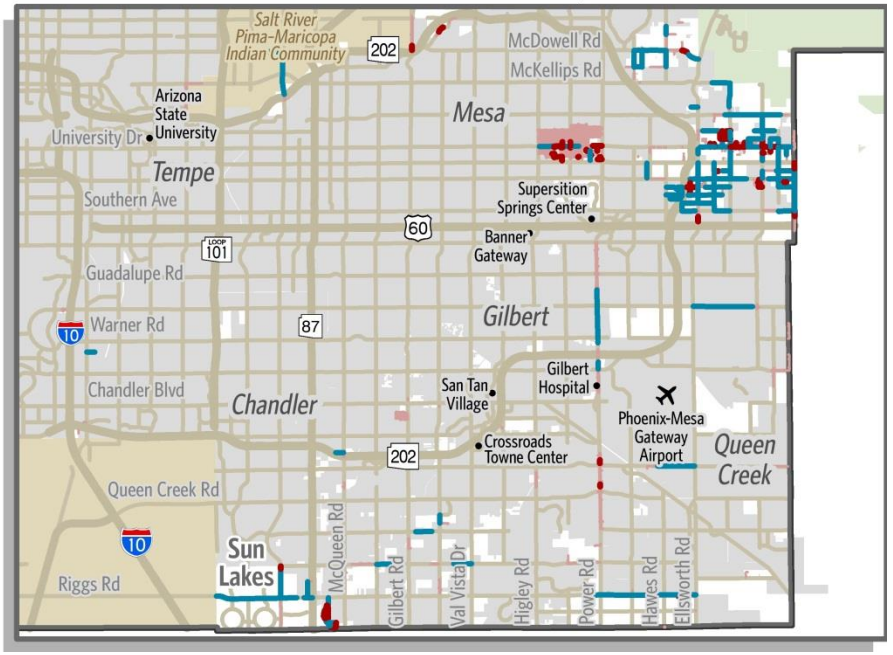
**Figure 6.2: Minor Gap, Corridor, and Expansion Needs in the Pedestrian Network (Continued)**

Western Portion of the Phoenix Metropolitan Area




Anthem Area


Southeastern Portion of the Phoenix Metropolitan Area



## Bicycle Network Needs

People who ride bicycles vary in their physical abilities, experience levels, and comfort level riding adjacent to motor vehicles. The identified bicycle network needs include gaps in the current network that limit a person's ability to bike to their destination. In addition, opportunities to expand MCDOT's bicycle network and create regional recreation routes were also identified. Many of the needs identified are on low-speed, low-volume neighborhood streets that may only require bike route designation to provide a welcoming environment for bicycling. Bike Route signs and designation on the MAG bike map will help bicyclists find these routes. Addressing all identified needs creates a robust regional bicycle network that provides a more comfortable riding experience for experienced bicyclists, and low-stress options for children and those not as confident riding a bike.

### Bicycle Treatments at Intersections

Bike lanes define a portion of the roadway that is preferential or exclusive for use by bicyclists; allowing bicyclists to travel alongside traffic. In addition, bike lanes remind motorists to look for bicyclists when turning and that bicyclists have the right to the road. A bike lane along a corridor may provide a comfortable riding experience; however, if that designated space disappears at an intersection, the entire corridor may no longer be attractive to bicyclists. As noted in the safety analysis section in Chapter 3, intersections are common locations of conflict between drivers and bicyclists. Therefore, particular attention to intersections is necessary in order to increase motorist awareness, provide bicyclists with a sense of comfort, and improve the riding experience along a corridor. Figure 6.3 illustrates locations where intersection improvements are needed to extend bicycle facilities through intersections to alert motorists of bicycle traffic. Table 6.6 provides examples. Along MCDOT roadways, 22 intersection approaches were identified as in need of pavement striping to be extended to the stop bar at the intersection.

**Table 6.6: Examples of Bicycle Treatment at Intersection Needs**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| Riggs Road | West of Sun Lakes Boulevard | East of Sun Lakes Boulevard | 0.15 | Sun Lakes | Bike lane extension |
| Elliott Road | West of Ellsworth Road | Ellsworth Road | 0.06 | Mesa | Bike lane extension |
| Meridian Road | University Drive | North of University Drive | 0.04 | Mesa | Bike lane extension |

## River, Canal, and Roadway Crossings

Rivers, canals, and roadways may create barriers in the active transportation network. MCDOT roadways were evaluated to identify locations that currently lack bicycle connectivity at river, canal, and roadway crossings. Locations that may warrant crossings if development occurs were also identified. Figure 6.3 illustrates potential locations for river, canal, and roadway crossings, while Table 6.7 provides examples. Along MCDOT roadways, 15 locations that may benefit from bicycle crossing facilities were identified.

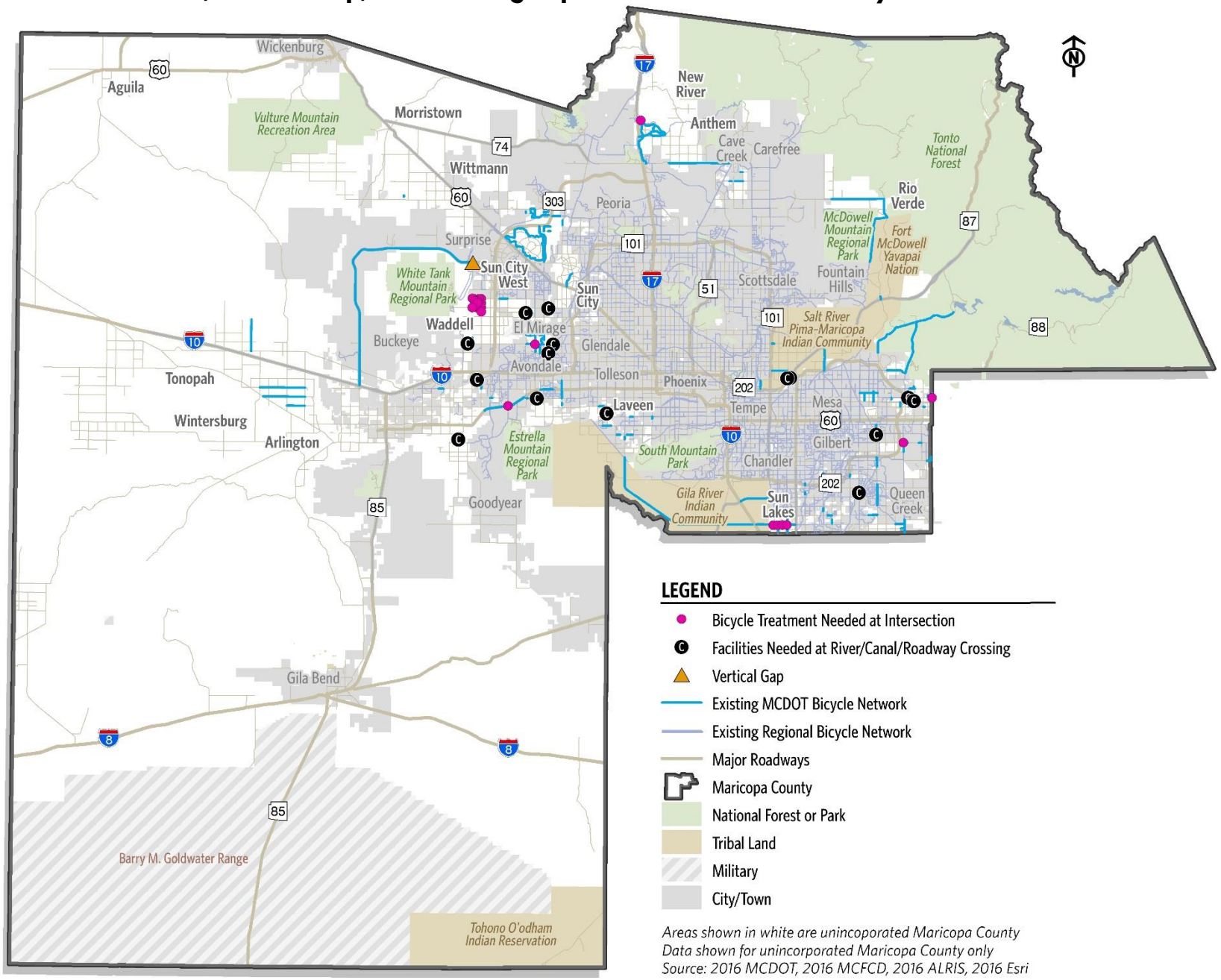
**Table 6.7: Examples of River, Canal, and Roadway Crossing Needs**

| Location | General Area | Need |
|---|---|---|
| Power Road and Roosevelt Canal Path | Mesa | Trail crossing |
| Higley Road and Roosevelt Canal Path | Gilbert | Trail crossing |
| Van Buren Street and Roosevelt Canal Path | Goodyear | Trail crossing |

## Vertical Gaps

A vertical gap occurs when an on-street facility (i.e., bike lane, paved shoulders, etc.) does not connect to an off-street facility (i.e., shared use path, canal path, etc.). These gaps in the system prevent pedestrians and bicyclists from transitioning directly from the road to off-street facilities. One vertical gap along MCDOT roadways was identified on Sun Valley Parkway at the Maricopa Trail. In addition to vertical gaps located on MCDOT maintained roadways, MCDOT can develop partnerships with adjacent jurisdictions to mitigate vertical gaps located on adjacent roadways/trails.

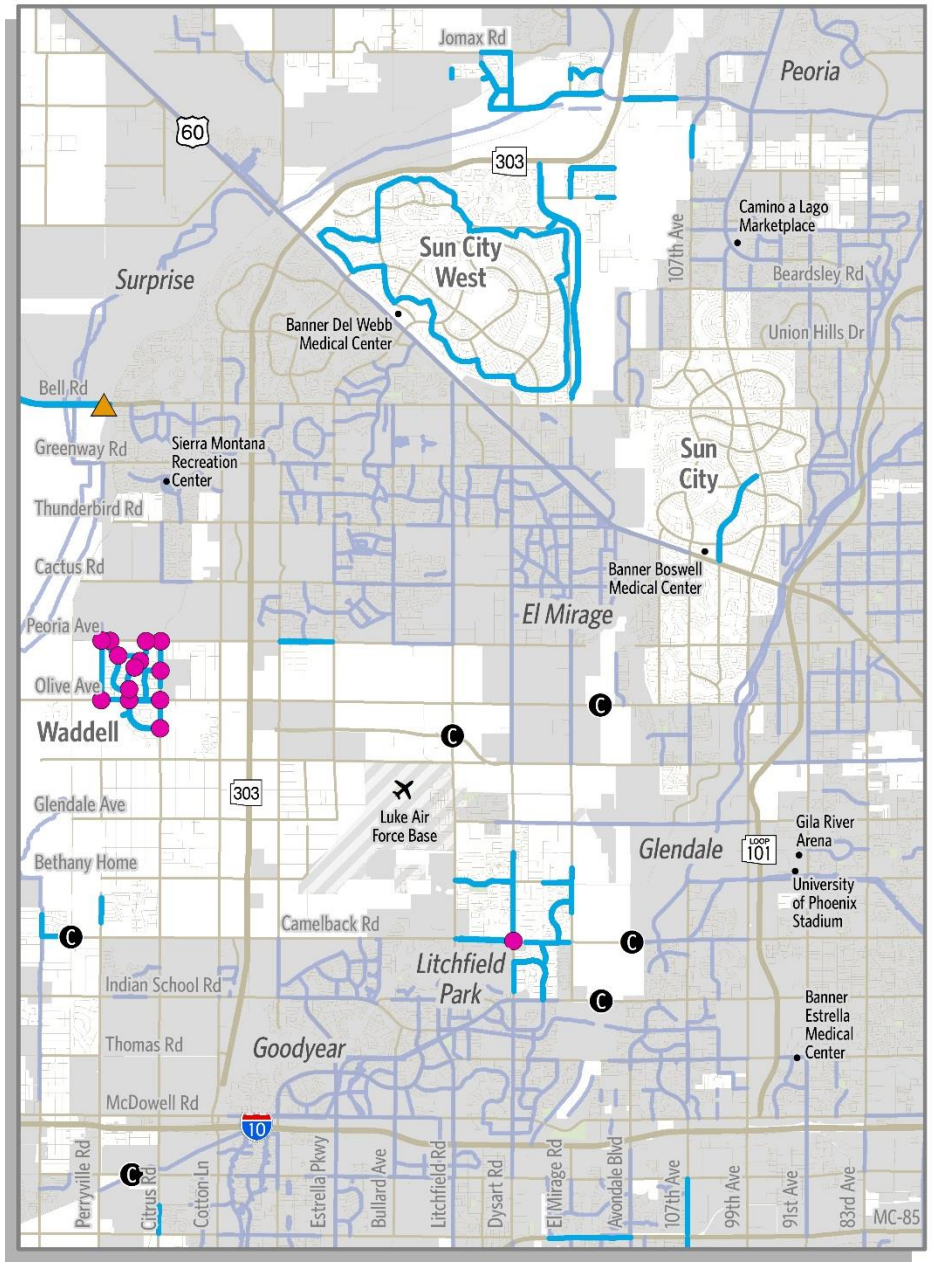
**Figure 6.3: Intersection, Vertical Gap, and Crossing Improvement Needs in the Bicycle Network**




*Areas shown in white are unincoporated Maricopa County*
*Data shown for unincorporated Maricopa County only*
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

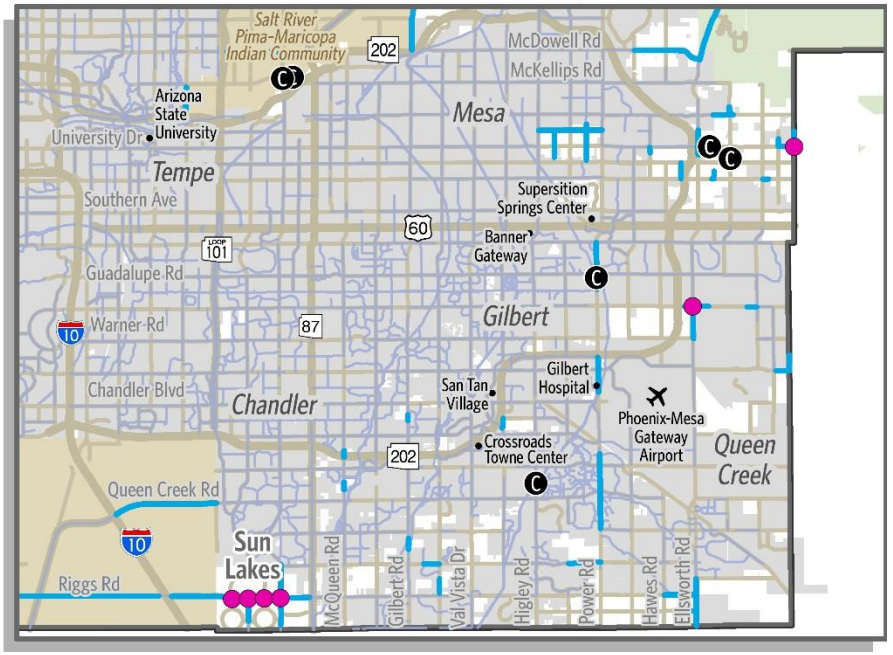
**Figure 6.3: Intersection, Vertical Gap, and Crossing Improvement Needs in the Bicycle Network (Continued)**

Western Portion of the Phoenix Metropolitan Area




Anthem Area


Southeastern Portion of the Phoenix Metropolitan Area



## Minor Gap Needs

A bicycle network is only as strong as its weakest link. Minor gaps in the network are due to many factors, including inconsistent corridor development, physical constraints, and right-of-way issues. Coordinating with MCDOT's pavement maintenance program provides a good opportunity to address these minor gaps. Figure 6.4 illustrates the location of minor gaps, and Table 6.8 provides examples of minor bicycle gaps on MCDOT's bicycle network.

**Table 6.8: Examples of Minor Gaps**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| El Granda Boulevard | South of Rowell Road | Jomax Road | 0.20 | Peoria | Bicycle facility |
| 103rd Avenue | Grand Avenue | Santa Fe Drive | 0.05 | Sun City | Bicycle facility |
| MC-85 | West of Estrella Parkway | East of Estrella Parkway | 0.40 | Goodyear | Bicycle facility |

## Corridor Needs

Longer gaps in the bicycle facility network (0.20 mile to 1 mile) create large barriers in the continuous bicycle network. Filling in these large network gaps links hundreds of thousands of residences to jobs and provides choices for convenient travel by bicycle. Table 6.9 provides a sampling of bicycle facility corridor needs, while Figure 6.4 illustrates the location of all corridor needs.

**Table 6.9: Examples of Corridor Needs**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| University Drive | Higley Road | Power Road | 2.00 | Mesa | Bicycle facility |
| 99th Avenue | Olive Avenue | Beardsley Road | 4.00 | Sun City | Bicycle facility |
| Olive Avenue | White Tank Mountain Road | Citrus Avenue | 3.00 | Waddell | Bicycle facility |
| Crismon Road | Broadway | McKellips Road | 3.00 | Mesa | Bicycle facility |

## Regional Bicycle Connections and Network Expansion

MCDOT has a tremendous opportunity to collaborate with neighboring jurisdictions to expand the region's active transportation network. Regional bicycle connection and expansion opportunities address regional connectivity needs between jurisdictions and key regional destinations, as well as regional parks, and long-distance recreational opportunities. Figure 6.5 illustrates the locations for regional bicycle connections and network expansion opportunities, and Table 6.10 provides examples of some of these opportunities.

**Table 6.10: Example of Regional Bicycle Connections and Expansion Needs**

| On Road | From | To | ~Miles | General Area | Need |
|---|---|---|---|---|---|
| Olive Avenue | El Mirage Road | New River Trail Path | 2.86 | Sun City | Bicycle facilities to connect Sun City, El Mirage, Youngtown, and Peoria residents to the regional trail network |
| New River Road | Carefree Highway | I-17 | 12.00 | New River | Bicycle facilities to provide long-distance, recreational bicycle route on heavily utilized route by weekend bicyclists |
| Lone Mountain Road | 56th Street | 68th Street | 1.50 | Phoenix | Bicycle facilities to connect Scottsdale and Phoenix |

## Low Stress Facility Needs

A key element to achieve MCDOT's vision for providing transportation options for people of all ages and abilities is to provide a connected network including low stress bicycle facilities that appeal to all users. On most local streets, dedicated space is not needed for bicycles, as vehicle speeds and volumes are low enough to allow people biking and driving to share the same road. Figure 6.6 illustrates the location of potential low-stress networks within Sun City, Anthem, and Sun Lakes that can improve connectivity within the community and allow less confident bicyclists to reach nearby travel destinations.

**Figure 6.4: Minor Gaps and Corridor Needs in the Bicycle Network**

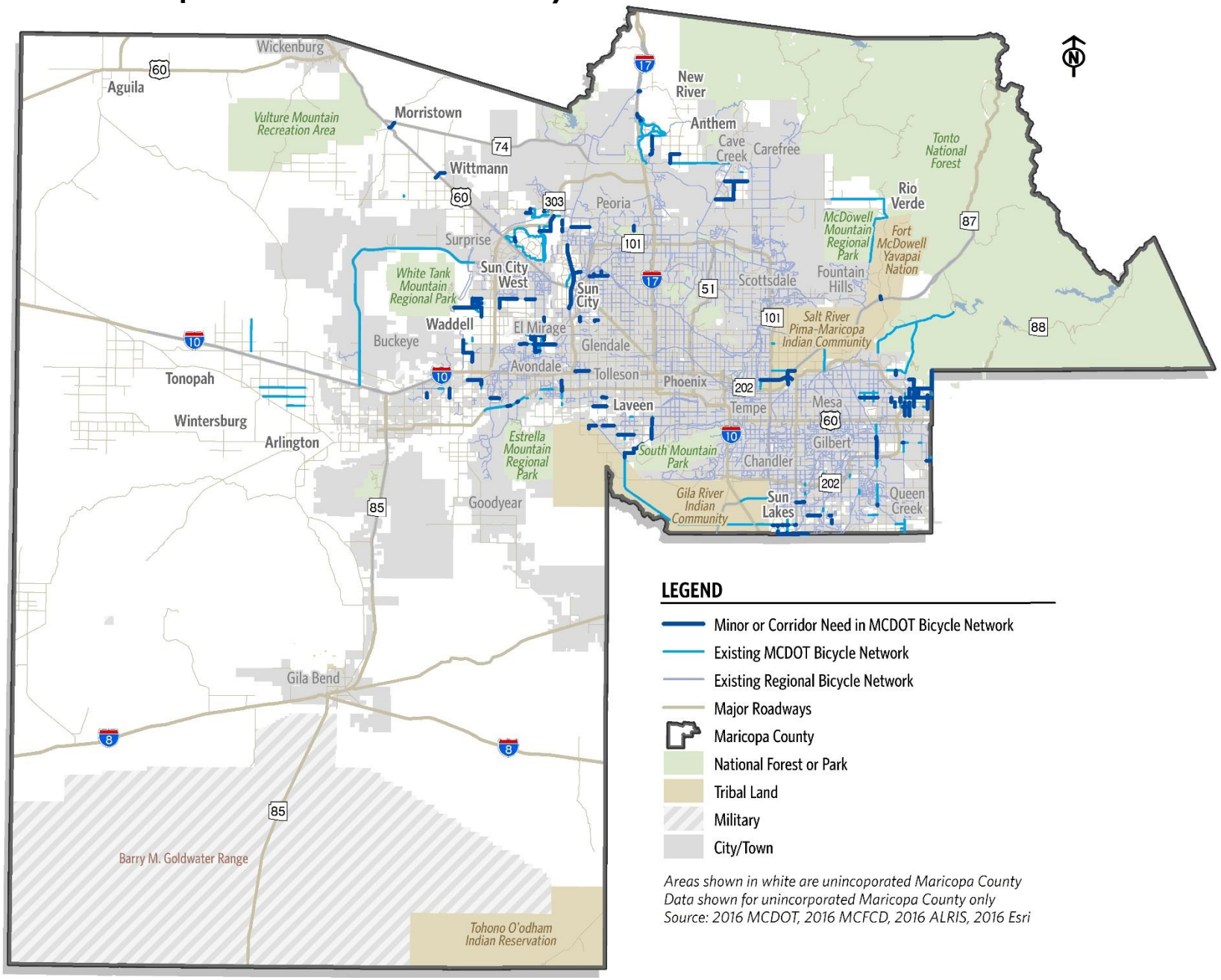
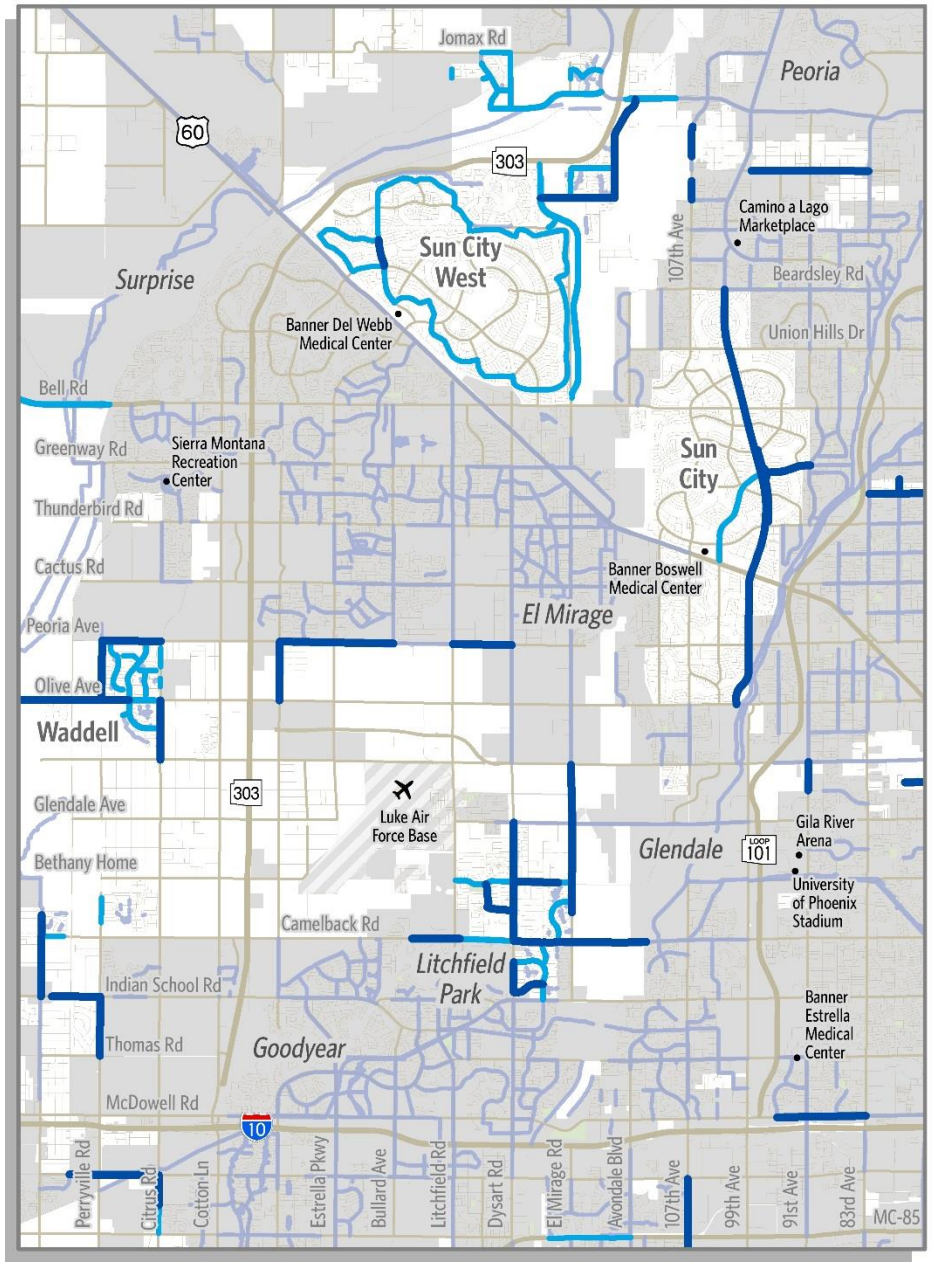
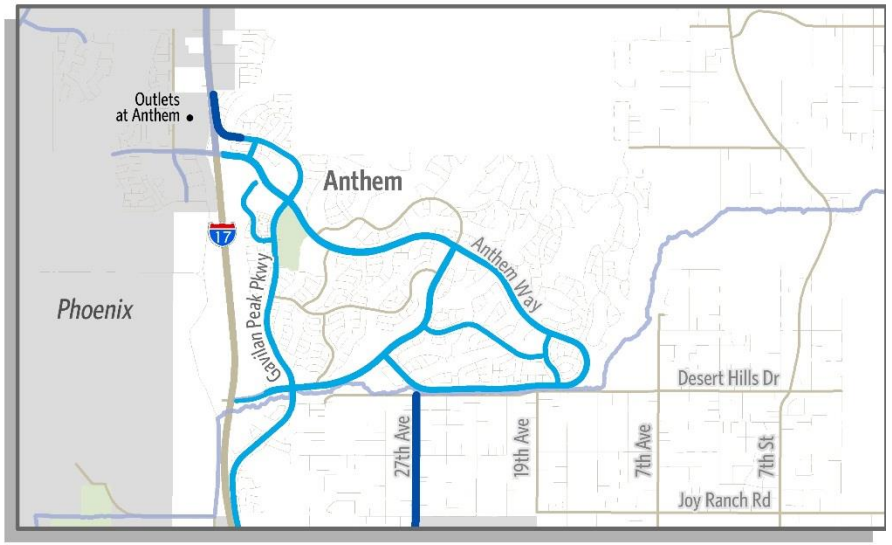


