PIMA ASSOCIATION OF GOVERNMENTS

# REGIONAL ACTIVE TRANSPORTATION PLAN

**Draft – November 5, 2025**

## ACKNOWLEDGEMENTS

### Pima Association of Governments Key Staff

- Hannah Oden, AICP - Planning Manager, RATP Project Manager
- Jeanette DeRenne, AICP - Transportation Planning Director
- Michael J. Ortega, P.E. - PAG Executive Director
- Dustin Fitzpatrick - Environmental Planning Administrator
- Hyunsoo Noh - Data Science Administrator
- Nico Giraldo - Transportation