**Figure 6.4: Minor Gaps and Corridor Needs in the Bicycle Network (Continued)**

Western Portion of the Phoenix Metropolitan Area




Anthem Area




Southeastern Portion of the Phoenix Metropolitan Area

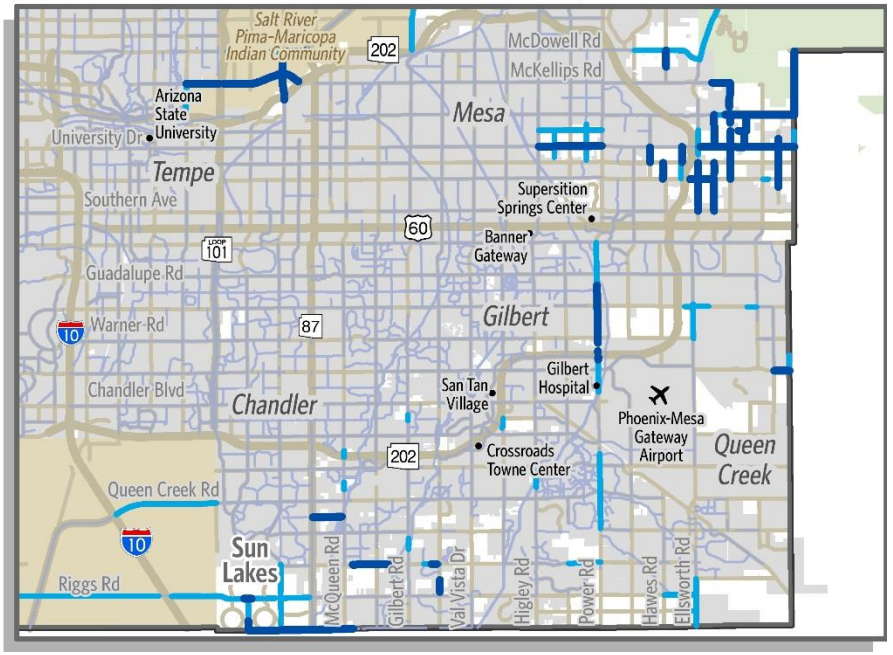


**Figure 6.5: Regional Bicycle Connections and Network Expansion**

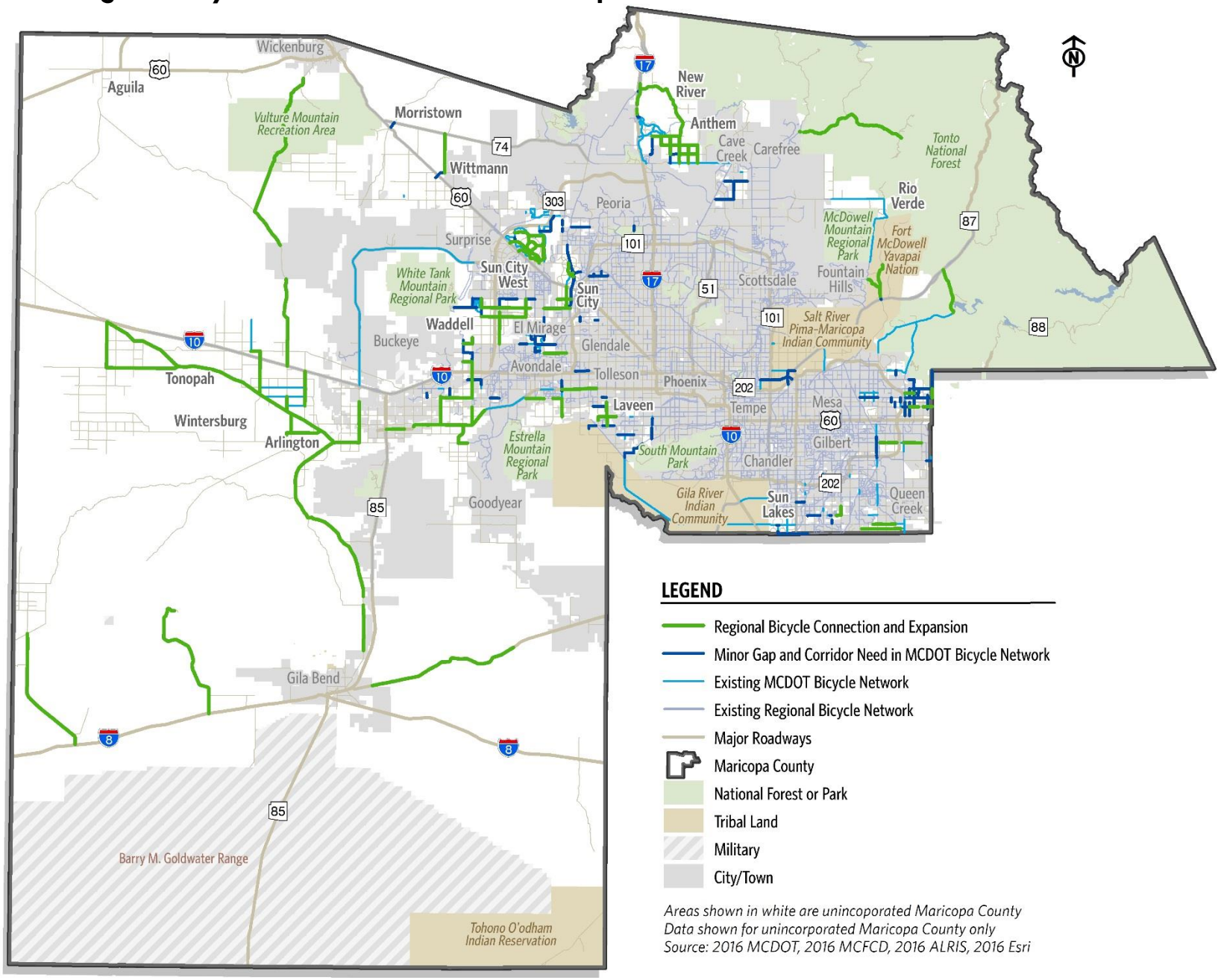
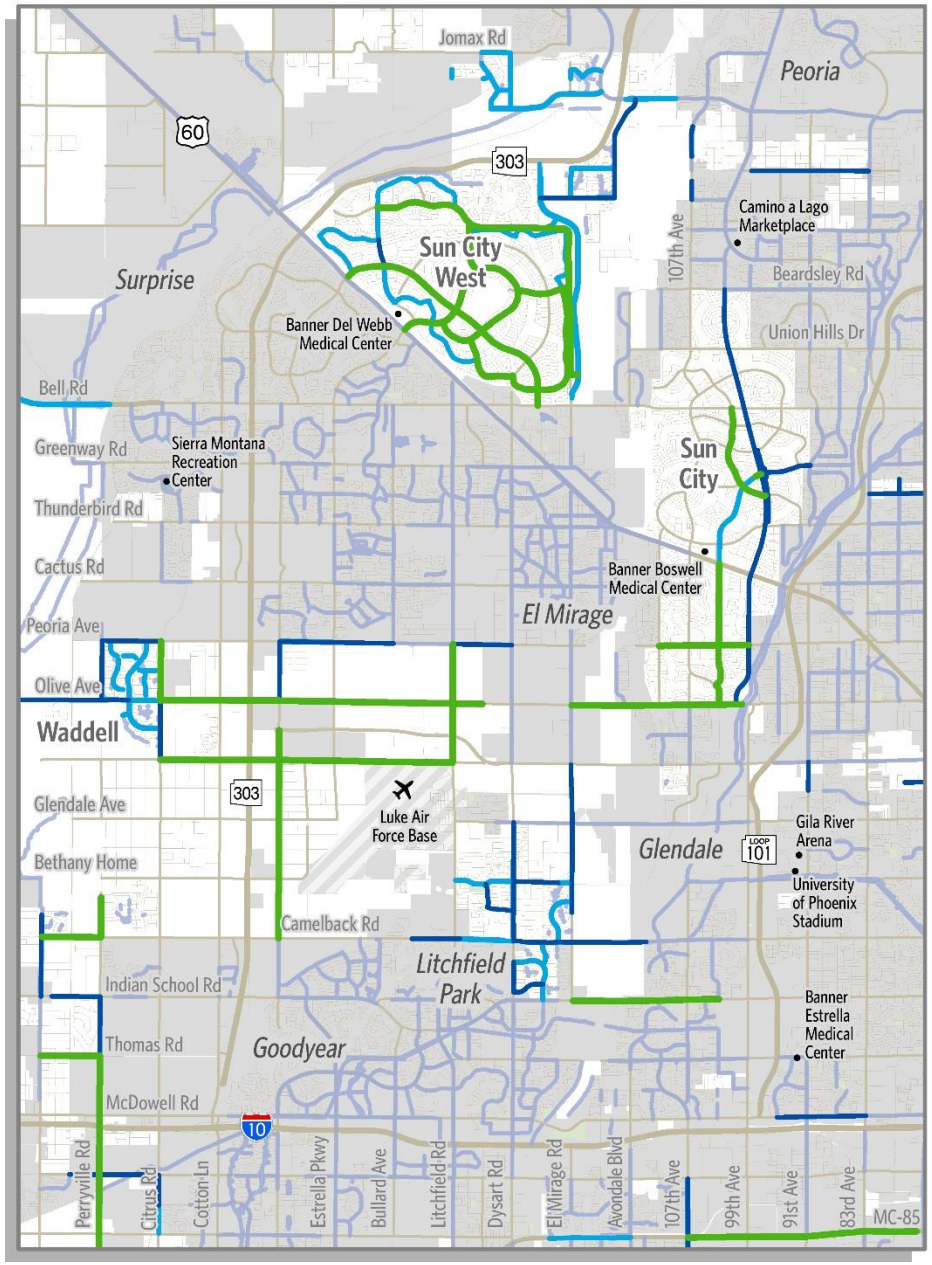


**Figure 6.5: Regional Bicycle Connections and Network Expansion (Continued)**

Western Portion of the Phoenix Metropolitan Area

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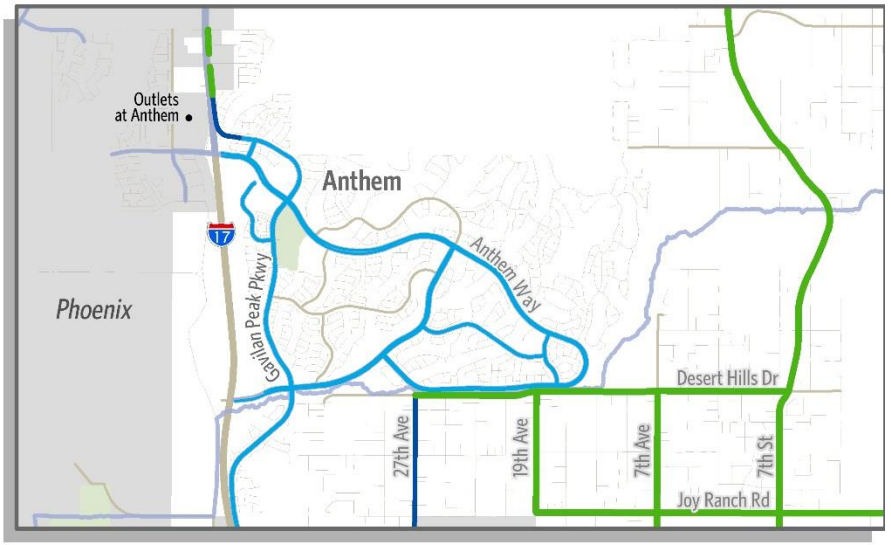



Southeastern Portion of the Phoenix Metropolitan Area

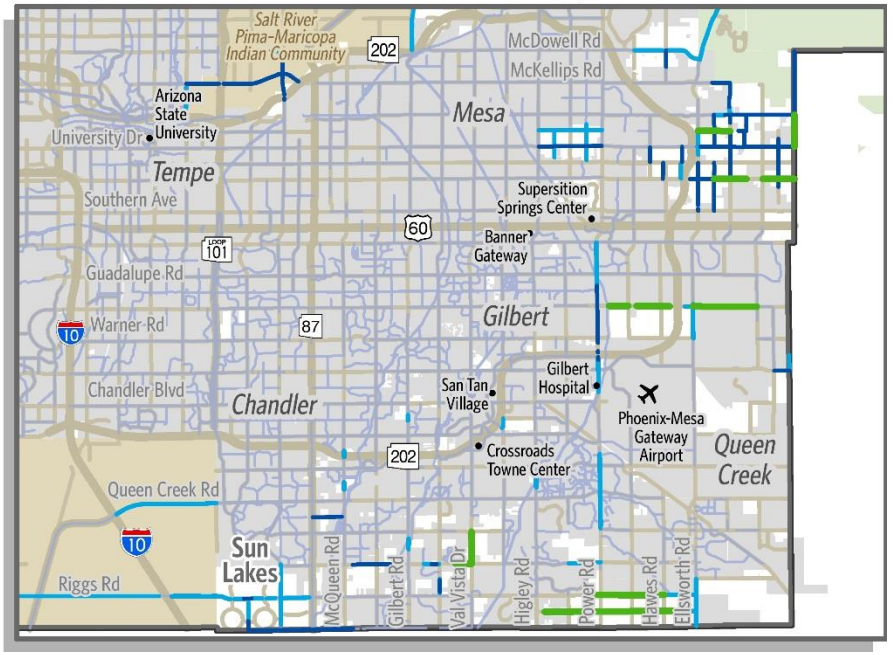
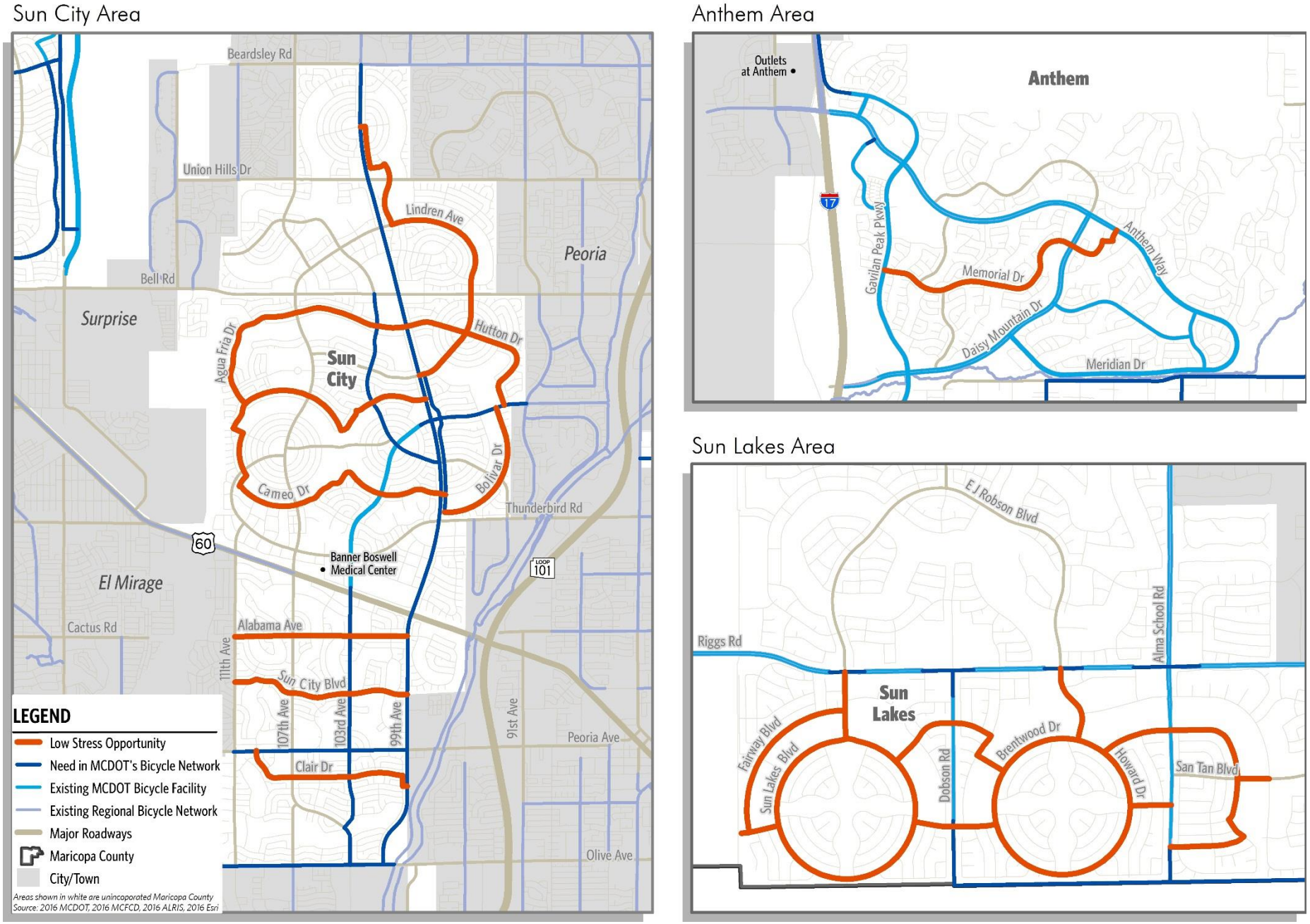


**Figure 6.6: Low Stress Facility Needs**



## Other Connectivity Needs

Pedestrian and bicycle needs have been discussed but it is important to also identify additional active transportation infrastructure and connectivity needs, such as facility needs of disabled populations and access to transit. The following needs are complimentary to the MCDOT roadway network.

### ADA Compliance

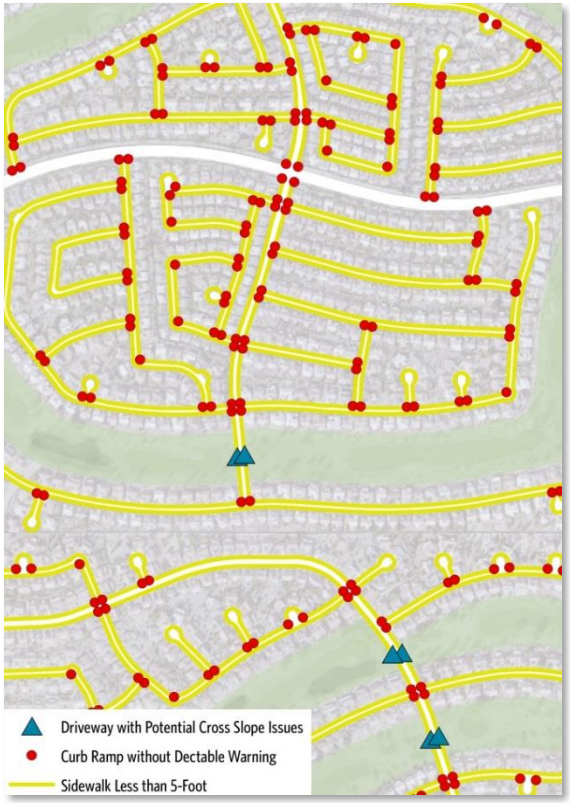
A facility's compliance to the Americans with Disabilities Act (ADA) not only affects individuals with disabilities, but all pedestrians. Maintaining a smooth sidewalk surface free of obstructions helps to eliminate tripping hazards, especially for visually impaired pedestrians, and makes the path easier to traverse, particularly for persons using a wheelchair, cane, or other mobility assistance device. Furthermore, curb ramps, and particularly detectable warning surfaces, create a safe transition for blind and low-vision persons and provide a vital safety cue that you are entering a roadway.

Currently MCDOT adheres to ADA standards for all new construction and alterations to existing public rights-of-way, as outlined in MCDOT's Roadway Design Manual, and designed in accordance with the MAG Uniform Standard Specifications. ADA standards include, but are not limited to:

- Sidewalks with widths less than 5 feet, a 5x5 foot passing zone is required every 200 feet
- Curb ramps must be 36-inches in width or greater, meet cross and running slope standards, and have a high-visibility truncated dome present

In January 2018, MCDOT completed an update of their *ADA Transition Plan*. The Plan identified the following potential accessibility issues:

- Inadequate sidewalk width
- Sidewalk obstructions
- Curb ramps that are not ADA compliant
- New curb ramps
- Driveways with potential cross slope issues
- Transit stops with possible accessibility issues




*Example of facilities that need future evaluation to determine potential accessibility issues*

## Transit Connections

Transit is a public transportation system that allows the general public to travel via a local circulator bus, regional bus, or light rail. Often people who could potentially utilize transit choose to drive because transit stops are not conveniently located near their starting points or final destinations. Connecting pedestrian and bicycle facilities with these "first and last mile" connections expands a person's transportation choices by making transit more accessible. Furthermore, integrating and linking active transportation networks with transit helps to create a balanced and efficient multimodal transportation network that makes transportation affordable, convenient, and flexible for all users regardless of their age, ability, or socioeconomic status.

*Pedestrian connectivity issues to bus stop*

Along MCDOT roadways, nineteen transit stop locations were identified as having connectivity issues. Working with Valley Metro and neighboring jurisdictions, these bus stops can be connected to nearby active transportation facilities to help facilitate walking and biking to and from the transit network.

## Recreation Connections

When active transportation facilities are connected to recreational areas, the off-street trails and paths act as an extension of the transportation system. These off-street paths serve not only as recreational paths for pedestrians and bicyclists, but can also provide users with regional connections. Active transportation connections to recreational areas help create healthy communities by providing opportunities and encouraging people to engage in physical activity. Examples of recreation connection needs include:

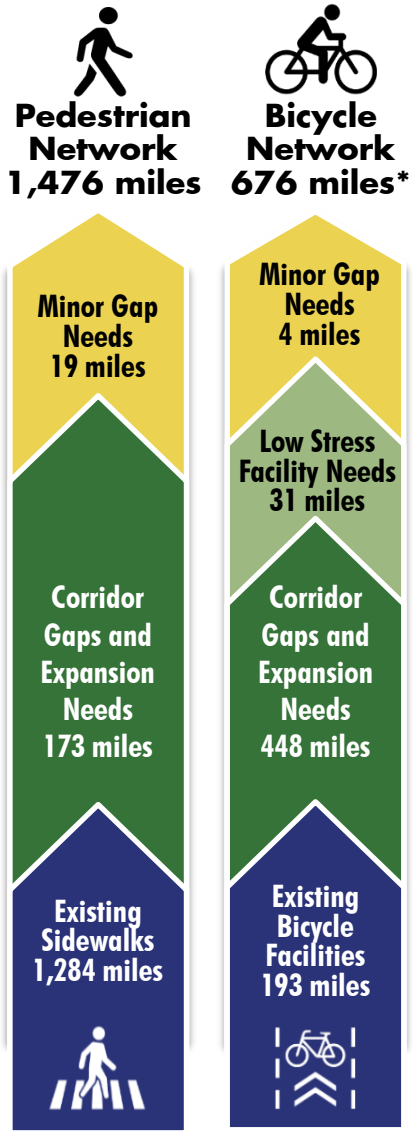
- White Tank Regional Park – access from neighboring residential area
- Usery Mountain Recreation Area – connections to trailheads located on Crismon Road, 103rd Street, and Signal Butte Road
- Vulture Mountain Regional Park and Hassayampa River Preserve – bicycle access

## Identified Network Needs

In total, the ATP identified 484 miles of bicycle facility needs and 192 miles of pedestrian facility needs to address local and regional network facility gaps. Should all needs be addressed, MCDOT would increase their bicycle network by 251 percent and pedestrian network by 15 percent. Figure 6.7 and 6.8 illustrate all pedestrian and bicycle facility needs along MCDOT's roadways, respectively.

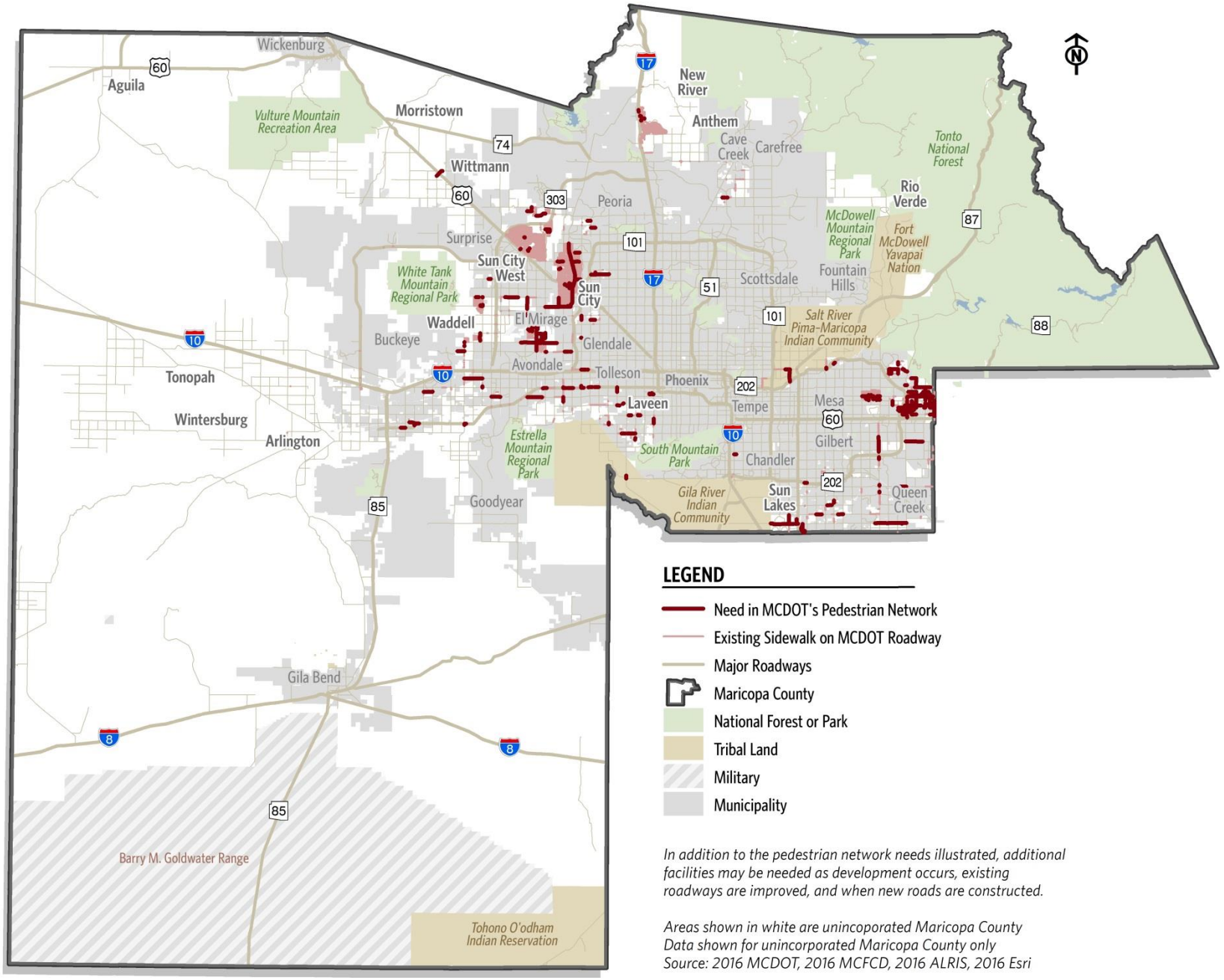
While the ATP focuses on the identification of network gaps, MCDOT has additional active transportation needs, including:

- **Arterials:** Pedestrian and bicycle facilities along arterials routes may be needed to provide the most direct and efficient route to services and destinations, as well as providing regional connections between communities.
- **New Developments:** When new developments arise, logical and accessible pedestrian and bicycle facility connections to existing or planned active transportation facilities are needed.
- **New Roadways:** Pedestrian and bicycle facilities may be needed on all new road construction and reconstruction projects to further expand the region's active transportation network.
- **Maintenance:** Ongoing facility maintenance is needed to preserve MCDOT's active transportation investments.




**For on-road bicycle facilities, total miles represent roadway centerline miles with bicycle facilities (i.e., bicycle lanes on both sides of the roadway are not counted separately).Sidewalk mileage represents directional mileage .*

## Figure 6.7: Pedestrian Network Needs




*In addition to the pedestrian network needs illustrated, additional facilities may be needed as development occurs, existing roadways are improved, and when new roads are constructed.*

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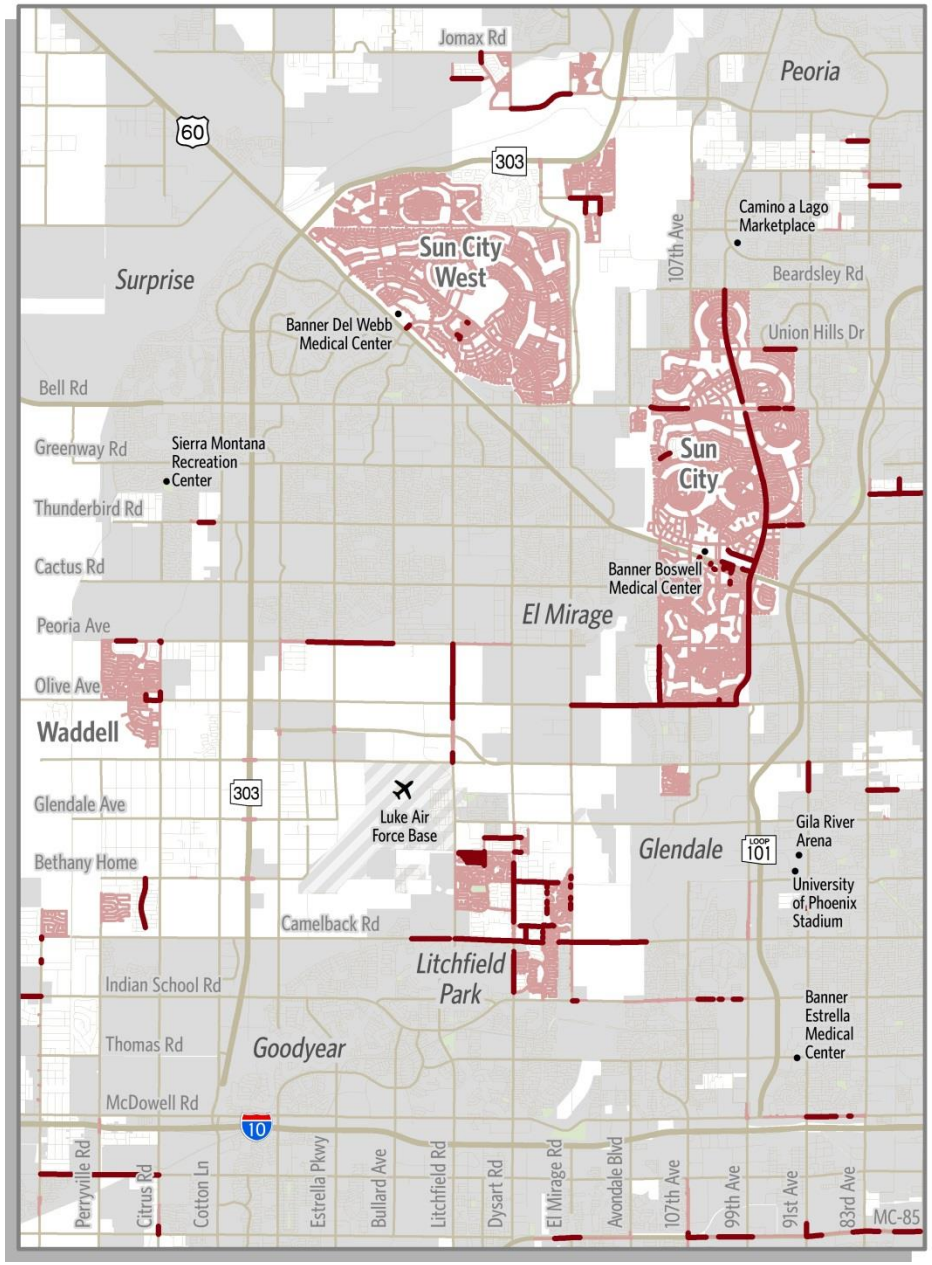
*Source: 2016 MCDOT, 2016 MCFCD, 2016 ALRIS, 2016 Esri*

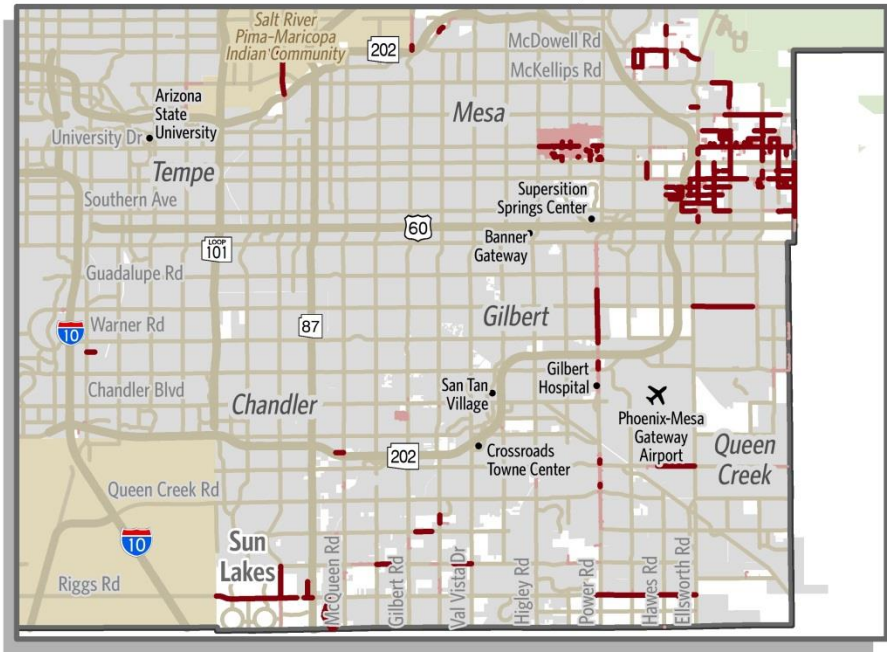
**Figure 6.7: Pedestrian Network Needs (Continued)**

Western Portion of the Phoenix Metropolitan Area

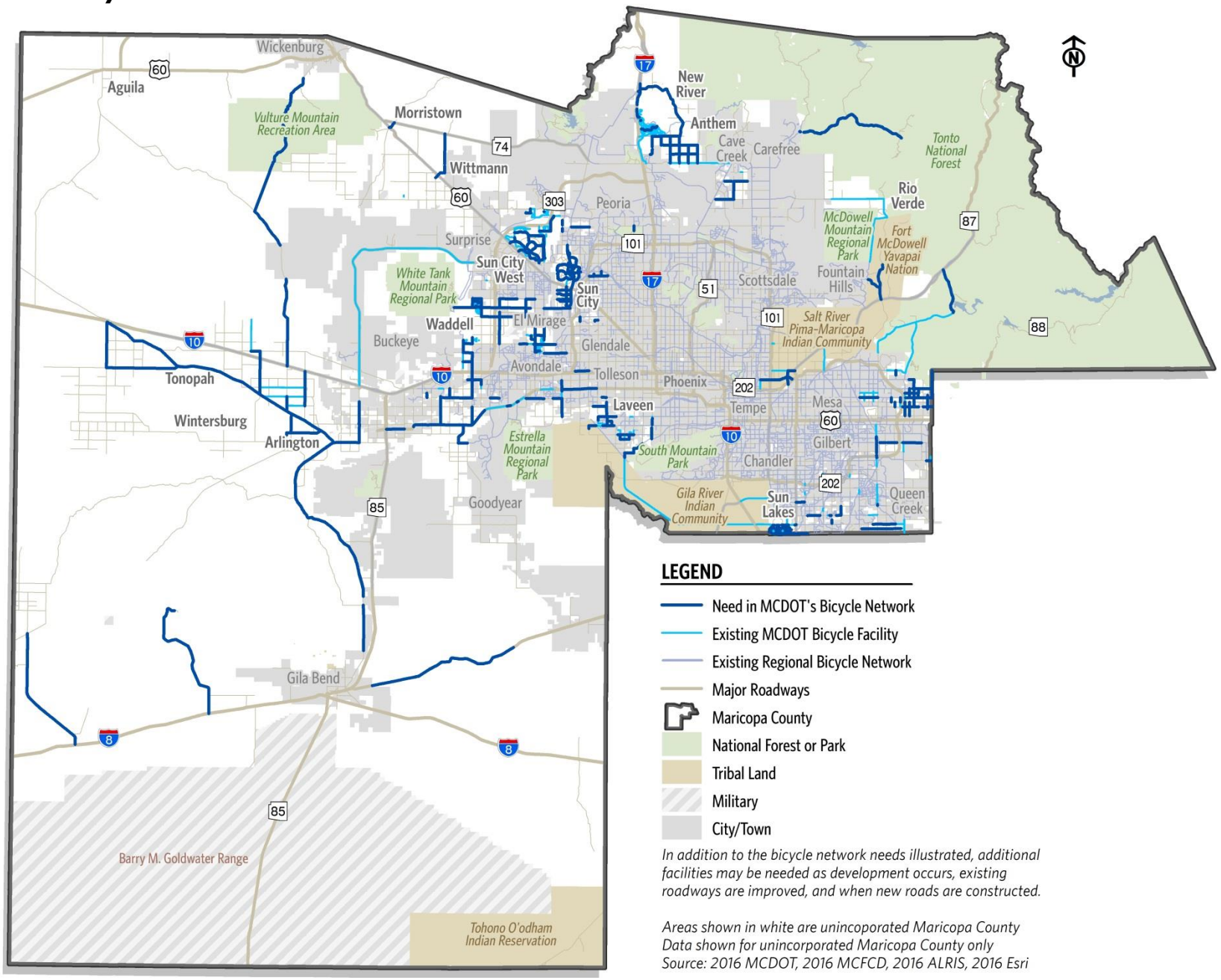



Anthem Area


Southeastern Portion of the Phoenix Metropolitan Area



## Figure 6.8: Bicycle Network Needs




*In addition to the bicycle network needs illustrated, additional facilities may be needed as development occurs, existing roadways are improved, and when new roads are constructed.*

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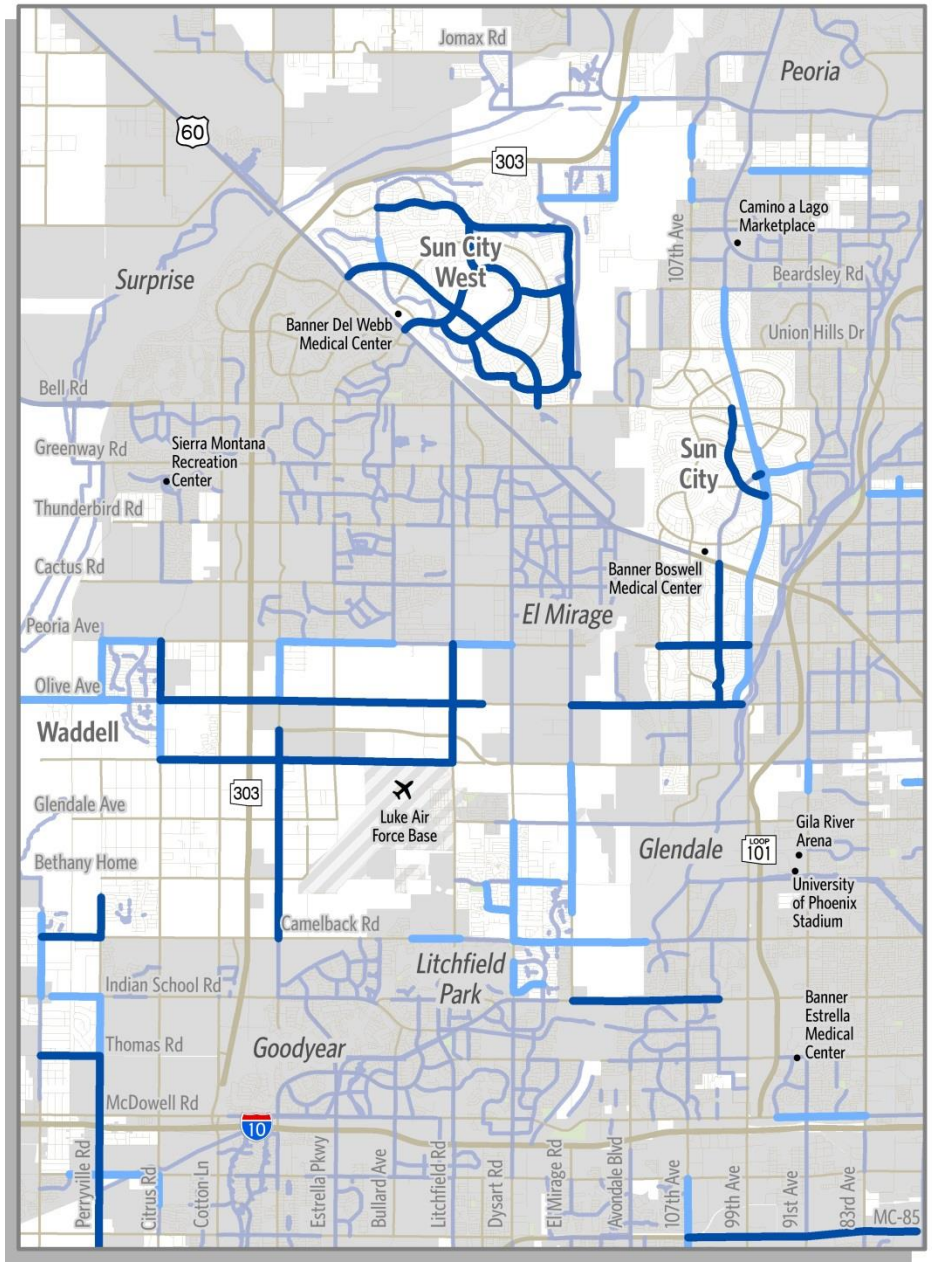
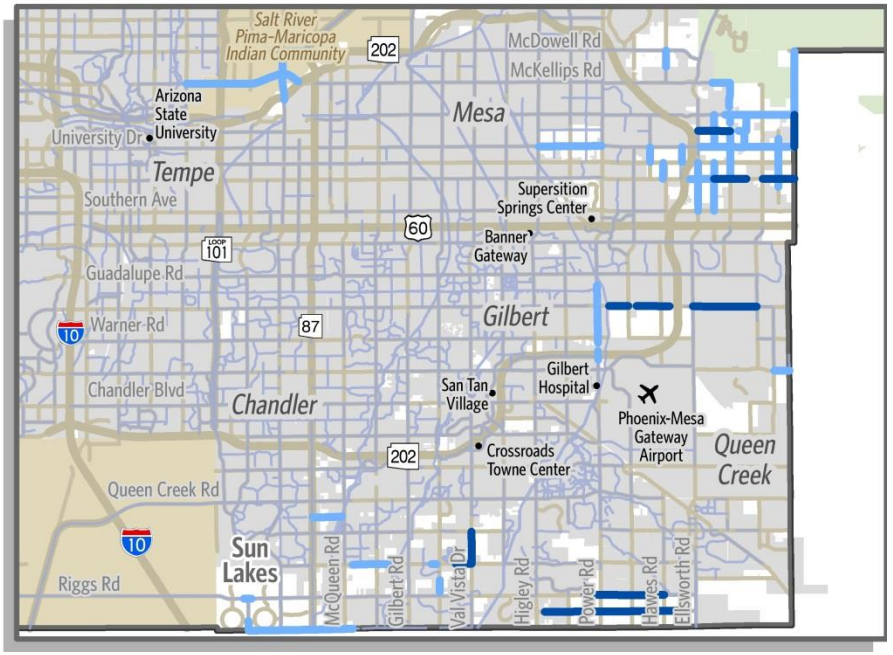
**Figure 6.8: Bicycle Network Needs (Continued)**

Western Portion of the Phoenix Metropolitan Area




Anthem Area


Southeastern Portion of the Phoenix Metropolitan Area



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# 7 | Next Steps

"Our running shoes have magic in them. The power to transform a bad day into a good day; frustration into speed; self-doubt into confidence; chocolate cake into muscle."

– Mina Samuels
*Writer*

# NEXT STEPS

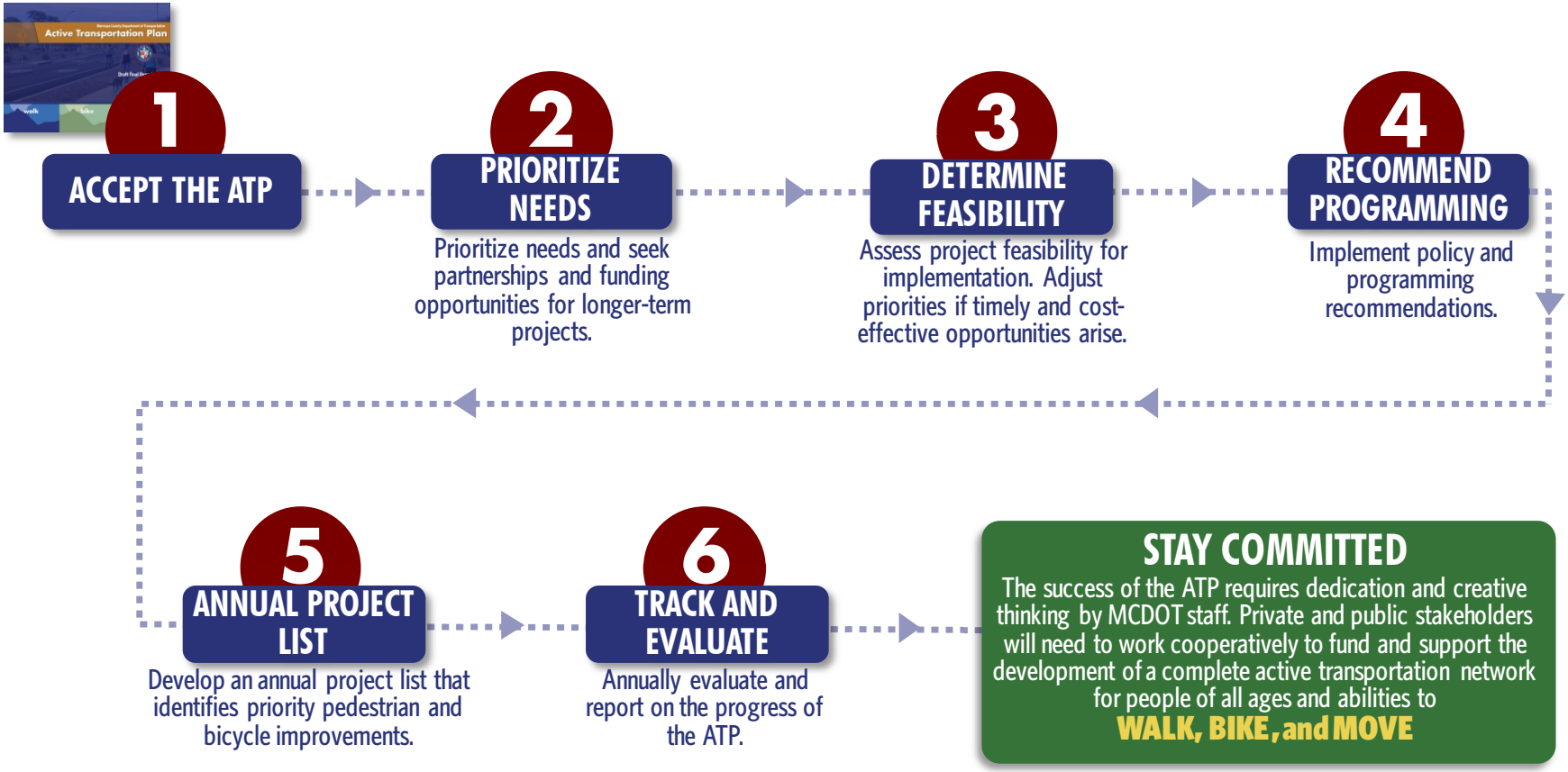
This chapter presents key steps to achieving the goal of providing connections and choices for people of all ages and abilities to walk, bike, and move.

## What's Next?

The completion of the Active Transportation Plan (ATP) is the first of many steps that need to occur to realize the ATP's objectives. Simply building additional pedestrian and bicycle facilities will not enable Maricopa County Department of Transportation (MCDOT) to reach the goals outlined in this plan. To make the vision a reality requires a comprehensive approach that includes policy, design, and implementation elements in addition to agency partnerships and dedication and commitment by MCDOT staff. As illustrated in Figure 7.1, the process includes the following six steps:

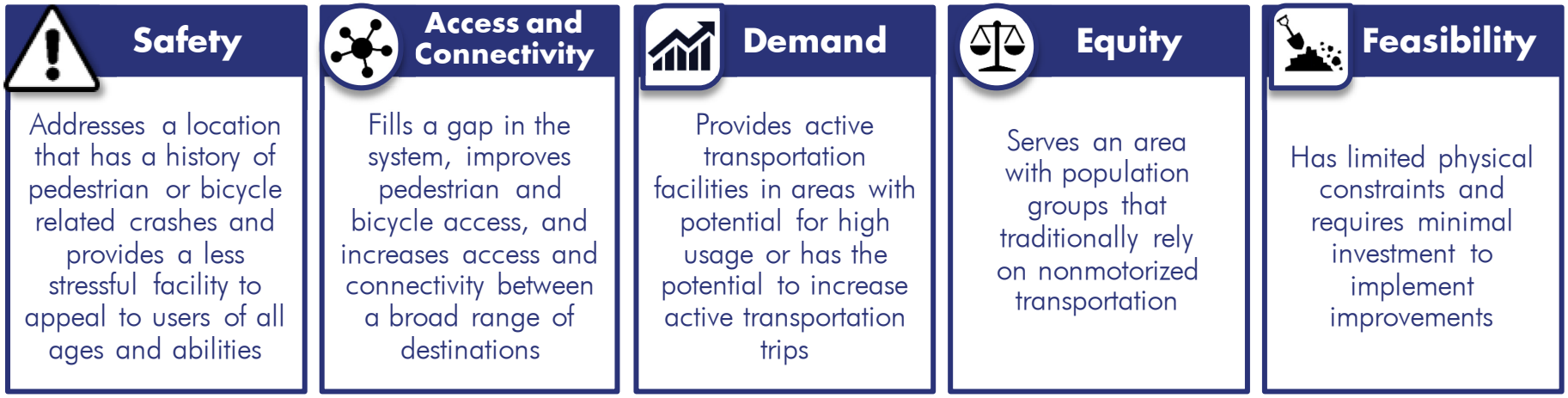
- **Accept the ATP**: The ATP represents the ideas, issues, and needs of hundreds of public participants, as well as a shared, regional vision for active transportation throughout Maricopa County. The Maricopa County Transportation Advisory Board should formally accept the ATP.
- **Prioritize Needs**: The full list of needs will have to go through a prioritization process to identify projects with the greatest need and benefit. Prioritization factors may include safety and mobility, potential funding collaboration, socioeconomic and health need, ability to coordinate with programmed projects, and community support.
- **Determine Feasibility**: Priority needs should go through a comprehensive assessment to determine what type of facility is best suited for the area, if the project is economically viable, and to conduct a fatal flaw review of environmental, right-of-way, utility, and other issues that may delay implementation.
- **Recommend Programming**: High priority, feasible improvements should be programmed and MCDOT staff should begin seeking partnerships and funding opportunities for long-term improvements. When applicable, pedestrian and bicycle improvements should be incorporated into regularly scheduled maintenance activities.
- **Develop Annual Project List**: Annually, projects should be reassessed and evaluated to create an annual project list that identifies priority active transportation investments.
- **Track and Evaluate**: Annually evaluate and report on the progress of the ATP. As the region grows and technologies and designs change, recommendations in the ATP should be reevaluated at least every five years.

**Figure 7.1: Next Steps**



## Prioritize Needs

Prioritizing identified needs is a critical step in the implementation of the ATP. In order to meet the significant need for active transportation in Maricopa County, MCDOT must be strategic with its investments. The prioritization process ultimately creates a list of potential projects and serves as a guide for proactively moving projects towards funding, design, engineering, and further stakeholder engagement. To assist MCDOT in the prioritization process, a preliminary set of prioritization factors were identified. The identified prioritization factors quantify the magnitude of how infrastructure needs identified in the ATP contribute to the overall vision and goals. Table 7.1 outlines the preliminary project prioritization factors. The preliminary prioritization criteria include:




Prioritizing projects is just one component of the project development process. All potential projects must undergo a thorough feasibility review to account for constructability review and detailed cost development. Furthermore, the results of the prioritization should not preclude MCDOT from implementing projects when cost-efficiencies or new project partnership opportunities arise (such as incorporating a project into a new development or other roadway project).

**Table 7.1: Potential Project Prioritization Factors**

| Project Prioritization Factor Description |
|---|
| **Safety** |
| • Addresses corridors/intersections with a high number of pedestrian/bicycle related crashes<br>• Provides a less stressful facility that appeals to users of all ages and abilities<br>• Contributes to the reduction in overall number of crashes |
| **Access and Connectivity** |
| • Addresses existing gap in the system to create a continuous and interconnected active transportation network<br>• Connects people within neighborhoods, recreational facilities, or multiple jurisdictions<br>• Improves direct access to critical facilities such as schools and medical services<br>• Improves first/last mile connections between transit stops and surrounding destinations |
| **Demand** |
| • Serves an area with a high demand for active transportation<br>• Has public/agency support<br>• Provides facilities in an area with high density of access points |
| **Equity** |
| • Serves an area with high number of low income and zero car household population<br>• Serves an area with high number of individuals with disabilities<br>• Serves areas with disproportionate rate of vulnerable users (i.e., children, elderly, minorities, etc.)<br>• Provides active transportation facilities in an area with high levels of chronic health issues |
| **Feasibility** |
| • Requires a modest investment, has few constraints, and can be constructed in a short time frame<br>• Reasonable construction cost<br>• Does not have major right-of-way or other physical constraints |

## Determine Feasibility

A range of factors can influence a pedestrian and bicyclists' comfort and safety. Selecting the appropriate pedestrian and bicycle facility for a roadway must balance traffic conditions, land use context, maintenance cost, and implementation cost.

### Design Resources

A number of federal and state resources are available for planning and design. In addition to MCDOT's RDM, design resources include:

- AASHTO Guide for the Development of Bicycle Facilities
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
- FHWA Achieving Multimodal Networks
- FHWA Separated Bike Lane Planning and Design Guide
- FHWA Incorporating On-Road Bicycle Networks into Resurfacing Projects
- NACTO Designing for All Ages and Abilities
- NACTO Urban Bikeway Design Guide
- NACTO Urban Street Design Guide
- MAG Bicycle and Pedestrian Pathway/Railroad Crossing Recommendations
- MAG Complete Streets Guide

### Roadway Modification Strategies

Many roadways in Maricopa County provide adequate right-of-way to accommodate sidewalks, bike lanes or paved shoulders per MCDOT's design standards; however, additional right-of-way or modifications may be needed to accommodate wider or more protected facilities. Examples of roadway modification strategies to incorporate active transportation facilities include:

- Restriping – restripe travel lanes to accommodate bicycle facilities and/or install sidewalks.
- Sidewalk Location – sidewalks may be placed behind a drainage swale to avoid installing curb and gutter when there is insufficient room between the roadway and the swale.
- Widen Road – in areas where other modification strategies are not feasible, additional right-of-way may be needed to accommodate pedestrian and bicycle facilities. Pavement widths at intersections and midblock pedestrian crossings, however, should be kept to a minimum to reduce pedestrian crossing distances.

## Designing for All Users

Due to the unique character of unincorporated Maricopa County, MCDOT maintains a wide variety of roadway types in different land use contexts – including rural and suburban settings. For each roadway classification, MCDOT already has design guidelines that specify cross sections and include pedestrian and bicycle accommodation.

If the context of the area, public input, or local priorities indicates that often a more comfortable walking and riding environment is desired, an upgraded facility type should be considered. As space permits, additions to the width of sidewalks, standard bike lanes and shoulders should generally be considered, as very narrow facilities are often uncomfortable for users. To accommodate all users, MCDOT may want to consider the following design elements:

- According to the MCDOT RDM, sidewalks in urban areas should be 5-foot or wider. Widening sidewalks to 6-foot increases a person's level of comfort, gives ample room for pedestrians to pass, provides additional space for person's utilizing a wheelchair, and creates a more walk-friendly corridor.
- MCDOT RDM also specifies a minimum 5-foot bike lane width; however, widening the bike lane between 6- to 8-foot further increases a rider's level of comfort.
- Buffered bike lanes create a greater separation between bicyclists and the passing motorists. Space for buffered bike lanes can be created by reallocating existing roadway space, such as narrowing travel lanes or removing travel lanes.
- Bi-directional, buffered sidewalks and pathways offer a low-stress, high-quality walking experience for all ages and abilities. The pathways should be a minimum of 10-foot with at least a 5-foot separation from the roadway.
- Streets with low vehicle traffic volumes and speeds can be upgraded to prioritize walking and bicycling. To optimize bicycle travel, treatments such as traffic calming and traffic reduction, signage and pavement markings, and intersection crossing treatments can be installed. These treatments allow bicyclists to freely move while discouraging cut through traffic. In areas where there is high pedestrian activity, high-visibility crosswalks can be installed to discourage motorists from entering a crosswalk.
- Implementing traffic calming measures on corridors with heavy active transportation usage may further increase a persons perceived level of safety of the roadway. For instance, speeds of 20 – 25 mph improve comfort and allow drivers to more easily react when bicyclists need to move into the motor vehicle lane.

## Maintenance Considerations

Maintaining the active transportation network once it has been implemented preserves MCDOT's investment and will help support the transportation needs of Maricopa County residents. Bicyclists and pedestrians are vulnerable to pavement/sidewalk irregularities such as cracks, potholes, broken glass, sand, etc. Unmaintained landscaping causes safety issues by obstructing bicycle lanes and sidewalks and blocking visibility. Major storms and motor vehicle crashes can leave debris, presenting hazards to pedestrians and bicyclists, which must be picked up as soon as possible.

Maintenance needs are typically identified through one of three sources: the public reporting a problem, routine inspections, or special inspections after a storm, crash, or construction project. Maintenance activities can generally be categorized into one of two types:

- Routine maintenance: performed annually or more frequently
- Major or capital maintenance: involves more intensive activities such as pavement seal coating, pavement overlays, or pavement reconstruction, or structural rehabilitation or replacement

MCDOT should monitor scheduled maintenance programs to ensure bicycle and pedestrian facility maintenance. Buffered sidewalks and shared use paths often require more frequent and different maintenance practices (depending on the degree and type of physical separation). During the facility design selection phase of project development, maintenance needs and costs should be considered. Routine maintenance best practices include:

- Maintaining structure quality through spot repairs, regular overlays, and long-term rehabilitation
- Sweeping and removal of garbage and debris
- Trimming overgrown vegetation
- Restriping pavement markings as needed
- Repairing damage caused by monsoons, crashes, and other unforeseen events
- Repairing and replacing signage

### Chasing Pavement

Integrating recommended improvements with MCDOT's Pavement Management Program, is a cost-effective strategy for installing on-street bicycle facilities during routine roadway maintenance and resurfacing projects. During roadway restriping and resurfacing, the existing pavement could be striped or additional pavement could be added to accommodate bike lanes and paved shoulders.

## Recommend Programming

The MCDOT Planning Branch prioritizes and recommends projects for programming based upon need, prioritization, feasibility, and available funding.

### Implementation Strategy - Project Bundling

Project "bundling" is a concept that refers to grouping adjacent improvements into a single active transportation improvement project. For example, an intersection, sidewalk gap, and bicycle gap improvement needs along a section of roadway can be combined into one project to create a complete active transportation network along the corridor. Project bundling allows MCDOT to address multiple gaps/issues/needs at the same time by efficiently leveraging public funds, as well as improving funding chances. Table 7.2 provides examples of project bundles.

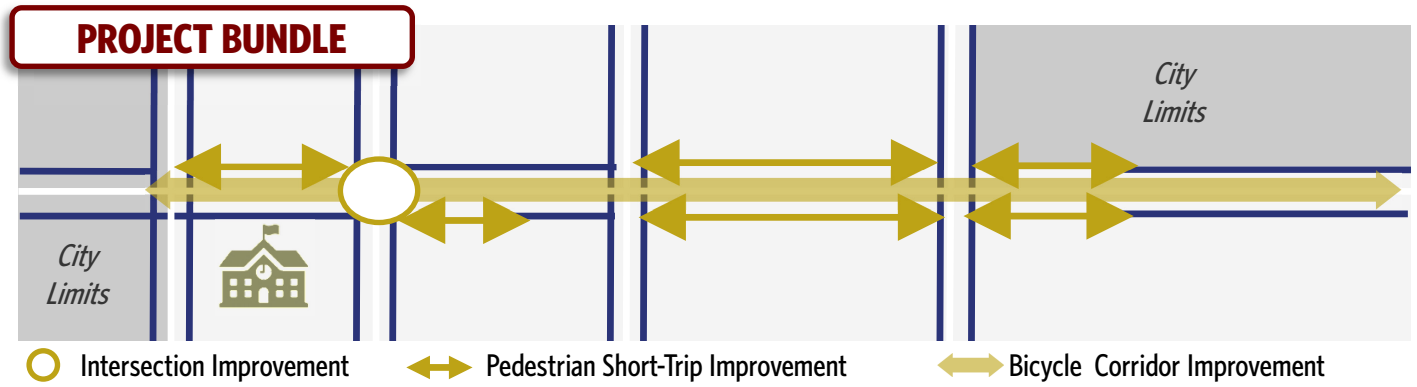



**Table 7.2: Examples of Project Bundles**

| On Road | From | To | Improvement | Miles |
|---|---|---|---|---|
| University Drive | Higley Road | Power Road | Fill-in sidewalk gaps and bike lanes to create continuous network; connect pedestrian facilities to bus stops; install pedestrian crossing at 64th Street | 2.00 |
| McDowell Road | 91st Avenue | 85th Avenue | Fill-in sidewalk gaps; connect sidewalks to bus stop; add ADA-compliant facilities at the 91st Avenue intersection | 0.75 |
| 99th Avenue | Olive Avenue | Beardsley Road | Fill-in sidewalk gaps and bike lanes to create continuous network; add ADA-compliant pedestrian crossing facilities | 7.17 |
| Broadway Road | 90th Street | 96th Street | Fill-in sidewalk gaps and bike lanes to create continuous network | 0.75 |
| Broadway Road | 96th Street | West of 104th Place | Fill-in sidewalk gaps and bike lanes to create continuous network; restripe canal bridge to add bike lane | 1.03 |

## Funding Ideas

Various funding sources are available to fund maintenance of existing sidewalks and bicycle facilities, construct new sidewalks and shared use paths, and to develop new on-street bicycle facilities. Most funding sources are competitive and require the preparation of applications. Some applications may be more competitive if MCDOT collaborates with local and regional agencies to jointly prepare and team on the construction of improvements. Table 7.3 provides a list of funding sources that may be applicable for needs identified in the ATP.

### Federal, State, and Local Funding

Federal funds from the Surface Transportation Block Grant Program (STBGP) are allocated to the state and distributed proportional to population, allowing funding to get to as many different types of communities as possible. Program funding for transportation alternatives (TA) is included within the STBGP. Federal transportation spending can vary and tends be dependent on economic factors. MCDOT should be creative in obtaining different sources of funding in order to implement projects. County and/or municipal funds may also be used to construct bicycle and pedestrian facilities.

### Public Private Partnership (P3)

Public Private Partnerships (P3s) are contractual agreements that can leverage funds from both sectors for infrastructure projects and facilities. Where municipal budgets fall short, private revenue can fill the gaps. Agreements may include funding, design, construction, operation, and/or management with terms agreed upon by the two entities.

### Developers

It is anticipated that as new residential and commercial developments arise, developers will build additional facilities that will expand and enhance the active transportation network including:

- Constructing pedestrian and bicycle facilities to their property and, as applicable, provide connections to nearest facilities.
- Ensuring pedestrian connectivity through the end of cul-de-sacs to shorten trip distances for walking and bicycling.
- Installing shaded and secure bicycle parking facilities at residential, office, school, commercial, and recreational developments.

**Table 7.3: Funding Options**

| Funding Opportunity | Overview |
|---|---|
| Federal Transit Administration (FTA) 5310 and 5311 Grant Programs | FTA Section 5310 and 5311 can be utilized for improving pedestrian and bicycle access to public transportation facilities, such as building an accessible path to a bus stop. |
| FTA Livability Grant Programs | Provides financial assistance to States, municipalities, transit agencies, and other public bodies to improve public transportation. Can be used for bicycle and pedestrian support facilities, such as bicycle parking, bike racks on buses, pedestrian amenities, and educational materials. |
| Surface Transportation Block Grant (STBG) Program | Provides states with flexible funds for a variety of highway, road, bridge, and transit projects. |
| Transportation Alternatives Program (TAP) - Recreational Trails Program | These grants are for short-term campaigns that will increase or preserve investments in active transportation in communities where program choices are being made on how to spend federal, state, and local funding. |
| Transportation Investment Generating Economic Recovery (TIGER) Grants | Grants are intended to support multimodal projects, surface transportation projects, rail, transit, and port projects. |
| Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans | The TIFIA program provides credit assistance for qualified projects of regional and national significance. |
| Achieving Transportation Accessibility Now (ATAN) | MAG, in partnership with Valley Metro, developed a short-term strategy to improve accessibility to bus stops. In January 2017 MAG's Regional Council approved the use of $2.5 million of transit funding to improve accessibility at transit stops in the MAG region. |
| Congestion Mitigation/Air Quality (CMAQ) Program | Program provides federal funds to projects and programs that help nonattainment and maintenance areas comply with air quality standards. |
| Community Development Block Grants | Funds local development activities in low to moderate-income communities, such as affordable housing, anti-poverty programs, and infrastructure development. Can be used to build sidewalks and recreational facilities. |
| Highway Safety Improvement Program (HSIP) Infrastructure | Helps communities achieve significant reductions in traffic fatalities and serious injuries on all public roads. Program funds safety projects that are consistent with the State's Strategic Highway Safety Plan. This program includes the Railroad-Highway Crossings and High Risk Rural Roads programs. |
| Maricopa County Transportation Improvement Program (TIP) | The TIP contains planned roadway system improvements for the County. These improvements include new or improved roadways, bridges, drainage structures, intersection improvements, Intelligent Transportation Systems and more. The TIP allows MCDOT to plan for five years of future projects through the development process (planning, scoping, design and construction). Projects identified in the first year of the TIP are part of the annual adopted County budget. |
| MAG Design Assistance | The MAG Design Assistance Program was initiated in 1996 to encourage the development of pedestrian facilities according to the MAG Pedestrian Policies and Design Guidelines. The intent of the program has been to stimulate integration of facilities into the planning and design of all types of infrastructure and development. |
| Recreational Trails Program (RTP) | Administered at the state level by Arizona State Parks, the RTP provides funds to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. |

## Policy and Program Considerations

In addition to improving MCDOT's active transportation network through engineering solutions, a comprehensive approach that integrates policy, programmatic, education, enforcement, and encouragement elements is the most effective approach to creating and sustaining a pedestrian- and bicycle-friendly network. The following are policy and program concepts that MCDOT may consider.

### ENGINEERING

**Engineering considerations include general policies, strategies, and design concepts to help improve the physical environment for walking and biking in Maricopa County.**

### Facility Design

- Program and seek funding to implement high priority improvement projects, particularly those that provide direct connections to critical facilities such as schools, employment centers, and hospitals. As funding is secured, engineering assessments will be needed to identify what type of facility is most suitable.
- Consider upgrading roadway design standards to widen bike lane width standards from 5-foot to 6-foot. Widening facilities would significantly increase a cyclists level of comfort and help improve the LTS of numerous corridors.
- During the design process, evaluate flexible street designs that allow MCDOT to install a range of pedestrian and bicycle facility types to complement the corridor and surrounding land uses.
- Retrofit existing facilities to incorporate ADA compliant facilities, as needed.

### Detection and Signal Timing

- In high pedestrian activity areas, evaluate pedestrian crossing times to ensure that pedestrians have ample time to cross.
- Through the MCDOT's SMARTDrive Program, assess the need for pedestrian and bicycle actuation on arterial or major roadways.
- Consider the inclusion of guidance for the installation of pedestrian and bicycle detection and actuation in the Maricopa County Roadway Design Manual.
- Recommend a minimum green time at intersections that do not possess pedestrian or bicycle detection and have a high ped/bike usage. Shorter green times should be utilized only when ped/bike detection is available but not activated by a pedestrian/bicyclist

### Wayfinding

- Work with the Maricopa County Parks and Recreation Department to install signage on routes that connect to parks and trailheads.
- Support MAG and local jurisdictions to incorporate wayfinding on regional bicycle routes.
- Basic elements to include on wayfinding signs are destinations, the distance to destinations, and the estimated walking or riding time.

### Bicycle Parking

- Complete an inventory of existing bicycle parking facilities at MCDOT-owned buildings and determine the need and demand for new or additional parking facilities for employees and/or visitors.
- Collaborate with Valley Metro and local jurisdictions to incorporate bicycle facilities at heavily used bus stops along MCDOT maintained roadways.

## EDUCATION

**Education programs equip people with the knowledge, skills and confidence to walk and bike**

- Continually support MAG and local agencies in the education, training, and promotion of active transportation, including:
  - Schools and the Safe Routes to Schools program.
  - Walking and biking skills training and safety awareness training for all roadway users.
  - Provide MCDOT active transportation network to MAG and other local agencies to incorporate in their online and printed bikeways maps.
  - Support regional initiatives aimed at driver awareness of pedestrians and bicycles, particularly at intersections with high pedestrian and bicycle related crashes.

## ENFORCEMENT

**Enforcement builds safe and responsible behaviors on the road and builds respect among all road users**

- Support MAG's inter-agency working group that brings together staff from MCDOT, MAG member agencies, and other partners to strategize about where targeted enforcement efforts are most needed.
- During future planning projects, encourage project participation of local law enforcement in stakeholder meetings, where they can provide insight into trends and issues. During the meetings, active transportation professionals and advisory groups can also provide insight on unsafe behaviors to help police offers evaluate the best methods of enforcement.

## ENCOURAGEMENT

**Encouragement programs foster a culture that supports and encourages active transportation**

- Support national, state, regional, and local efforts to promote pedestrian and bicycle programs.
- Support the "Bicycle Friendly Employers" designation program through the League of American Bicyclists.

## EVALUATION

**Evaluation efforts seek to monitor progress and evaluate investments to continually improve active transportation**

- Establish an annual pedestrian and bicycle count review program to determine baseline mode share conditions and subsequent changes.
- Develop a set of performance measures to annually evaluate and report on the progress of the ATP. Performance metrics can be compiled into a Pedestrian and Bicycle Report Card to easily illustrate accomplishments and general trends.

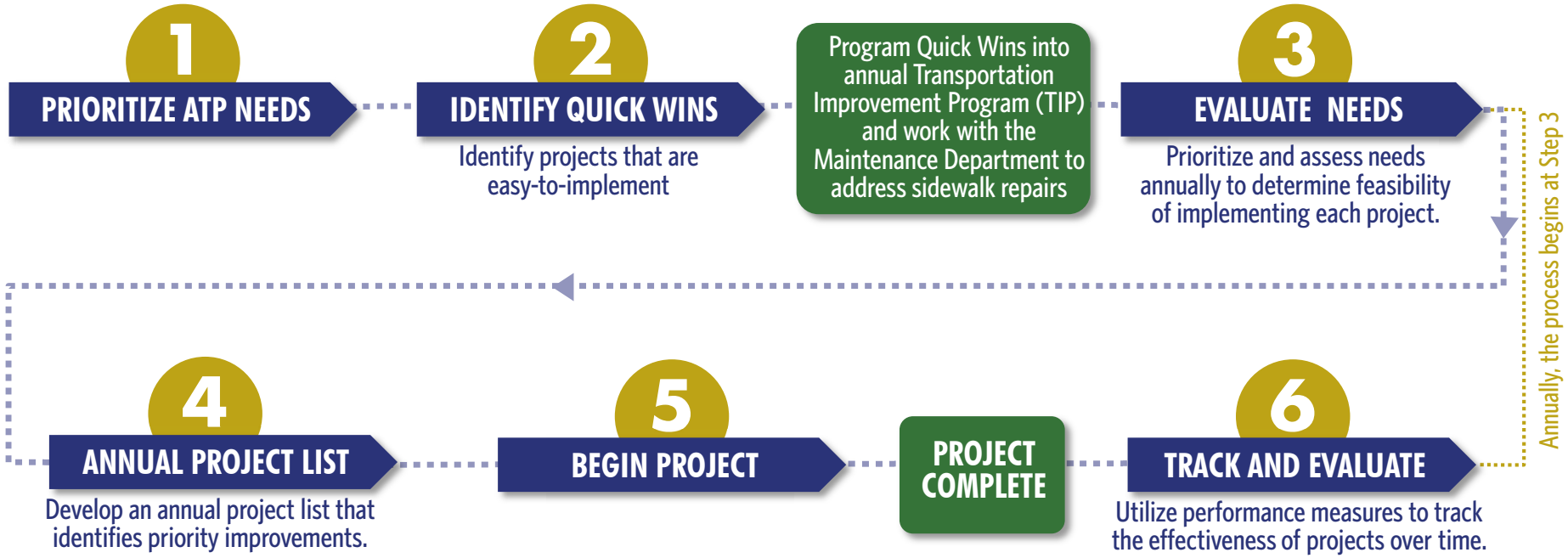
## Annual Project List

Ultimately, the list of needs presented in Chapter 6 is a high-level, planning-scale evaluation of needs in unincorporated Maricopa County. All identified needs require a comprehensive prioritization and assessment process that includes:

- Constructability Audit – potential projects will need to undergo a thorough feasibility review of right-of-way, environmental, design, and cost constraints
- Coordination Review – identify potential stakeholder and/or private partnership opportunities

Once prioritized and evaluated, the list of projects will go through an annual review process to create an annual active transportation project list based on available funding. The flowchart below provides guidance on the annual project list development process.

### Annual Project Implementation Process



## Track and Evaluate

Performance measures help to track the ATP's progress and effectiveness over time. Table 7.4, outlines a wide range of suggested performance measures to assess the success of the ATP, track changes in the built environment, identify trends in travel behaviors, and provide performance information to decision-makers. Tracking and reporting the progress of performance measures provides more transparency while building momentum and public support.

### Table 7.4: Performance Measures

| Plan Goal | Performance Measure | Desired Trend |
|---|---|---|
| **Goal 1:** Provide a System that is Safe and Efficient for All Modes of Travel | Total linear miles of walking and bicycling facilities | Increasing mileage of walking and bicycling facilities as a whole and broken down by sub areas |
| | Active transportation facilities within 1/2 mile of critical facilities and community destinations, such as parks, libraries, hospitals, etc. | Increasing percentage of active transportation facilities adjacent to critical facilities and community destinations |
| | Total number and number of serious and fatal pedestrian- and bicycle-related crashes | Reduction in the total number of pedestrian- and bicycle-related crashes and serious and fatal injury crashes |
| | Number of intersections and crossings that are treated with safety and accessibility improvements | Increasing number of intersections, crossings, driveways, etc. that provide pedestrian, bicycle, and ADA facilities |
| **Goal 2:** Promote Quality of Life and Economic Vitality | Percentage of households within 1/2 mile of a low stress, all ages and abilities bicycling facility and walking facility, or both | Increasing percentage of households within1/2 mile to a high comfort biking or walking facility |
| | Miles of active transportation facilities within 1/2 mile of employment centers | Increasing number of active transportation facilities that provide access to employment centers |
| | Percent of sidewalks and bikeways completed in areas of highest bicyclist and pedestrian demand | Increasing number of active transportation facilities in areas of high latent demand |
| | Percent of sidewalks and bikeways completed in areas with high socioeconomic and health inequity | Increasing percentage of completed projects in areas with high socioeconomic and health inequity |
| **Goal 3:** Encourage a Seamless Regional Transportation Network | Number of pedestrian and bicyclists counted along key regional corridors throughout Maricopa County | Increasing number of pedestrian and bicyclists during annual traffic count collection efforts |
| | Percent of recommended connection gap improvements completed | Increasing percentage of completed short-trip, corridor, and expansion projects |
| **Goal 4:** Protect Past and Future Transportation Investments through Strategic System Preservation | Total dollars spent on active transportation capital and maintenance projects | Increasing annual programmed and funded active transportation projects |
| | Total number of existing facilities retrofitted to properly accommodate pedestrian and bicycle facilities | Increasing percentage of existing facilities to have adequate pedestrian and bicycle facilities |

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## Active Transportation Plan Successes

During the development of the ATP, four locations stood out as high-priority needs. These locations were identified based on a variety of factors, such as constructability, having a strong interest from local leadership and the public, and the overall need of improvement within the regional active transportation network. Each of the following locations have since progressed into the next phase of project development:

- Deer Valley Drive and 135th Avenue
- University Drive: Higley Road to Power Road
- Meeker Boulevard and Granite Valley Drive
- Stardust Boulevard and Echo Mesa Drive

### DEER VALLEY DRIVE AND 135TH AVENUE

**Need:** Aerial inventory found ADA accessibility issues at the intersection of Deer Valley Drive and 135th Avenue. Currently, the intersection has a crosswalk striped on each leg of the intersection; however, ADA compliant ramps are only included along one leg.

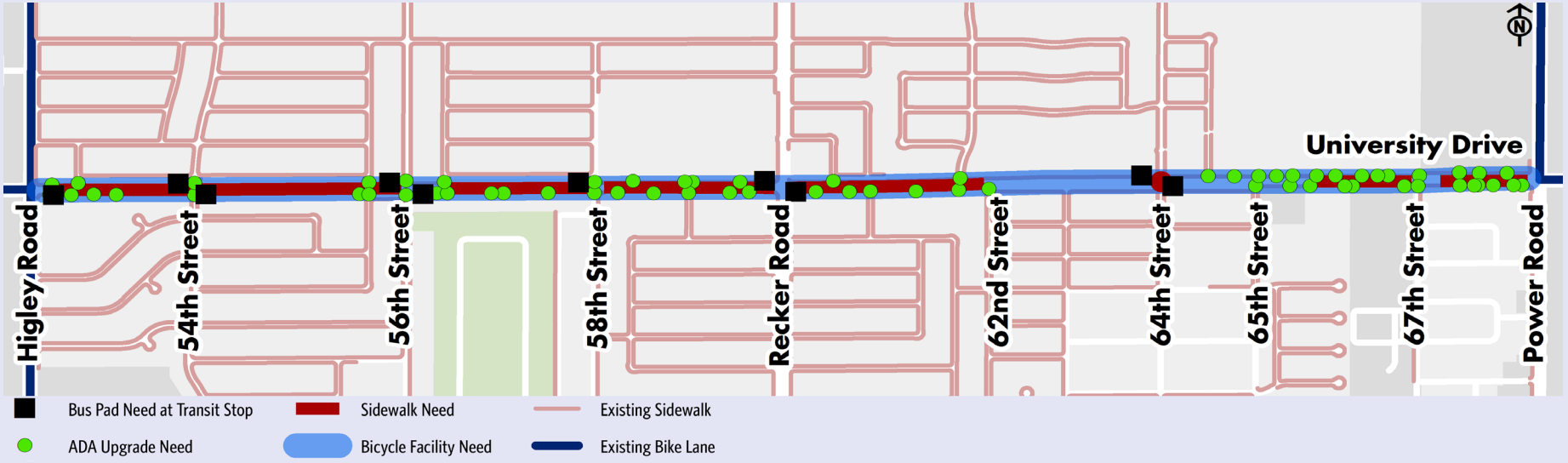
**Location Context:** Deer Valley Drive, within Sun City West, is a major east-west corridor that provides connections to recreational activity centers and residential areas. A large shared use path, in addition to sidewalks, connects at the intersection. Due to the proximity to the Deer Valley Golf Course and residential areas, the intersection experiences a significant amount of pedestrian usage.

**Based on findings from the ATP, MCDOT is currently conducting an ADA Accessibility Assessment of the Deer Valley Drive and 135th Avenue intersection and adjacent intersections to develop plan for improvement.**

## UNIVERSITY DRIVE: HIGLEY ROAD TO POWER ROAD

**Need:** Located within a County Island, University Drive, from Higley Road to Power Road, is a two-mile gap in the regional active transportation network. Furthermore, the corridor has numerous pedestrian related needs (i.e., missing sidewalks, missing bus pads, and ADA compliance issues).

**Location Context:** University Drive is a heavily traveled arterial street that is surrounded by a mixture of commercial, residential, educational, recreational, religious, and vacant properties. The corridor is a popular bicycle route; however, bicycle facilities are not available. Existing sidewalks are in fair to poor condition, are narrow, not continuous, and have numerous ADA compliance issues (including missing curb ramps). Improving active transportation facilities along this corridor will make it easier for people to move between their home and nearby commercial areas, as well as providing connections to the greater regional active transportation network.




**In December 2017, MCDOT was awarded funding for the design and construction of improvements along University Drive through MAG's Congestion Mitigation and Air Quality Improvement Program (CMAG) and Transportation Alternatives (TA) program. Design for corridor improvements is programmed for Year 2020, with construction in 2021.**

## MEEKER BOULEVARD AND GRANITE VALLEY DRIVE

**Need:** Aerial inventory found ADA accessibility issues at the intersection of Meeker Boulevard and Granite Valley Drive. Currently, the intersection is signalized and lacks proper pedestrian crossing facilities.

**Location Context:** Located in the retirement community of Sun City West, the intersection of Meeker Boulevard and Granite Valley Drive is a busy, signalized intersection that provides direct access to the Del E. Webb Medical Plaza and the Banner Del E. Webb Medical Center. Heavily utilized by pedestrians, motorists, and bicyclists, the intersection has a crosswalk striped at the north and east legs of the intersection; however, all corners have ADA compliance issues. Furthermore, the sidewalks are narrow and in fair condition.


## STARDUST BOULEVARD AND ECHO MESA DRIVE

**Need:** The MCDOT ATP needs assessment found the need for a sidewalk along Stardust Boulevard and Echo Mesa Drive to fill a gap in the pedestrian network. Furthermore, aerial assessment found ADA accessibility issues at the intersection.

**Location Context:** Stardust Boulevard is a busy, four lane major collector that connects residents to nearby commercial areas. At the southeast corner of the intersection is the popular Palm West Community Church. Due to the size of the church, an overflow parking lot is located across Echo Mesa Drive. The area surrounding the parking lot was not developed to include a sidewalk, creating a gap in the pedestrian network.


**Based on the findings of the ATP, MCDOT made programming recommendations to upgrade ADA facilities and to install sidewalks at both locations.**

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# Appendix – Active Transportation Needs

"Every time I see an adult on a bicycle, I no longer despair for the future of the human race."

– H.G. Wells
*Writer*

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# ACTIVE TRANSPORTATION NEEDS

The following tables include a list of identified active transportation needs along MCDOT roadways.

## Pedestrian Network Needs

### Sidewalks Missing at Intersection

| On Road | Cross Street | General Location | Need |
|---|---|---|---|
| Acoma Dr | 79th Ave | Peoria | Sidewalk NW & NE corners |
| Beardsley Rd | Conquistador Dr | Sun City West | Sidewalk SE & NE corners |
| Bell Rd | R H Johnson Blvd | Sun City West | Sidewalk NW corner |
| Bethany Home Rd | 127th Ave | Glendale | Sidewalk SW & NE corners |
| Broadway Rd | 59th Ave | Phoenix | Sidewalk SE corner |
| Chandler Heights Rd | Cooper Rd | Chandler | Sidewalk SW corner |
| Chandler Heights Rd | Val Vista Dr | Gilbert | Sidewalk SW corner |
| Dixileta Dr | 56th St | Phoenix | Sidewalk SE & NE corners |
| Dobbins Rd | 43rd Ave | Phoenix | Sidewalk SW & NW corners |
| Dynamite Blvd | Tatum Blvd | Phoenix | Sidewalk SE corner |
| Elliot Rd | Power Rd | Mesa | Sidewalk/crosswalks |
| Indian School Rd | 99th Ave | Phoenix | Sidewalk SW corner |
| Indian School Rd | El Mirage Rd | Avondale | Sidewalk NE corner |
| Lone Mountain Rd | 56th St | Phoenix | Sidewalk SE corner |
| Lower Buckeye Rd | 107th Ave | Avondale | Sidewalk SW & SE corner |
| Lower Buckeye Rd | 125th Ave | Avondale | Sidewalk SE corner |
| MC 85 | 107th Ave | Avondale | Sidewalk - ADA |
| MC 85 | 83rd Ave | Phoenix | Sidewalk SE corner |
| MC 85 | 91st Ave | Phoenix | Sidewalk SW, SE & NE corners |
| MC 85 | Jackrabbit Tr | Buckeye | Sidewalk SW & SE corners |
| McDowell Rd | 91st Ave | Tolleson | Sidewalk SE corner |
| McDowell Rd | Hawes Rd | Mesa | Sidewalk & ADA |
| McDowell Rd | Sossaman Rd | Mesa | Sidewalk & ADA |

## Sidewalks Missing at Intersection (Continued)

| On Road | Cross Street | General Location | Need |
|---|---|---|---|
| Montgomery Rd | 56th St | Phoenix | Sidewalk SE & NE corners |
| Ocotillo Rd | Mustang Dr | Chandler | Sidewalk NE corner |
| Olney Ave | 43rd Ave | Phoenix | Sidewalk SE corner |
| Peoria Ave | Bullard Ave | Surprise | Sidewalk south side |
| Peoria Ave | Reems Rd | Surprise | Sidewalk SW & SE |
| Sandridge Dr | 137th Ave | Sun City West | Sidewalk SW corner |
| Santa Fe Dr | 103rd Ave | Sun City | Sidewalk SE corner |
| Southern Ave | 88th St | Mesa | Sidewalk SE & NE corners |
| Spur Rd | 146th St | Gilbert | Sidewalk NW & NE corners |
| Spur Rd | Lindsay Rd | Gilbert | Sidewalk NW & NE corners |
| Stardust Blvd | Echo Mesa Dr | Sun City West | Sidewalk SW corner |
| Van Buren St | 191st Ave | Buckeye | Sidewalk NW |
| Van Buren St | Perryville Rd | Buckeye | Sidewalks all corners |
| Vineyard Rd | 67th Ave | Phoenix | Sidewalk SE & NE corners |
| Williams Dr | 119th Ave | Sun City West | Sidewalk SW |
| Williams Dr | 120th Ln | Sun City West | Sidewalk SW & SE |
| Williams Rd | 107th Ave | Peoria | Sidewalk NW corner |

## Pedestrian Crossing Needs

| On Road | Cross Street | General Location | Need |
|---|---|---|---|
| Adobe Rd | 64th St | Mesa | Pedestrian crossing |
| Adobe Rd | Alta Mesa Dr | Mesa | Pedestrian crossing |
| Bethany Home Rd | 135th Ave | Glendale | Pedestrian crossing |
| Bethany Home Rd | 137th Ave | Glendale | Pedestrian crossing |
| Bolero Bend | Forest Rd | Rio Verde | Pedestrian crossing |
| Deer Valley Access Rd | El Mirage Rd | Sun City West | Pedestrian crossing |
| Denham Dr | Cortessa Pkwy | Waddell | Pedestrian crossing |
| Happy Valley Rd | Dysart Rd | Surprise | Pedestrian crossing |
| King Dr | Gavilan Peak Pkwy | Anthem | Pedestrian crossing |
| Olive Ave | 181st Ave | Waddell | Pedestrian crossing |
| Orchid Ln | Power Rd | Mesa | Pedestrian crossing |
| Poco Rio Dr | Forest Rd | Rio Verde | Pedestrian crossing |
| Rattler Wy | Wigwam Creek Blvd | Glendale | Pedestrian crossing |
| Southern Ave | Central Arizona Project Canal | Mesa | Pedestrian crossing |
| Tonto Verde Dr | Forest Rd | Rio Verde | Pedestrian crossing |
| University Dr | 110th St | Mesa | Pedestrian crossing |
| University Dr | 64th St | Mesa | Pedestrian crossing |
| University Dr | 98th St | Mesa | Pedestrian crossing |
| University Dr | Merrill Rd | Mesa | Pedestrian crossing |
| University Dr | Mountain Rd | Mesa | Pedestrian crossing |
| Via De Palmas | McQueen Rd | Chandler | Pedestrian crossing |
| Wigwam Creek Blvd | 124th Ave | Glendale | Pedestrian crossing |
| Williams Dr | El Mirage Rd | Sun City West | Pedestrian crossing |
| Windsor Blvd | Wigwam Creek Blvd | Glendale | Pedestrian crossing |
| Yearling Rd | El Granada Blvd | Surprise | Pedestrian crossing |

## Minor Gap Needs in the Pedestrian Network

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 101st Ave | North of Alabama Ave | South of Augusta Dr | 0.04 | Sun City | Sidewalk east side |
| 101st Ave | Coggins Dr | US-60/Grand Ave | 0.08 | Sun City | Sidewalk east side |
| 101st Pl | University Dr | Caballero St | 0.13 | Mesa | Sidewalk west side |
| 102nd Ave | North of Coggins Dr | Grand Ave - Left Frontage Road | 0.04 | Sun City | Sidewalk east side |
| 103rd Ave | Olive Ave | South of Kelso Dr | 0.07 | Sun City | Sidewalk/path connection both sides |
| 105th Ave | North of Coggins Dr | South of US-60/Grand Ave | 0.02 | Sun City | Sidewalk both sides |
| 107th Ave | MC 85 | North of MC 85 | 0.08 | Phoenix | Sidewalk west side |
| 107th St | Lake Dr | South of Oasis Dr | 0.09 | Mesa | Sidewalk both sides |
| 107th St | Oasis Dr | Ironwood Ln | 0.04 | Mesa | Sidewalk both sides |
| 110th St | South of Mercury Dr | University Dr | 0.15 | Mesa | Sidewalk both sides |
| 118th St | Navajo Dr | Bellflower Dr | 0.16 | Chandler | Sidewalk east side |
| 123rd Dr | North of Missouri Ave | San Juan Ave | 0.09 | Glendale | Sidewalk east side |
| 123rd Dr | North of Rancho Dr | Palo Verde Dr | 0.04 | Glendale | Sidewalk east side |
| 123rd Dr | North of Rovey Ave | Berridge Ln | 0.04 | Glendale | Sidewalk east side |
| 123rd Dr | San Miguel Ave | El Nido Ln | 0.03 | Glendale | Sidewalk east side |
| 126th Dr | Denton St | Marshall Ave | 0.10 | Glendale | Sidewalk west side |
| 126th Dr | North of Kristi Ln | Montebello Ave | 0.04 | Glendale | Sidewalk west side |
| 126th Dr | Rattler Wy | San Miguel Ave | 0.04 | Glendale | Sidewalk west side |
| 126th Dr | Solano Dr | Palo Verde Dr | 0.04 | Glendale | Sidewalk west side |
| 127th Ave | Orange Dr | Colter St | 0.03 | Glendale | Sidewalk west side |
| 127th Ave | Pasadena Ave | Reade Ave | 0.03 | Glendale | Sidewalk west side |
| 127th Ave | Windsor Blvd | Medlock Dr | 0.03 | Glendale | Sidewalk west side |
| 137th Ave | Camino Del Sol | Sandridge Dr | 0.04 | Sun City West | Sidewalk both sides |
| 181st Ave | Olive Ave | North of Olive Ave | 0.10 | Waddell | Sidewalk east side |
| 195th Ave | South of Camelback Rd | Camelback Rd | 0.03 | Buckeye | Sidewalk both sides |
| 195th Ave | Minnezona Ave | North of Minnezona Ave | 0.05 | Buckeye | Sidewalk both sides |
| 27th Ave | Harvest Groves Ln | North of Vineyard Rd | 0.18 | Phoenix | Sidewalk/path connection both sides |
| 27th Ave | North of Vineyard Rd | South of St Anne Ave | 0.07 | Phoenix | Sidewalk west side |
| 41st Ave | Southern Ave | South of Huntington Dr | 0.03 | Phoenix | Sidewalk both sides |

## Minor Gap Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 43rd Ave | Elliot Rd | Olney Ave | 0.20 | Phoenix | Sidewalk east side |
| 51st Ave | South of Tashquinth Dr | South of Tashquinth Dr | 0.04 | Gila River Indian Community | Sidewalk both sides |
| 56th St | South of Albany St | Boston St | 0.10 | Mesa | Sidewalk west side |
| 56th St | South of University Dr | University Dr | 0.02 | Mesa | Sidewalk both sides |
| 58th St | Baltimore St | South of University Dr | 0.03 | Mesa | Sidewalk west side |
| 58th St | North of Main St | Albany St | 0.12 | Mesa | Sidewalk west side |
| 58th St | South of University Dr | North of Covina Rd | 0.12 | Mesa | Sidewalk east side |
| 64th St | Boise St | South of Billings St | 0.04 | Mesa | Sidewalk east side |
| 67th Ave | Baseline Rd | South of Fremont Rd | 0.18 | Phoenix | Sidewalk both sides |
| 67th St | North of Boise St | South of University Dr | 0.15 | Mesa | Sidewalk both sides |
| 79th Ave | Acoma Dr | South of Country Gables Dr | 0.17 | Peoria | Sidewalk both sides |
| 79th Ave | Banff Ln | South of Country Gables Dr | 0.07 | Peoria | Sidewalk west side |
| 90th St | Coralbell Ave | South of Crescent Ave | 0.12 | Mesa | Sidewalk both sides |
| 90th St | Pueblo Ave | South of Coralbell Ave | 0.12 | Mesa | Sidewalk both sides |
| 91st Ave | North of Orangewood Ave | South of Northern Ave | 0.18 | Glendale | Sidewalk/path connection both sides |
| 95th Pl | University Dr | North of Cicero St | 0.10 | Mesa | Sidewalk west side |
| 96th St | University Dr | North of Cicero St | 0.10 | Mesa | Sidewalk east side |
| 97th Pl | Quarterline Rd | Des Moines St | 0.15 | Mesa | Sidewalk both sides |
| 98th Pl | Quarterline Rd | Des Moines St | 0.15 | Mesa | Sidewalk east side |
| 98th St | Des Moines St | Adobe Rd | 0.10 | Mesa | Sidewalk both sides |
| Adobe Rd | Fort St | Crismon Rd | 0.09 | Mesa | Sidewalk north side |
| Akron St | East of 61st Way | West of 62nd St | 0.02 | Mesa | Sidewalk east side |
| Akron St | Sunaire Dr | West of Power Rd | 0.03 | Mesa | Sidewalk both sides |
| Albany St | 56th St | 57th St | 0.09 | Mesa | Sidewalk south side |
| Albany St | East of 57th Pl | 58th St | 0.07 | Mesa | Sidewalk both sides |
| Albany St | 65th St | East of 65th Pl | 0.03 | Mesa | Sidewalk east side |
| Alma School Rd | North of Oakwood Lake Dr | Chandler Heights Rd | 0.07 | Sun Lakes | Sidewalk west side |
| Avalon St | East of 67th St | Sunaire Dr | 0.06 | Mesa | Sidewalk both sides |
| Avalon St | Sunaire Dr | Power Rd | 0.07 | Mesa | Sidewalk north side |
| Balsam Ave | 96th St | 97th St | 0.11 | Mesa | Sidewalk both sides |
| Baltimore St | West of 57th Pl | 58th St | 0.05 | Mesa | Sidewalk both sides |

## Minor Gap Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Bell Rd | West of Del Webb Blvd | West of Del Webb Blvd | 0.11 | Sun City | Sidewalk south side |
| Bell Rd | East of Lindgren Ave | West of 92nd Ave | 0.13 | Sun City | Sidewalk south side |
| Boise St | 64th St | West of 65th St | 0.06 | Mesa | Sidewalk both sides |
| Boston St | East of 55th St | 56th St | 0.07 | Mesa | Sidewalk south side |
| Boston St | Signal Butte Rd | East of Signal Butte Rd | 0.04 | Mesa | Sidewalk north side |
| Chestnut Ct | West of 116th St | East of 116th St | 0.14 | Chandler | Sidewalk north side |
| Citrus Rd | Olive Ave | North of Olive Ave | 0.14 | Waddell | Sidewalk both sides |
| Citrus Rd | South of Peoria Ave | Peoria Ave | 0.02 | Waddell | Sidewalk both sides |
| Cleveland Wy | Links Dr | Ashton Dr | 0.05 | Anthem | Sidewalk/path connection both sides |
| Coggins Dr | East of 105th Ave | West of 103rd Ave | 0.02 | Sun City | Sidewalk both sides |
| Coggins Dr | South of US-60/Grand Ave | Coggins Dr W | 0.04 | Sun City | Sidewalk both sides |
| Colter St | 127th Ave | 125th Ave | 0.18 | Glendale | Sidewalk north side |
| Coralbell Ave | 89th Pl | 90th St | 0.10 | Mesa | Sidewalk north side |
| Des Moines St | 97th Pl | 98th Pl | 0.12 | Mesa | Sidewalk north side |
| Dynamite Blvd | East of Tatum Blvd | West of 50th St | 0.06 | Phoenix | Sidewalk both sides |
| Echo Mesa Dr | North of Gable Hill Dr | Echo Mesa Dr | 0.04 | Sun City West | Sidewalk both sides |
| El Granada Blvd | North of Remuda Dr | Jomax Rd | 0.17 | Surprise | Sidewalk west side |
| Ellsworth Rd | US 60 | South of Garnet Ave | 0.15 | Mesa | Sidewalk/path connection both sides |
| Flintlock Ct | West of 116th St | East of 116th St | 0.12 | Chandler | Sidewalk north side |
| Fort St | 98th Pl | Adobe Rd | 0.19 | Mesa | Sidewalk both sides |
| Gilbert Rd | McDowell Rd | South of Oasis St | 0.13 | Mesa | Sidewalk west side |
| Grand Ave (Left Frontage Road) | 101st Ave | East of 102nd Ave | 0.08 | Sun City | Sidewalk both sides |
| Indian School Rd | East of 100th Ave | West of 99th Ave | 0.13 | Phoenix | Sidewalk both sides |
| Indian School Rd | 103rd Ave | West of 100th Ave | 0.05 | Avondale | Sidewalk south side |
| Indian School Rd | El Mirage Rd | East of El Mirage Rd | 0.07 | Avondale | Sidewalk both sides |
| Lake Dr | 107th St | Signal Butte Rd | 0.04 | Mesa | Sidewalk both sides |
| Lehi Rd | Portia | South of 30th St | 0.19 | Mesa | Sidewalk both sides |
| Links Dr | Cleveland Wy | Raleigh Wy | 0.12 | Anthem | Sidewalk south side |
| Lower Buckeye Rd | 127th Ave | East of 127th Ave | 0.07 | Avondale | Sidewalk both sides |
| Lower Buckeye Rd | West of 125th Ave | West of 125th Ave | 0.01 | Avondale | Sidewalk both sides |
| Marguerite Ave | West of 113 Pl | East of 113th Pl | 0.08 | Mesa | Sidewalk north side |

## Minor Gap Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Marsh Rd | 203rd Pl | East of 203rd Pl | 0.05 | Queen Creek | Sidewalk north side |
| Maryland Ave | Dysart Rd | East of 130th Dr | 0.11 | Glendale | Sidewalk north side |
| McDowell Rd | 86th Dr | 85th Ave | 0.04 | Phoenix | Sidewalk south side |
| McDowell Rd | 88th St | East of 89th St | 0.16 | Mesa | Sidewalk north side |
| Meeker Blvd | US-60/Grand Ave | Summerstar Dr | 0.07 | Sun City West | Sidewalk west side |
| Meridian Rd | 4th Ave | Apache Tr | 0.18 | Mesa | Sidewalk west side |
| Meridian Rd | Southern Ave | South of Southern Ave | 0.17 | Mesa | Sidewalk both sides |
| Merrill Rd | University Dr | North of Caballero St | 0.13 | Mesa | Sidewalk east side |
| Missouri Ave | 92nd Ave | 91st Ave | 0.05 | Glendale | Sidewalk both sides |
| Navajo Dr | 116th St | 118th St | 0.15 | Chandler | Sidewalk north side |
| Oasis Dr | Palm Dr | 107th St | 0.05 | Mesa | Sidewalk both sides |
| Ocotillo Rd | Dysart Rd | 129th Ln | 0.11 | Glendale | Sidewalk south side |
| Olive Ave | Agua Fria Ranch Pkwy | West of 114th Dr | 0.11 | Youngtown | Sidewalk south side |
| Palm Dr | Lake Dr | South of Oasis Drive | 0.03 | Mesa | Sidewalk both sides |
| Peoria Ave | East of Citrus Rd | Citrus Rd | 0.02 | Waddell | Sidewalk both sides |
| Power Rd | North of Germann Rd | North of German Rd | 0.10 | Gilbert | Sidewalk both sides |
| Power Rd | North of Queen Creek Rd | South of Haven Crest Dr | 0.07 | Queen Creek | Sidewalk east side |
| Quarterline Rd | 97th Pl | 98th Pl | 0.13 | Mesa | Sidewalk/path connection both sides |
| Quarterline Rd | 98th Pl | Crimson Rd | 0.19 | Mesa | Sidewalk both sides |
| R C Esterbrooks Blvd | East of 28th Dr | 27th Ave | 0.06 | Phoenix | Sidewalk both sides |
| R C Esterbrooks Blvd | South of 28th Dr | North of 28th Dr | 0.18 | Phoenix | Sidewalk east side |
| Recker Rd | North of Cicero St | South of Colby St | 0.00 | Mesa | Sidewalk both sides |
| Recker Rd | University Dr | Cicero St | 0.04 | Mesa | Sidewalk east side |
| Recker Rd | South of University Dr | North of Billings St | 0.03 | Mesa | Sidewalk east side |
| Regal Ct | West of 116th St | East of 116th St | 0.11 | Chandler | Sidewalk/path connection both sides |
| Runaway Bay Ct | East of 116th St | East of 116th St | 0.03 | Chandler | Sidewalk north side |
| Sandridge Dr | East of 138th Ave | 137th Ave | 0.07 | Sun City West | Sidewalk south side |
| Santa Fe Dr | East of 103rd Ave | West of 99th Ave | 0.20 | Sun City | Sidewalk both sides |
| Santa Fe Dr | West of 99th Ave | West of 99th Ave | 0.02 | Sun City | Sidewalk both sides |
| Santa Fe Dr | West of 99th Ave | West of 99th Ave | 0.11 | Sun City | Sidewalk both sides |

## Minor Gap Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Santan Ct | West of 116th St | East of 116th St | 0.13 | Chandler | Sidewalk/path connection both sides |
| Signal Butte Rd | South of Contessa St | Quaterline Rd | 0.18 | Mesa | Sidewalk west side |
| Signal Butte Rd | University Dr | South of Contessa St | 0.07 | Mesa | Sidewalk both sides |
| Stardust Blvd | Echo Mesa Dr | Echo Mesa Dr | 0.04 | Sun City West | Sidewalk south side |
| Sunaire Dr | Avalon St | Akron St | 0.07 | Mesa | Sidewalk both sides |
| Sunland Dr | 109th Ln | Agua Fria Dr | 0.18 | Sun City | Sidewalk north side |
| Triumph Ct | W of Gavilan Peak Pkwy | End of Triumph Ct | 0.02 | Anthem | Sidewalk both sides |
| Twilight Ct | East of 116th St | East of 116th St | 0.08 | Chandler | Sidewalk north side |
| Union Hills Dr | Westbrook Pkwy | West of 91st Ave | 0.50 | Sun City | Sidewalk south side |
| University Dr | East of 110th St | East of 111th Wy | 0.11 | Mesa | Sidewalk north side |
| University Dr | 111th Wy | Mountain Rd | 0.06 | Mesa | Sidewalk both sides |
| University Dr | East of 56th Pl | 58th St | 0.18 | Mesa | Sidewalk both sides |
| University Dr | East of 65th St | West of 67th St | 0.13 | Mesa | Sidewalk south side |
| University Dr | East of 67th St | West of Power Rd | 0.12 | Mesa | Sidewalk south side |
| University Dr | Crismon Rd | 101st Pl | 0.19 | Mesa | Sidewalk both sides |
| University Dr | Keith St | 110th St | 0.16 | Mesa | Sidewalk south side |
| University Dr | Signal Butte Rd | Keith St | 0.09 | Mesa | Sidewalk both sides |
| University Dr | West of Wesley | Merrill Rd | 0.20 | Mesa | Sidewalk north side |
| Wier Ave | 90th St | West of 91st Pl | 0.12 | Mesa | Sidewalk both sides |
| Woodside Dr | East of 138th Ave | West of 137th Ave | 0.02 | Sun City West | Sidewalk both sides |

## Corridor and Network Expansion Needs in the Pedestrian Network

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 104th Pl | University Dr | Quarterline Rd | 0.25 | Mesa | Sidewalk/path connection both sides |
| 105th St | Quarterline Rd | University Dr | 0.25 | Mesa | Sidewalk west side |
| 107th Ave | South of Miami Rd | Lower Buckeye Rd | 0.51 | Phoenix | Sidewalk both sides |
| 110th St | University Dr | Cholla Rd | 0.25 | Mesa | Sidewalk east side |
| 110th Wy | Riggs Rd | Cloud Rd | 0.49 | Sun Lakes | Sidewalk both sides |
| 111th Ave | Olive Ave | Peoria Ave | 0.99 | Sun City | Sidewalk west side |
| 114th St | Boise St | University Dr | 0.25 | Mesa | Sidewalk both sides |
| 114th St | Wier Ave | Marguerite Ave | 0.14 | Mesa | Sidewalk both sides |
| 116th St | Hunt Hwy | Riggs Rd | 1.06 | Chandler | Sidewalk east side |
| 119th Ave | Carlota Ln | Williams Dr | 0.27 | Sun City West | Sidewalk west side |
| 121st Ave | North of Carlota Ln | Williams Dr | 0.25 | Sun City West | Sidewalk both sides |
| 129th Ave | Camelback Rd | Colter St | 0.27 | Glendale | Sidewalk both sides |
| 135th Ave | South of Claremont St | Maryland Ave | 0.23 | Glendale | Sidewalk west side |
| 181st Ave | Medlock Dr | Bethany Home Rd | 0.84 | Glendale | Sidewalk west side |
| 27th Ave | North of Baseline Rd | Carson Rd | 0.22 | Phoenix | Sidewalk/path connection both sides |
| 30th Dr | Watkins St | Gibson Ln | 0.07 | Phoenix | Sidewalk both sides |
| 4th Ave | East of 111th Pl | Meridian Rd | 0.56 | Mesa | Sidewalk both sides |
| 51st Ave | Pecos Rd | South of Tashquinth Dr | 0.30 | Gila River Indian Community | Sidewalk both sides |
| 59th Ave | Roosevelt Irrigation District Canal | South of MC 85 | 0.48 | Phoenix | Sidewalk both sides |
| 65th St | South of Avalon St | Boise St | 0.29 | Mesa | Sidewalk/path connection both sides |
| 76th St | Hermosa Vista Dr | Willetta St | 0.39 | Mesa | Sidewalk both sides |
| 76th St | North of Willetta St | McDowell Rd | 0.07 | Mesa | Sidewalk both sides |
| 78th St | Hermosa Vista Dr | McDowell Rd | 0.52 | Mesa | Sidewalk both sides |
| 79th Pl | Broadway Rd | Apache Tr | 0.46 | Mesa | Sidewalk east side |
| 85th St | Emelita Ave | Pueblo Ave | 0.13 | Mesa | Sidewalk east side |
| 87th Wy | 86th Street | Coralbell Ave | 0.32 | Mesa | Sidewalk south side |
| 87th Wy | Pueblo Ave | Corabell Ave | 0.24 | Mesa | Sidewalk both sides |
| 88th St | Emelita Ave | Coralbell Ave | 0.39 | Mesa | Sidewalk both sides |
| 88th St | North of Southern Ave | Sunland Ave | 0.23 | Mesa | Sidewalk east side |
| 91st Ave | MC 85 | South of Harrison St | 0.22 | Phoenix | Sidewalk east side |
| 91st Ave | Orangewood Ave | South of Northern Ave | 0.29 | Glendale | Sidewalk west side |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 96th St | Balsam Ave | Apache Tr | 0.25 | Mesa | Sidewalk both sides |
| 96th St | Broadway Rd | Balsam Ave | 0.25 | Mesa | Sidewalk east side |
| 96th St | Coralbell Ave | Broadway Rd | 0.24 | Mesa | Sidewalk both sides |
| 96th St | Pueblo Ave | Coralbell Ave | 0.25 | Mesa | Sidewalk east side |
| 96th St | Southern Ave | Sunland Ave | 0.25 | Mesa | Sidewalk east side |
| 96th St | Sunland Ave | Pueblo Ave | 0.24 | Mesa | Sidewalk/path connection both sides |
| 98th St | University Dr | Quarterline Rd | 0.25 | Mesa | Sidewalk both sides |
| 99th Ave | Greenway Rd | Camapana Dr | 1.05 | Sun City | Sidewalk both sides |
| 99th Ave | Olive Ave | Thunderbird Blvd | 3.10 | Sun City | Sidewalk both sides |
| 99th Ave | Thunderbird Blvd | Greenway Rd | 0.89 | Sun City | Sidewalk both sides |
| 99th Ave | Union Hills Dr | Beardsley Rd | 1.00 | Sun City | Sidewalk/path connection both sides |
| 99th Ave | Wrangler Dr | Union Hills Dr | 0.91 | Sun City | Sidewalk both sides |
| Acoma Dr | East of 79th Ave | 67th Ave | 1.42 | Peoria | Sidewalk both sides |
| Acoma Dr | West of 79th Ave | East of 79th Ave | 0.33 | Peoria | Sidewalk north side |
| Acoma Dr | 83rd Ave | East of 83rd Ave | 0.25 | Peoria | Sidewalk both sides |
| Adobe Rd | 106th St | Signal Butte Rd | 0.25 | Mesa | Sidewalk south side |
| Adobe Rd | 95th St | East of Fort St | 0.54 | Mesa | Sidewalk both sides |
| Adobe Rd | Des Moines St | East of 94th Pl | 0.24 | Mesa | Sidewalk south side |
| Adobe Rd | Signal Butte Rd | 111th St | 0.37 | Mesa | Sidewalk north side |
| Alma School Rd | Riggs Rd | Oakwood Lakes Blvd | 0.85 | Sun Lakes | Sidewalk/path connection both sides |
| Alma School Rd | SR 202 | McDowell Rd | 1.33 | Salt River Pima-Maricopa Indian Community | Sidewalk both sides |
| Balsam Ave | 98th St | Crismon Rd | 0.25 | Mesa | Sidewalk both sides |
| Baseline Rd | 1st Ave E | MC 85 | 0.74 | Buckeye | Sidewalk both sides |
| Bell Rd | East of 114th Ave | West of Del Webb Blvd | 0.51 | Sun City | Sidewalk both sides |
| Bell Rd | East of 98th Ave | West of Lindgren Ave | 0.32 | Sun City | Sidewalk south side |
| Bellflower Dr | 116th St | 118th St | 0.25 | Chandler | Sidewalk north side |
| Bethany Home Rd | 127th Ave | 125th Ave | 0.25 | Glendale | Sidewalk north side |
| Bethany Home Rd | 129th Ave | 127th Ave | 0.24 | Glendale | Sidewalk south side |
| Bethany Home Rd | Dysart Rd | 129th Ave | 0.25 | Glendale | Sidewalk both sides |
| Black Canyon Hwy | Plymouth Dr | Arroyo Norte Dr | 0.19 | Anthem | Sidewalk both sides |
| Broadway Rd | West of 110th St | Meridian Rd | 0.80 | Mesa | Sidewalk both sides |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Broadway Rd | East of 55th Ave | West of 53rd Ave | 0.10 | Phoenix | Sidewalk both sides |
| Broadway Rd | 59th Ave | West of 56th Ave | 0.24 | Phoenix | Sidewalk both sides |
| Broadway Rd | 90th St | Ellsworth Rd | 0.25 | Mesa | Sidewalk both sides |
| Broadway Rd | 96th St | Crismon Rd | 0.48 | Mesa | Sidewalk both sides |
| Broadway Rd | Crismon Rd | East of 104th Pl | 0.51 | Mesa | Sidewalk north side |
| Broadway Rd | Ellsworth Rd | 96th St | 0.48 | Mesa | Sidewalk both sides |
| Brown Rd | 99th St | Signal Butte Rd | 1.17 | Mesa | Sidewalk/path connection both sides |
| Brown Rd | Signal Butte Rd | East of Mountain Rd | 0.57 | Mesa | Sidewalk both sides |
| Calle Lejos | 87th Ave | 83rd Ave | 0.33 | Peoria | Sidewalk south side |
| Camelback Rd | 129th Ave | 127th Ave | 0.29 | Litchfield Park | Sidewalk north side |
| Camelback Rd | Dysart Rd | 129th Ave | 0.19 | Litchfield Park | Sidewalk/path connection both sides |
| Camelback Rd | El Mirage Rd | West of Ball Park Blvd | 1.25 | Phoenix | Sidewalk both sides |
| Camelback Rd | Litchfield Rd | Dysart Rd | 0.98 | Litchfield Park | Sidewalk/path connection both sides |
| Camelback Rd | West of Village Pkwy | West of Litchfield Rd | 0.64 | Litchfield Park | Sidewalk/path connection both sides |
| Camelback Rd | East of Wigwam Creek Blvd | El Mirage Rd | 0.22 | Litchfield Park | Sidewalk north side |
| Caroline Ln | Priest Dr | Beck Ave | 0.25 | Tempe | Sidewalk both sides |
| Center St | Crozier Rd | North of Harding Ave | 0.32 | Wittmann | Sidewalk both sides |
| Center St | US 60 | Dove Valley Rd | 0.43 | Wittmann | Sidewalk both sides |
| Chandler Heights Rd | West of 148th St | Val Vista Dr | 0.55 | Gilbert | Sidewalk both sides |
| Chandler Heights Rd | Cooper Rd | Riggs Ranch Rd | 0.61 | Chandler | Sidewalk both sides |
| Cholla Rd | 110th St | Mountain Rd | 0.25 | Mesa | Sidewalk south side |
| Citrus Rd | North of Yuma Rd | South of Sherman St | 0.14 | Goodyear | Sidewalk both sides |
| Claremont St | West of 136th Dr | 135th Ave | 0.28 | Glendale | Sidewalk both sides |
| Colter St | East of Dysart Rd | East of Colter Ct | 0.32 | Glendale | Sidewalk south side |
| Coralbell Ave | 87th Wy | 88th St | 0.20 | Mesa | Sidewalk/path connection both sides |
| Coralbell Ave | 93rd Wy | 96th St | 0.27 | Mesa | Sidewalk north side |
| Coralbell Ave | 96th St | 98th St | 0.25 | Mesa | Sidewalk both sides |
| Coralbell Ave | 98th St | East of 99th Pl | 0.24 | Mesa | Sidewalk north side |
| Coralbell Ave | Hawes Rd | Coralbell Ave | 0.32 | Mesa | Sidewalk south side |
| Crismon Rd | Broadway Rd | University Rd | 1.00 | Mesa | Sidewalk both sides |
| Crismon Rd | Inglewood St | McKellips Rd | 0.38 | Mesa | Sidewalk east side |
| Crismon Rd | Quarterline Rd | Adobe Rd | 0.24 | Mesa | Sidewalk east side |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Crismon Rd | Signal Butte Floodway Access Rd | Inglewood St | 0.37 | Mesa | Sidewalk both sides |
| Crismon Rd | University Dr | Quarterline Rd | 0.25 | Mesa | Sidewalk both sides |
| Dobbins Rd | East of 51st Ave | 43rd Ave | 0.87 | Phoenix | Sidewalk/path connection both sides |
| Dobbins Rd | 55th Ave | West of 51st Ave | 0.38 | Phoenix | Sidewalk south side |
| Dove Valley Rd | Center St | East of Center St | 0.43 | Wittmann | Sidewalk both sides |
| Durango St | Watson Rd | Rainbow Rd | 0.98 | Buckeye | Sidewalk south side |
| Dynamite Blvd | 44th Wy | West of Tatum Blvd | 0.27 | Phoenix | Sidewalk/path connection both sides |
| Dysart Rd | North of Colter St | North of Rose Ln | 0.99 | Glendale | Sidewalk east side |
| Dysart Rd | Las Cruces Dr | North of Villa Nueva Dr | 0.68 | Litchfield Park | Sidewalk west side |
| Elliot Rd | Ellsworth Rd | West of Signal Butte Rd | 1.84 | Mesa | Sidewalk/path connection both sides |
| Ellsworth Rd | Broadway Rd | Apache Tr | 0.50 | Mesa | Sidewalk both sides |
| Ellsworth Rd | Sleepy Hollow Rd | University Dr | 0.14 | Mesa | Sidewalk both sides |
| Ellsworth Rd | Sunland Ave | North of Broadway Rd | 0.23 | Mesa | Sidewalk west side |
| Ellsworth Rd | Sunland Ave | Wier Ave | 0.49 | Mesa | Sidewalk both sides |
| Emelita Ave | 85th St | 88th St | 0.31 | Mesa | Sidewalk north side |
| Germann Rd | 198th St | Ellsworth Rd | 1.14 | Mesa | Sidewalk/path connection both sides |
| Happy Valley Rd | Dysart Rd | El Mirage Rd | 1.06 | Surprise | Sidewalk both sides |
| Hawes Rd | Hermosa Vista Dr | McDowell Rd | 0.52 | Mesa | Sidewalk both sides |
| Hawes Rd | Oak St | Redberry St | 0.25 | Mesa | Sidewalk both sides |
| Hermosa Vista Dr | 76th St | 78th St | 0.25 | Mesa | Sidewalk both sides |
| Indian School Rd | East of 107th Ave | West of 103rd Dr | 0.25 | Phoenix | Sidewalk north side |
| Indian School Rd | 201st Ave | 195th Ave | 0.76 | Buckeye | Sidewalk both sides |
| Jackrabbit Tr | North of Fawn Dr | MC 85 | 0.12 | Buckeye | Sidewalk both sides |
| Lindsay Rd | Spur Rd | Appleby Rd | 0.25 | Chandler | Sidewalk both sides |
| Litchfield Rd | North of Northern Ave | Northern Pkwy | 0.16 | Glendale | Sidewalk both sides |
| Litchfield Rd | South of Olive Ave | Peoria Ave | 1.25 | Glendale | Sidewalk both sides |
| Lower Buckeye Rd | 4th St | 127th Ave | 0.72 | Avondale | Sidewalk both sides |
| Lower Buckeye Rd | East of 5th Ave | 4th St | 0.54 | Avondale | Sidewalk both sides |
| Lower Buckeye Rd | Cotton Ln | Sarival Ave | 0.97 | Goodyear | Sidewalk/path connection both sides |
| Lower Buckeye Rd | Litchfield Rd | East of Litchfield Rd | 0.22 | Avondale | Sidewalk south side |
| Marlette | East of 138th Dr | 135th Ave | 0.32 | Glendale | Sidewalk both sides |
| Marlette Ave | East of 138th Dr | 135th Ave | 0.36 | Glendale | Sidewalk both sides |
| Maryland Ave | 138th Ave | 135 Ave | 0.44 | Glendale | Sidewalk both sides |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| MC 85 | 107th Ave | East of 99th Ave | 0.31 | Phoenix | Sidewalk both sides |
| MC 85 | 107th Ave | East of 99th Ave | 0.57 | Phoenix | Sidewalk both sides |
| MC 85 | 255th Ave | Miller Rd | 0.48 | Buckeye | Sidewalk both sides |
| MC 85 | 79th Ave | West of 75th Ave | 0.43 | Phoenix | Sidewalk/path connection both sides |
| MC 85 | West of 83rd Ave | West of 80th Ave | 0.44 | Phoenix | Sidewalk/path connection both sides |
| MC 85 | 91st Ave | 87th Ave | 0.26 | Phoenix | Sidewalk both sides |
| MC 85 | Ash Ave | Baseline Rd | 0.21 | Buckeye | Sidewalk both sides |
| MC 85 | Baseline Rd | 129th Ave | 0.38 | Buckeye | Sidewalk both sides |
| MC 85 | West of El Mirage Rd | East of El Mirage Rd | 0.42 | Avondale | Sidewalk both sides |
| MC 85 | Jackrabbit Tr | West of 193rd Ave | 0.17 | Buckeye | Sidewalk both sides |
| McDowell Rd | 78th St | West of 80th St | 0.19 | Mesa | Sidewalk both sides |
| McDowell Rd | 80th St | Hawes Rd | 0.50 | Mesa | Sidewalk both sides |
| McDowell Rd | West of 90th St | East of 92nd St | 0.34 | Mesa | Sidewalk both sides |
| McDowell Rd | 91st Ave | 86th Dr | 0.49 | Phoenix | Sidewalk south side |
| McDowell Rd | Longmore Rd | Alma School Rd | 0.49 | Salt River Pima-Maricopa Indian Community | Sidewalk south side |
| McDowell Rd | Sossaman Rd | West of 78th St | 0.16 | Mesa | Sidewalk both sides |
| McKellips Rd | East of 95th Pl | West of 98th Pl | 0.25 | Mesa | Sidewalk both sides |
| McKellips Rd | West of 98th St | Crismon Rd | 0.25 | Mesa | Sidewalk north side |
| McKellips Rd | Boulder Mountain Rd | East of 95th Pl | 0.06 | Mesa | Sidewalk south side |
| Meridian Rd | South of Apache Tr | North of Broadway Ave | 0.27 | Mesa | Sidewalk both sides |
| Meridian Rd | Southern Ave | Broadway Ave | 1.00 | Mesa | Sidewalk/path connection both sides |
| Mountain Rd | 4th Ave | University Dr | 0.74 | Mesa | Sidewalk both sides |
| Mountain Rd | Broadway Rd | 4th Ave | 0.25 | Mesa | Sidewalk both sides |
| Mountain Rd | Crescent Ave | Broadway Rd | 0.13 | Mesa | Sidewalk both sides |
| Mountain Rd | University Dr | Cholla Rd | 0.25 | Mesa | Sidewalk west side |
| Mountain Rd | Vine Ave | Wier Ave | 0.06 | Mesa | Sidewalk both sides |
| Ocotillo Rd | 135th Ave | Dysart Rd | 0.49 | Glendale | Sidewalk both sides |
| Ocotillo Rd | 138th St | Cobblestone Dr | 0.50 | Chandler | Sidewalk north side |
| Olive Ave | West of 114th Ave | 99th Ave | 1.77 | Sun City | Sidewalk north side |
| Olive Ave | 181st Ave | Citrus Rd | 0.24 | Waddell | Sidewalk north side |
| Olive Ave | West of Agua Fria Ranch Pkwy | Agua Fria Ranch Pkwy | 0.24 | Youngtown | Sidewalk/path connection both sides |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Olive Ave | El Mirage Rd | East of El Mirage Rd | 0.34 | El Mirage | Sidewalk both sides |
| Olive Ave | East of Mirage Rd | West of Agua Fria Ranch Pkwy | 0.29 | El Mirage | Sidewalk north side |
| Orangewood Ave | 83rd Ave | 79th Ave | 0.50 | Glendale | Sidewalk both sides |
| Patrick Ln | 83rd Ave | 79th Ave | 0.49 | Peoria | Sidewalk/path connection both sides |
| Peoria Ave | East of Greer Ranch Pkwy | Reems Rd | 0.44 | Surprise | Sidewalk south side |
| Peoria Ave | Perryville Rd | West of Cortessa Pkwy | 0.31 | Waddell | Sidewalk both sides |
| Peoria Ave | Reems Rd | Bullard Ave | 0.99 | Surprise | Sidewalk both sides |
| Power Rd | North of Nunneley Rd | Ranch Rd | 0.04 | Mesa | Sidewalk both sides |
| Power Rd | Ray Rd | SR 202 | 0.22 | Mesa | Sidewalk east side |
| Power Rd | Rembrandt Ave | Olney Ave | 1.14 | Mesa | Sidewalk both sides |
| Power Rd | Warner Rd | Rembrandt Ave | 0.40 | Mesa | Sidewalk west side |
| Princess Dr | West of 90th Pl | Ellsworth Rd | 0.21 | Mesa | Sidewalk south side |
| Pueblo Ave | West of 90th St | Ellsworth Rd | 0.30 | Mesa | Sidewalk both sides |
| Pueblo Ave | 92nd St | 96th St | 0.49 | Mesa | Sidewalk/path connection both sides |
| Pueblo Ave | 96th St | 98th St | 0.24 | Mesa | Sidewalk north side |
| Pueblo Ave | Hawes Rd | 88th St | 0.50 | Mesa | Sidewalk both sides |
| Quarterline Rd | 104th Pl | Signal Butte Rd | 0.44 | Mesa | Sidewalk/path connection both sides |
| Riggs Rd | West of 110th Wy | SR 87 | 0.26 | Sun Lakes | Sidewalk/path connection both sides |
| Riggs Rd | 180th St | Sossaman Rd | 1.47 | Queen Creek | Sidewalk both sides |
| Riggs Rd | Alma School Rd | West of Amberwood Dr | 0.49 | Sun Lakes | Sidewalk both sides |
| Riggs Rd | Hawes Rd | Ellsworth Rd | 0.99 | Queen Creek | Sidewalk/path connection both sides |
| Riggs Rd | Old Price Rd | Alma School Rd | 2.02 | Sun Lakes | Sidewalk both sides |
| Riggs Rd | Sossaman Rd | Hawes Rd | 0.98 | Queen Creek | Sidewalk/path connection both sides |
| Royal Oak Rd | East of Thunderbird Blvd | 99th Ave | 0.51 | Sun City | Sidewalk south side |
| Signal Butte Rd | Adobe Rd | Elmwood St | 0.25 | Mesa | Sidewalk east side |
| Signal Butte Rd | Apache Trl | University Dr | 0.43 | Mesa | Sidewalk/path connection both sides |
| Signal Butte Rd | Broadway Rd | 4th Ave | 0.23 | Mesa | Sidewalk east side |
| Signal Butte Rd | Elmwood St | Brown Rd | 0.25 | Mesa | Sidewalk both sides |
| Signal Butte Rd | Quaterline Rd | Adobe Rd | 0.25 | Mesa | Sidewalk west side |
| Southern Ave | East of 11th St | Meridian Rd | 0.49 | Mesa | Sidewalk both sides |
| Southern Ave | 41st Ave | 39th Ave | 0.24 | Phoenix | Sidewalk both sides |
| Southern Ave | East of 50th Ave | 47th Ave | 0.29 | Phoenix | Sidewalk both sides |

## Corridor and Network Expansion Needs in the Pedestrian Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Southern Ave | 88th St | Ellsworth Rd | 0.40 | Mesa | Sidewalk/path connection both sides |
| Southern Ave | 96th St | Crimson Rd | 0.49 | Mesa | Sidewalk/path connection both sides |
| Starflower Dr | 116th St | 118th St | 0.22 | Chandler | Sidewalk north side |
| Sunland Ave | 88th St | Ellsworth Rd | 0.33 | Mesa | Sidewalk south side |
| Sunland Ave | Ebola Ave | Ellsworth Rd | 0.16 | Mesa | Sidewalk north side |
| Sunland Ave | Ellsworth Rd | 96th St | 0.49 | Mesa | Sidewalk both sides |
| Thunderbird Blvd | West of 98th Ave | 94th Dr | 0.25 | Sun City | Sidewalk north side |
| Thunderbird Rd | East of Sahara Dr | East of Plaza del Rio | 0.23 | Sun City | Sidewalk north side |
| University Dr | East of 52nd Pl | West of 56th St | 0.46 | Mesa | Sidewalk both sides |
| University Dr | 58th St | Recker Rd | 0.23 | Mesa | Sidewalk south side |
| University Dr | West of 93rd St | 95th Pl | 0.31 | Mesa | Sidewalk both sides |
| University Dr | 95th St | 96th Pl | 0.12 | Mesa | Sidewalk south side |
| University Dr | 96th St | 98th St | 0.25 | Mesa | Sidewalk north side |
| University Dr | 98th St | Crismon Rd | 0.25 | Mesa | Sidewalk both sides |
| University Dr | Merrill Rd | Signal Butte Rd | 0.56 | Mesa | Sidewalk/path connection both sides |
| University Dr | Opal | Payton St | 0.32 | Mesa | Sidewalk south side |
| University Dr | Recker Rd | 62nd St | 0.25 | Mesa | Sidewalk south side |
| Van Buren St | 191st Ave | Roosevelt Irrigation District Canal | 1.05 | Goodyear | Sidewalk both sides |
| Van Buren St | Jackrabbit Tr | 191st Ave | 0.48 | Buckeye | Sidewalk north side |
| Van Buren St | Roosevelt Irrigation District Canal | Citrus Rd | 0.44 | Goodyear | Sidewalk/path connection both sides |
| Venture Dr | South of Anthem Wy | North of Bryce Wy | 0.07 | Anthem | Sidewalk both sides |
| Waddell Rd | East of 175th Ave | Cotton Ln | 0.24 | Surprise | Sidewalk both sides |
| Watkins St | 30th Dr | West of 28th Dr | 0.12 | Phoenix | Sidewalk both sides |
| Wier Ave | 112th St | Meridian Rd | 0.49 | Mesa | Sidewalk both sides |
| Williams Dr | 123rd Ave | 119th Ave | 0.50 | Sun City West | Sidewalk/path connection both sides |
| Willis Rd | Hamilton St | McQueen Rd | 0.24 | Chandler | Sidewalk both sides |
| Yearling Rd | Litchfield Rd | West of El Granada Blvd | 0.49 | Surprise | Sidewalk south side |

# Bicycle Network Needs

## River, Canal, and Roadway Crossing Needs in the Bicycle Network

| On Road | Cross Street | General Location | Need |
|---|---|---|---|
| 67th Ave | Salt River | Phoenix | Trail crossing |
| Alma School Rd | Salt River | Salt River Pima-Maricopa Indian Community | Trail crossing |
| Camelback Rd | Agua Fria River | Phoenix | Trail crossing |
| Camelback Rd | Beardsley Canal | Goodyear | Trail crossing |
| Crismon Rd | Central Arizona Project Canal | Mesa | Trail crossing |
| Higley Rd | Roosevelt Canal | Gilbert | Trail crossing |
| Indian School Rd | Agua Fria River | Avondale | River Crossing |
| Litchfield Rd | Northern Pkwy | Glendale | Freeway Crossing |
| Lower Buckeye Rd | Agua Fria River | Avondale | River Crossing |
| McKellips Rd | Salt River | Salt River Pima-Maricopa Indian Community | River Crossing |
| Olive Ave | Agua Fria River | El Mirage | River Crossing |
| Power Rd | Roosevelt Canal | Mesa | Trail crossing |
| Tuthill Rd | Salt River | Buckeye | River Crossing |
| University Dr | Central Arizona Project Canal | Mesa | Canal crossing |
| Van Buren St | Roosevelt Canal | Goodyear | Canal crossing |

## Bicycle Treatments through Intersection

| On Road | Cross Street | General Location | Need |
|---|---|---|---|
| Anthem Wy | Venture Dr | Anthem | Bike lane extension |
| Burton Ave | 185th Ave | Waddell | Bike lane extension |
| Burton Ave | Cortessa Pkwy | Waddell | Bike lane extension |
| Camelback Rd | Dysart Rd | Litchfield Park | Bike lane extension |
| Denham Dr | Cortessa Pkwy | Waddell | Bike lane extension |
| Elliot Rd | Ellsworth Rd | Mesa | Bike lane extension |
| MC 85 | Estrella Pkwy | Goodyear | Bike lane extension |
| Mountain View Rd | Citrus Rd | Waddell | Bike lane extension |
| Mountain View Rd | Cortessa Pkwy | Waddell | Bike lane extension |
| Olive Ave | Citrus Rd | Waddell | Bike lane extension |
| Olive Ave | Cortessa Pkwy | Waddell | Bike lane extension |
| Olive Ave | Perryville Rd | Waddell | Bike lane extension |
| Peoria Ave | 185th Dr | Waddell | Bike lane extension |
| Peoria Ave | Citrus Rd | Waddell | Bike lane extension |
| Peoria Ave | Cortessa Pkwy | Waddell | Bike lane extension |
| Peoria Ave | Perryville Rd | Waddell | Bike lane extension |
| Riggs Rd | Alma School Rd | Sun Lakes | Bike lane extension |
| Riggs Rd | Dobson Rd | Sun Lakes | Bike lane extension |
| Riggs Rd | E J Robson Blvd | Sun Lakes | Bike lane extension |
| Riggs Rd | Sun Lakes Blvd | Sun Lakes | Bike lane extension |
| Seldon Ln | Citrus Rd | Waddell | Bike lane extension |
| University Dr | Superstition Blvd | Mesa | Bike lane extension |

## Minor Gap Needs in the Bicycle Network

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 181st Ave | Olive Ave | North of Olive Ave | 0.08 | Waddell | Bike lane extension |
| 185th Ave | South of Cheryl Dr | Burton Ave | 0.06 | Waddell | Bike lane extension |
| 185th Dr | Kolina Ln | Peoria Ave | 0.07 | Waddell | Bike lane extension |
| 78th Ave | Orangewood Ave | Carole Ln | 0.12 | Glendale | Bicycle facility |
| 96th St | Birchwood Ave | Broadway Rd | 0.13 | Mesa | Bicycle facility |
| Alma School Rd | Hunt Hwy | Sunnydale Dr | 0.17 | Sun Lakes | Bicycle facility |
| Burton Ave | West of 185th Ave | East of 185th Ave | 0.12 | Waddell | Bike lane extension |
| Burton Ave | West of Coressa Pkwy | Cortessa Pkwy | 0.12 | Waddell | Bike lane extension |
| Camelback Rd | East of 134th Ave | Dysart Rd | 0.17 | Litchfield Park | Bicycle facility |
| Coldwater Ranch Dr | El Mirage Rd | East of 122nd Dr | 0.05 | Peoria | Bike lane extension |
| Denham Dr | West of West of 184th | Cortessa Pkwy | 0.10 | Waddell | Bike lane extension |
| Dobson Rd | North of Michigan Ave | Riggs Rd | 0.12 | Sun Lakes | Bike lane extension |
| Dysart Rd | Sonoma Dr | North of Villa Nueva | 0.18 | Litchfield Park | Bicycle facility |
| El Granada Blvd | North of Remuda Dr | Jomax Rd | 0.20 | Surprise | Bicycle facility |
| Elliot Rd | West of Ellsworth Rd | East of Ellsworth Rd | 0.07 | Mesa | Bike lane extension |
| MC 85 | West of Bullard Ave | West of La Cometa | 0.15 | Goodyear | Bicycle facility |
| MC 85 | West of Estrella Pkwy | East of Bullard Ave | 0.38 | Goodyear | Bicycle facility |
| Mountain View Rd | 180th Ave | Citrus Rd | 0.07 | Waddell | Bike lane extension |
| Mountain View Rd | Cortessa Pkwy | East of Cortessa Pkwy | 0.08 | Waddell | Bike lane extension |
| Olive Ave | West of Citrus Rd | Citrus Rd | 0.09 | Waddell | Bike lane extension |
| Power Rd | North of Ocotillo Rd | South of Spyglass | 0.11 | Queen Creek | Bike lane extension |
| Riggs Rd | 110th Way | SR 87 | 0.13 | Sun Lakes | Bike lane extension |
| Riggs Rd | Alma School Rd | East of Alma School Rd | 0.15 | Sun Lakes | Bike lane extension |
| Riggs Rd | East of E J Robson Blvd | West of E J Robson Blvd | 0.18 | Sun Lakes | Bike lane extension |
| Riggs Rd | West of Saddletree | Alma School Rd | 0.16 | Sun Lakes | Bike lane extension |
| Riggs Rd | West of Sun Lakes Blvd | East of Sun Lakes Blvd | 0.16 | Sun Lakes | Bike lane extension |
| Rockaway Hills Dr | US 60 | Castle Hot Springs Rd | 0.17 | Morristown | Bicycle facility |
| Venture Dr | W of Anthem Wy | Anthem Wy | 0.06 | Anthem | Bicycle facility |
| Yearling Rd | Litchfield Rd | West of La Granada Blvd | 0.52 | Surprise | Bicycle facility |

## Corridor Needs in the Bicycle Network

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 104th St | Adobe Rd | Brown Rd | 0.56 | Mesa | Bicycle facility |
| 107th Ave | South of MC | Van Buren St | 1.17 | Tolleson | Bicycle facility |
| 107th Ave | North of Pinnacle Peak | Hatfield Rd | 0.50 | Peoria | Bicycle facility |
| 107th Ave | Williams Rd | North of Villa Chula | 0.31 | Peoria | Bicycle facility |
| 117th Ave | Williams Dr | Happy Valley Pkwy | 3.01 | Sun City West | Bicycle facility |
| 135th Ave | Missouri Ave | Bethany Home Rd | 0.39 | Glendale | Bicycle facility |
| 151st Ave | R H Johnson Blvd | Heritage Dr | 0.45 | Sun City West | Bicycle facility |
| 195th Ave | Indian School Rd | North of Colter St | 1.37 | Buckeye | Bicycle facility |
| 231st Ave | Lower Buckeye Rd | Durango St | 0.50 | Buckeye | Bicycle facility |
| 27th Ave | North of Baseline Rd | South of Nancy Ln | 0.69 | Phoenix | Bicycle facility |
| 27th Ave | North of Carlise Rd | Desert Hills Dr | 1.16 | New River | Bicycle facility |
| 27th Ave | Carver Rd | Dobbins Rd | 0.46 | Phoenix | Bicycle facility |
| 27th Ave | Dobbins Rd | Gary Wy | 0.75 | Phoenix | Bicycle facility |
| 27th Ave | North of Maddock Rd | Via Puzzola | 0.69 | New River | Bicycle facility |
| 43rd Ave | 43rd Ave (Extension) | Pinnacle Peak Rd | 0.52 | Phoenix | Bicycle facility |
| 43rd Ave | Estrella Dr | Carver Rd | 0.51 | Phoenix | Bicycle facility |
| 51st Ave | North of Dusty Ln | Estrella Dr | 0.51 | Phoenix | Bicycle facility |
| 56th St | Dynamite Blvd | Lone Mountain Rd | 1.99 | Phoenix | Bicycle facility |
| 72nd Dr | Acoma Dr | Greenway Rd | 0.49 | Peoria | Bicycle facility |
| 79th Ave | Acoma Dr | Country Gables Dr | 0.24 | Peoria | Bicycle facility |
| 7th Ave | Carefree Hwy (Negative Roadway) | Cloud Rd | 0.99 | New River | Bicycle facility |
| 80th St | Main St | University Dr | 0.46 | Mesa | Bicycle facility |
| 83rd Ave | Dobbins Rd | Baseline Rd | 0.30 | Phoenix | Bicycle facility |
| 83rd Pl | Broadway Rd | Apache Tr | 0.50 | Mesa | Bicycle facility |
| 88th St | Apache Tr | University Dr | 0.48 | Mesa | Bicycle facility |
| 91st Ave | Northern Ave | Orangewood Ave | 0.48 | Glendale | Bicycle facility |
| 96th St | Baywood | Broadway Rd | 0.33 | Mesa | Bicycle facility |
| 96th St | Broadway Rd | Southern Ave | 1.00 | Mesa | Bicycle facility |
| 96th St | University Dr | Brown Rd | 1.00 | Mesa | Bicycle facility |
| 99th Ave | Greenway Rd | Beardsley Rd | 3.18 | Sun City | Bicycle facility |
| 99th Ave | Olive Ave | US 60 | 2.25 | Sun City | Bicycle facility |

## Corridor Needs in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 99th Ave | US 60 | Greenway Rd | 1.74 | Sun City | Bicycle facility |
| Acoma Dr | 83rd Ave | 67th Ave | 2.02 | Peoria | Bicycle facility |
| Adobe Rd | East of 102nd St | Merrill Rd | 0.18 | Mesa | Bicycle facility |
| Adobe Rd | Merrill Rd | 104th St | 0.56 | Mesa | Bicycle facility |
| Alma School Rd | McLellan Rd | SR 202 | 0.03 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| Alma School Rd | SR-202 | McDowell Rd | 1.35 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| Appleby Rd | SR 87 | Consolidated Canal | 0.91 | Chandler | Bicycle facility |
| Baseline Rd | 71st Ave | East of 61st Dr | 1.24 | Phoenix | Bicycle facility |
| Baseline Rd | 83rd Ave | East of 78th Ave | 0.81 | Phoenix | Bicycle facility |
| Bethany Home Rd | 127th Ave | 125th Ave | 0.26 | Glendale | Bicycle facility |
| Bethany Home Rd | Dysart Rd | 127th Ave | 0.49 | Glendale | Bicycle facility |
| Broadway Rd | 69th Ave | West of 69th Ave | 0.25 | Phoenix | Bicycle facility |
| Broadway Rd | 79th Ave | East of 69th Ave | 1.23 | Phoenix | Bicycle facility |
| Broadway Rd | 90th St | 96th St | 0.75 | Mesa | Bicycle facility |
| Brown Rd | East of 101st Pl | Signal Butte Rd | 0.90 | Mesa | Bicycle facility |
| Brown Rd | 99th St | West of 101st St | 0.26 | Mesa | Bicycle facility |
| Brown Rd | Signal Butte Rd | Meridian Rd | 1.00 | Mesa | Bicycle facility |
| Camelback Rd | 129th Ave | El Mirage Rd | 0.77 | Litchfield Park | Bicycle facility |
| Camelback Rd | Dysart Rd | 129th Ave | 0.21 | Litchfield Park | Bicycle facility |
| Camelback Rd | El Mirage Rd | West of Ball Park Blvd | 1.25 | Litchfield Park | Bicycle facility |
| Camelback Rd | Garnet Cir | East of Litchfield Rd | 0.81 | Litchfield Park | Bicycle facility |
| Carole Ln | 78th Ave | 75th Ave | 0.36 | Glendale | Bicycle facility |
| Carver Rd | 43rd Ave | Carver Rd | 1.14 | Phoenix | Bicycle facility |
| Castle Hot Springs Rd W | Rockaway Hills Dr | SR 74 | 0.64 | Morristown | Bicycle facility |
| Center St | Crozier Rd | Harding Ave | 0.32 | Wittmann | Bicycle facility |
| Center St | US 60 | East of 215th Ave | 0.43 | Wittmann | Bicycle facility |
| Chandler Heights Rd | Senate St | Lindl Dr | 1.37 | Chandler | Bicycle facility |
| Chandler Heights Rd | White Pl | West of Lindsay Rd | 0.15 | Chandler | Bicycle facility |
| Citrus Rd | Harrison St | Van Buren St | 0.51 | Goodyear | Bicycle facility |
| Citrus Rd | Northern Ave | Olive Ave | 1.00 | Waddell | Bicycle facility |

## Corridor Needs in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Cloud Rd | 7th Ave | 7th St | 1.01 | New River | Bicycle facility |
| Crismon Rd | Broadway Rd | University Dr | 1.00 | Mesa | Bicycle facility |
| Crismon Rd | Elmwood St | Brown Rd | 0.25 | Mesa | Bicycle facility |
| Crismon Rd | North of Grandview St | McKellips Rd | 0.75 | Mesa | Bicycle facility |
| Crismon Rd | University Dr | Adobe Rd | 0.50 | Mesa | Bicycle facility |
| Dobbins Rd | East of 50th Ave | 43rd Ave | 0.87 | Phoenix | Bicycle facility |
| Dobbins Rd | 56th Glen | West of 51st Ave | 0.63 | Phoenix | Bicycle facility |
| Dobson Rd | Hunt Hwy | Cochise Pl | 0.30 | Sun Lakes | Bicycle facility |
| Dove Valley Rd | East of 215th Ave | 211th Ave | 0.38 | Wittmann | Bicycle facility |
| Dynamite Blvd | 40th St | 56th St | 2.00 | Phoenix | Bicycle facility |
| Dysart Rd | Bethany Home Rd | Maryland Ave | 0.49 | Glendale | Bicycle facility |
| Dysart Rd | Camelback Rd | Bethany Home Rd | 1.00 | Glendale | Bicycle facility |
| Dysart Rd | Las Cruces Dr | Sonoma Dr | 0.51 | Litchfield Park | Bicycle facility |
| Dysart Rd | Maryland Ave | Glendale Ave | 0.50 | Glendale | Bicycle facility |
| El Mirage Rd | South of Keim Dr | Northern Ave | 1.74 | Glendale | Bicycle facility |
| El Mirage Rd | North of Oregon Ave | North of Keim Dr | 0.75 | Glendale | Bicycle facility |
| Ellsworth Rd | South of Florian Ave | Apache Tr | 1.31 | Mesa | Bicycle facility |
| Ellsworth Rd | North of Southern Ave | Florian Ave | 0.06 | Mesa | Bicycle facility |
| Estrella Dr | 51st Ave | 43rd Ave | 1.01 | Phoenix | Bicycle facility |
| Fort McDowell Rd | North of SR 87 | Mabel | 0.34 | Fort McDowell Yavapai Nation | Bicycle facility |
| Gavilan Peak Pkwy | Hudson Tr | Plymouth Dr | 0.49 | Anthem | Bicycle facility |
| Greenway Rd | 99th Ave | 91st Ave | 0.85 | Sun City | Bicycle facility |
| Hawes Rd | Hermosa Vista Dr | McDowell Rd | 0.51 | Mesa | Bicycle facility |
| Hunt Hwy | Dobson Rd | SR 87 | 2.01 | Sun Lakes | Bicycle facility |
| Hunt Hwy | SR 87 | East of McQueen Rd | 1.24 | Chandler | Bicycle facility |
| Indian School Rd | West of 192nd Ln | Perryville Rd | 0.81 | Buckeye | Bicycle facility |
| Lakeforest Dr | Bolivar Dr | Burns Dr | 0.42 | Sun City | Bicycle facility |
| Las Cruces Dr | Dysart Rd | 127th Ave | 0.53 | Litchfield Park | Bicycle facility |
| Lindsay Rd | North of Riggs | Cloud Rd | 0.37 | Chandler | Bicycle facility |
| Lone Mountain Rd | 48th St | 54th Pl | 0.75 | Phoenix | Bicycle facility |
| Lone Mountain Rd | 56th St | 68th St | 1.50 | Phoenix | Bicycle facility |
| Lower Buckeye Rd | 71st Ave | 67th Ave | 0.48 | Phoenix | Bicycle facility |
| Lower Buckeye Rd | Cotton Ln | Sarival Ave | 0.97 | Goodyear | Bicycle facility |

## Corridor Needs in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| McDowell Rd | 95th Ave | 83rd Ave | 1.49 | Phoenix | Bicycle facility |
| McDowell Rd | Alma School Rd | SR 87 | 0.77 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| McKellips Rd | 95th Pl | Crimson Rd | 0.56 | Mesa | Bicycle facility |
| McKellips Rd | Alma School Rd | SR 202 | 0.56 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| McKellips Rd | McClintock Dr | SR 101 | 1.02 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| McKellips Rd | SR101 | Alma School Rd | 1.93 | Salt River Pima-Maricopa Indian Community | Bicycle facility |
| Meridian Rd | Brown Rd | McDowell Rd | 1.98 | Mesa | Bicycle facility |
| Merrill Rd | University Dr | Adobe Rd | 0.50 | Mesa | Bicycle facility |
| Missouri Ave | 135th Ave | Dysart Rd | 0.45 | Glendale | Bicycle facility |
| Mountain Rd | 4th Ave | University Dr | 0.74 | Mesa | Bicycle facility |
| Mountain Rd | Broadway Rd | 4th Ave | 0.25 | Mesa | Bicycle facility |
| Mountain Rd | South of Crescent Ave | Broadway Rd | 0.13 | Mesa | Bicycle facility |
| Mountain Rd | University Dr | Cholla Rd | 0.25 | Mesa | Bicycle facility |
| Mountain Rd | Wier Ave | Vine Ave | 0.06 | Mesa | Bicycle facility |
| New River Road | I-17 | Black Canyon Hwy (Right Frontage Road) | 0.22 | New River | Bicycle facility |
| Olive Ave | Perryville Rd | Cortessa Pkwy | 0.46 | Waddell | Bicycle facility |
| Olive Ave | White Tank Mountain Rd | Perryville Rd | 2.01 | Waddell | Bicycle facility |
| Peoria Ave | Litchfield Rd | Dysart Rd | 0.99 | Glendale | Bicycle facility |
| Peoria Ave | Perryville Rd | Citrus Rd | 0.99 | Waddell | Bicycle facility |
| Peoria Ave | Reems Rd | Bullard Ave | 1.00 | Glendale | Bicycle facility |
| Peoria Ave | Sarival Ave | Reems Rd | 0.91 | Glendale | Bicycle facility |
| Perryville Rd | Olive Ave | Peoria Ave | 1.00 | Waddell | Bicycle facility |
| Perryville Rd | Thomas Rd | Indian School Rd | 1.00 | Goodyear | Bicycle facility |
| Pinnacle Peak Rd | 99th Ave | 83rd Ave | 1.98 | Peoria | Bicycle facility |
| Power Rd | North of Orchid Ln | SR 202 | 0.08 | Mesa | Bicycle facility |
| Power Rd | South of Ranch Rd | South of Redfield | 1.79 | Mesa | Bicycle facility |
| Power Rd | North of SR 202 | South of Nunnelley Rd | 0.04 | Mesa | Bicycle facility |
| Ray Rd | Mountain Rd | Meridian Rd | 0.48 | Mesa | Bicycle facility |
| Riggs Rd | West of Pima Pl | East of Dobson Rd | 0.24 | Sun Lakes | Bicycle facility |

## Corridor Needs in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Sarival Ave | 16th St | Peoria Ave | 0.99 | Glendale | Bicycle facility |
| University Dr | East of 93rd St | 95th Pl | 0.31 | Mesa | Bicycle facility |
| University Dr | 95th Pl | Crimson Rd | 0.63 | Mesa | Bicycle facility |
| University Dr | Crimson Rd | Signal Butte Rd | 1.00 | Mesa | Bicycle facility |
| University Dr | Higley Rd | Power Rd | 1.97 | Mesa | Bicycle facility |
| University Dr | Signal Butte Rd | Meridian Rd | 1.00 | Mesa | Bicycle facility |
| Van Buren St | 191st Ave | Roosevelt Irrigation District Canal | 1.06 | Goodyear | Bicycle facility |
| Van Buren St | Roosevelt Irrigation District Canal | Citrus Rd | 0.44 | Goodyear | Bicycle facility |
| Verrado Wy | Lower Buckeye Rd | Yuma Rd | 1.00 | Buckeye | Bicycle facility |
| Williams Dr | El Mirage Rd | 117th Ave | 3.01 | Sun City West | Bicycle facility |

## Regional Bicycle Connections and Network Expansion in the Bicycle Network

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| 103rd Ave | Olive Ave | US 60 | 2.42 | Sun City | Bicycle facility |
| 103rd Ave | West of Pineridge Dr | 99th Ave | 0.10 | Sun City | Bicycle facility |
| 107th Ave | Southern Ave | Lower Buckeye Rd | 2.00 | Avondale | Bicycle facility |
| 135th Ave | Meeker Blvd | Deer Valley Dr | 0.84 | Sun City West | Bicycle facility |
| 16th St | Carefree Hwy | Joy Ranch Rd | 1.99 | New River | Bicycle facility |
| 19th Ave | Joy Ranch Rd | Desert Hills Dr | 6.99 | New River | Bicycle facility |
| 211th Ave | Dove Valley Rd | Florentine Rd | 0.75 | Surprise | Bicycle facility |
| 211th Ave | Florentine Rd | SR 74 | 3.30 | Surprise | Bicycle facility |
| 24th St | Carefree Hwy | Joy Ranch Rd | 6.99 | New River | Bicycle facility |
| 339th Ave | Broadway Rd | I-10 | 3.81 | Tonopah | Bicycle facility |
| 351st Ave | Dobbins Rd | Salome Hwy | 5.04 | Tonopah | Bicycle facility |
| 355th Ave | I-10 | Wickenburg Rd | 9.83 | Buckeye | Bicycle facility |
| 355th Ave | North of Piedmont Rd | Dobbins Rd | 8.15 | Buckeye | Bicycle facility |
| 355th Ave | Salome Hwy | Broadway Rd | 5.04 | Tonopah | Bicycle facility |
| 571st Ave | I-8 | Hyder Rd | 14.67 | Western Maricopa County | Bicycle facility |
| 67th Ave | Baseline Rd | Raymond St | 2.61 | Phoenix | Bicycle facility |
| 75th Ave | North of Leondra Ln | Southern Ave | 2.35 | Phoenix | Bicycle facility |
| 7th Ave | Cloud Rd | Desert Hills Dr | 2.00 | New River | Bicycle facility |
| 7th St | Carefree Hwy (Negative Roadway) | Desert Hills Dr | 3.02 | New River | Bicycle facility |
| Adobe Rd | Ellsworth Rd | Crimson Rd | 1.00 | Mesa | Bicycle facility |
| Bartlett Dam Rd | Cave Creek Rd | East of Cave Creek Rd | 0.09 | Bartlett Lake | Bicycle facility |
| Bartlett Dam Rd | Flagstaff Power Line Rd | South Lake Rd | 12.90 | Bartlett Lake | Bicycle facility |
| Beardsley Rd | Meeker Blvd | Old El Mirage Rd | 0.88 | Sun City West | Bicycle facility |
| Black Canyon Hwy (Right Frontage Road) | South of Jenny Lin | New River Rd | 1.55 | New River | Bicycle facility |

## Regional Bicycle Connections and Network Expansion in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Black Canyon Hwy (Right Frontage Road) | New River Rd | North of New River Rd | 0.55 | New River | Bicycle facility |
| Black Canyon Hwy (Right Frontage Road) | New River Rd | New River Rd | 0.27 | New River | Bicycle facility |
| Black Canyon Hwy (Right Frontage Road) | Plymouth Dr | South of Arroyo Norte Dr | 0.23 | Anthem | Bicycle facility |
| Black Canyon Hwy (Right Frontage Road) | Arroyo Norte Dr | Circle Mountain Rd | 0.20 | Anthem | Bicycle facility |
| Boswell Blvd | Bell Rd | 99th Ave | 1.81 | Sun City | Bicycle facility |
| Broadway Rd | 96th St | Crismon Rd | 0.50 | Mesa | Bicycle facility |
| Broadway Rd | Crismon Rd | West of 104th Pl | 0.50 | Mesa | Bicycle facility |
| Broadway Rd | Signal Butte Rd | Meridian Rd | 0.99 | Mesa | Bicycle facility |
| Bush Hwy | SR 87 | South of Stewart Mountain Dam | 5.13 | Mesa | Bicycle facility |
| Camelback Rd | 195th Ave | Perryville Rd | 0.99 | Buckeye | Bicycle facility |
| Camino del Sol | Meeker Blvd | R H Johnson Blvd | 0.86 | Sun City West | Bicycle facility |
| Camino del Sol | R H Johnson Blvd | Beardsley Rd | 1.84 | Sun City West | Bicycle facility |
| Chandler Heights Rd | 148th St | Val Vista Dr | 0.49 | Gilbert | Bicycle facility |
| Citrus Rd | Olive Ave | Peoria Ave | 1.00 | Waddell | Bicycle facility |
| Cloud Rd | 7th St | 24th St | 2.01 | New River | Bicycle facility |
| Conquistador Dr | R H Johnson Blvd | Beardsley Rd | 2.09 | Sun City West | Bicycle facility |
| Courthouse Rd | Harquahala Valley Rd | Salome Hwy | 13.49 | Tonopah | Bicycle facility |
| Dean Rd | MC 85 | Buckeye Canal | 0.81 | Buckeye | Bicycle facility |
| Dean Rd | South of Southern Ave | Roosevelt Irrigation District Canal | 2.21 | Buckeye | Bicycle facility |
| Deer Valley Access Dr | Deer Valley Dr | North of Deer Valley Dr | 1.35 | Sun City West | Bicycle facility |
| Deer Valley Dr | 135th Ave | Old El Mirage Rd | 1.35 | Sun City West | Bicycle facility |
| Deer Valley Dr | 151st Ave | 135th Ave | 1.72 | Sun City West | Bicycle facility |
| Desert Hills Dr | 27th Ave | New River Rd | 3.07 | New River | Bicycle facility |
| Dobbins Rd | 355th Ave | 331st Ave | 8.15 | Buckeye | Bicycle facility |
| Elliot Rd | Ellsworth Rd | West of Signal Butte Rd | 1.99 | Mesa | Bicycle facility |
| Elliot Rd | Hawes Rd | SR 202 | 0.28 | Mesa | Bicycle facility |
| Elliot Rd | Jackrabbit Tr | Rainbow Valley Rd | 3.24 | Buckeye | Bicycle facility |

## Regional Bicycle Connections and Network Expansion in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Elliot Rd | Roosevelt WCD Canal | Sossaman Rd | 0.60 | Mesa | Bicycle facility |
| Elliot Rd | East of Sossaman Rd | Hawes Rd | 0.76 | Mesa | Bicycle facility |
| Fort McDowell Rd | Mabel Dr | Ba Hon Nah Rd | 3.73 | Fort McDowell Yavapai Nation | Bicycle facility |
| Govers Ave | Old El Mirage Rd | El Mirage Rd | 2.90 | Sun City West | Bicycle facility |
| Harquahala Valley Rd | Salome Hwy | Salome Hwy Ext | 13.49 | Tonopah | Bicycle facility |
| Indian School Rd | 387th Ave | 379th Ave | 1.00 | Tonopah | Bicycle facility |
| Indian School Rd | El Mirage Rd | 103rd Ave | 2.46 | Avondale | Bicycle facility |
| Jackrabbit Tr | Elliot Rd | MC 85 | 3.24 | Buckeye | Bicycle facility |
| Joy Ranch Rd | 19th Ave | 24th St | 6.99 | New River | Bicycle facility |
| Litchfield Rd | Northern Ave | Peoria Ave | 1.99 | Glendale | Bicycle facility |
| Lower Buckeye Rd | 127th Ave | El Mirage Rd | 0.48 | Avondale | Bicycle facility |
| Lower Buckeye Rd | 4th St | 127th Ave | 0.72 | Avondale | Bicycle facility |
| Lower Buckeye Rd | Avondale Blvd | 107th Ave | 0.97 | Avondale | Bicycle facility |
| Lower Buckeye Rd | Dean Rd | Perryville Rd | 3.48 | Buckeye | Bicycle facility |
| Lower Buckeye Rd | Litchfield Rd | 4th St | 0.76 | Avondale | Bicycle facility |
| Maricopa Rd | East of Stout Rd | West of 99th Ave | 17.08 | Gila Bend | Bicycle facility |
| MC 85 | 107th Ave | 75th Ave | 3.86 | Tolleson | Bicycle facility |
| MC 85 | Ash Ave | Dean Rd | 3.08 | Buckeye | Bicycle facility |
| MC 85 | Dean Rd | Jackrabbit Trl | 2.53 | Buckeye | Bicycle facility |
| MC 85 | Jackrabbit Tr | West of Cotton Ln | 3.09 | Goodyear | Bicycle facility |
| MC 85 | SR 85 | Miller Rd | 1.97 | Buckeye | Bicycle facility |
| Meeker Blvd | 135th Ave | Beardsley Rd | 1.84 | Sun City West | Bicycle facility |
| Meeker Blvd | US 60 | 135th Ave | 1.75 | Sun City West | Bicycle facility |
| Meridian Rd | Brown Rd | University Dr | 1.00 | Mesa | Bicycle facility |
| Mohave Rd | Aha Jeewa Rd | Fort McDowell Rd | 1.75 | Fort McDowell Yavapai Nation | Bicycle facility |
| New River Rd | Desert Hills Dr | Black Canyon Hwy (Right Frontage Rd) | 9.02 | New River | Bicycle facility |
| Northern Ave | Citrus Rd | Litchfield Rd | 4.93 | Glendale | Bicycle facility |
| Old Mirage Rd | Grovers Ave | Deer Valley Dr | 2.90 | Sun City West | Bicycle facility |

## Regional Bicycle Connections and Network Expansion in the Bicycle Network (Continued)

| On Road | From | To | Miles | General Location | Need |
|---|---|---|---|---|---|
| Old US 80 | South of Woods Rd | Palo Verde Rd | 22.47 | Gila Bend | Bicycle facility |
| Old US 80 S | Pierpoint Rd | North of Watermelon Rd | 5.01 | Gila Bend | Bicycle facility |
| Olive Ave | Agua Fria Ranch Pkwy | 99th Ave | 1.99 | Sun City | Bicycle facility |
| Olive Ave | Citrus Rd | Sarival Ave | 2.00 | Glendale | Bicycle facility |
| Olive Ave | El Mirage Rd | Agua Fria Ranch Pkwy | 0.88 | El Mirage | Bicycle facility |
| Olive Ave | Sarival Ave | East of Litchfield Rd | 3.42 | Glendale | Bicycle facility |
| Painted Rock Rd | I-8 | 451st Ave | 15.67 | Western Maricopa County | Bicycle facility |
| Palo Verde Rd | Old US 80 | South of Buckeye Airport Rd | 4.53 | Buckeye | Bicycle facility |
| Peoria Ave | 111th Ave | 99th Ave | 1.54 | Sun City | Bicycle facility |
| Perryville Rd | Camelback Rd | South of Oregon Ave | 0.25 | Glendale | Bicycle facility |
| Perryville Rd | Lower Buckeye | Thomas Rd | 4.00 | Goodyear | Bicycle facility |
| Perryville Rd | MC 85 | Broadway Rd W | 1.99 | Goodyear | Bicycle facility |
| Perryville Rd | South of Oregon Ave | San Miguel Ave | 0.42 | Glendale | Bicycle facility |
| R H Johnson Blvd | US 60 | Bell Rd | 4.41 | Sun City West | Bicycle facility |
| Riggs Rd | 180th St | Hawes Rd | 2.49 | Queen Creek | Bicycle facility |
| Salome Hwy | Courthouse Rd | Old US 80 | 17.71 | Tonopah | Bicycle facility |
| Salome Hwy | South of I-10 | Courthouse Rd | 9.02 | Tonopah | Bicycle facility |
| Salome Hwy Ext | Harquahala Valley Rd | I-10 | 13.49 | Tonopah | Bicycle facility |
| San Tan Blvd | 170th St | 205th St | 4.34 | Queen Creek | Bicycle facility |
| Sarival Ave | Camelback Rd | Northern Pkwy | 3.50 | Glendale | Bicycle facility |
| Southern Ave | 75th Ave | 59th Ave | 2.35 | Phoenix | Bicycle facility |
| Spanish Garden Dr | Camino del Sol | R H Johnson Blvd | 1.72 | Sun City West | Bicycle facility |
| Thomas Rd | 195th Ave | Perryville Rd | 1.00 | Buckeye | Bicycle facility |
| Val Vista Dr | Chandler Heights Rd | Ocotillo Rd | 0.99 | Gilbert | Bicycle facility |
| Vulture Mine Rd | Aguila Rd | Vulture Peak Rd | 17.01 | Wickenburg | Bicycle facility |
| Ward Rd | 331st St | Salome Hwy | 8.15 | Buckeye | Bicycle facility |
| Whisper Oaks Dr | Spanish Garden Dr | R H Johnson Blvd | 1.72 | Sun City West | Bicycle facility |
| Wickenburg Rd | 355th Ave | North of Central Arizona Project | 9.83 | Buckeye | Bicycle facility |
| Wickenburg Rd | South of Vulture Mine Rd | Vulture Mine Rd | 4.71 | Buckeye | Bicycle facility |
| Wintersburg Rd | Salome Hwy | Indian School Rd | 4.77 | Tonopah | Bicycle facility |

## Low Stress Facility Needs in the Bicycle Network

| Location | On Road | From | To | Need |
|---|---|---|---|---|
| Anthem Area | Meade Dr | Aqua Fria Dr | White Mountain Rd | Bicycle facility |
| | Memorial Dr | Gavilan Peak Pkwy | Anthem Wy | Bicycle facility |
| | Whitman Dr | Memorial Dr | Maidstone Wy | Bicycle facility |
| Sun City Area | Alabama Ave | 111th Ave | 99th Ave | Bicycle facility |
| | Aqua Fria Dr | Waikiki Dr | Canyon Creek Dr | Bicycle facility |
| | Aztec Dr | Lakeforest Dr | Conestoga Dr | Bicycle facility |
| | Bolivar Dr | Lakeforest Dr | Greenway Rd | Bicycle facility |
| | Bowling Green Dr | Greenway Rd | Meadow Park Dr | Bicycle facility |
| | Burns Dr | 99th Ave | Bell Rd | Bicycle facility |
| | Cameo Dr | Sarabande Wy | Lakeforest Dr | Bicycle facility |
| | Clair Dr | Peoria Ave | 99th Ave | Bicycle facility |
| | Conestoga Dr | Lindgren Ave | Aztec Dr | Bicycle facility |
| | Hutton Dr | 99th Ave | Meadow Park Dr | Bicycle facility |
| | Hutton Dr | Canyon Creek Dr | 99th Ave | Bicycle facility |
| | Lakeforest Dr | Aztec Dr | Saddle Ridge Dr | Bicycle facility |
| | Lindgren Ave | Conestoga Dr | Bell Rd | Bicycle facility |
| | Meade Dr | Aqua Fria Dr | White Mountain Rd | Bicycle facility |
| | Pleasant Valley Rd | White Mountain Rd | 99th Ave | Bicycle facility |
| | Saddle Ridge Dr | 99th Ave | Lakeforest Dr | Bicycle facility |
| | Sarabande Cir | Thunderbird Blvd | Waikiki Dr | Bicycle facility |
| | Sarabande Wy | Cameo Dr | Thunderbird Blvd | Bicycle facility |
| | Sun City Blvd | 111th Ave | 99th Ave | Bicycle facility |
| | Waikiki Dr | Aqua Fria Dr | Sarabande Cir | Bicycle facility |
| | White Mountain Rd | Meade Dr | Pleasant Valley Rd | Bicycle facility |

## Low Stress Facility Needs in the Bicycle Network (Continued)

| Location | On Road | From | To | Need |
|---|---|---|---|---|
| Sun Lakes Area | Brentwood Dr | Howard Dr | E J Robson Blvd | Bicycle facility |
| | Chestnut Dr | Cochise Pl | Alma School Rd | Bicycle facility |
| | Cloverland Dr | Moonshadow Dr | Spring Creek Rd | Bicycle facility |
| | Cochise Pl | Sun Lakes Blvd N | Brentwood Dr | Bicycle facility |
| | E J Robson Blvd | Brentwood Dr | Riggs Rd | Bicycle facility |
| | Fairway Blvd | Player Dr | Sun Lakes Blvd | Bicycle facility |
| | Glenburn Dr | Sherwood Wy | Palomino Pl | Bicycle facility |
| | Howard Dr | Brentwood Dr | Spring Creek Rd | Bicycle facility |
| | Moonshadow Dr | Sunnydale Dr | Flintlock Dr | Bicycle facility |
| | Palomino Pl | Dobson Rd | Glenburn Dr | Bicycle facility |
| | Palomino Pl | Sun Lakes Blvd | Dobson Rd | Bicycle facility |
| | Player Dr | End of Road | Sun Lakes Blvd | Bicycle facility |
| | San Tan Blvd | Cloverland Dr | Ribbonwood Dr | Bicycle facility |
| | Sherwood Wy | Glenburn Dr | Brentwood Dr | Bicycle facility |
| | Spring Creek Rd | Howard Dr | Cloverfield Dr | Bicycle facility |
| | Sun Lakes Blvd | Fairway Blvd | Riggs Rd | Bicycle facility |
| | Sun Lakes Blvd N | Cochise Pl | Palomino Pl | Bicycle facility |
| | Sun Lakes Blvd N | Player Dr | Sun Lakes Blvd | Bicycle facility |
| | Sun Lakes Blvd N | Sun Lakes Blvd S | Palomino Pl | Bicycle facility |
| | Sun Lakes Blvd N | Sun Lakes Blvd S | Fairway Blvd | Bicycle facility |
| | Sun Lakes Blvd S | Player Dr | Cochise Pl | Bicycle facility |
| | Sunnydale Dr | Alma School Rd | Moonshadow Dr | Bicycle facility |
| Additional Areas | 47th Ave | Olney Ave | Dobbins Rd | Bicycle facility |
| | 55th Ave | Olney Ave | Dobbins Rd | Bicycle facility |
| | 63rd Ave/Vineyard Rd | 67th Ave | Baseline Rd | Bicycle facility |


walk

bike

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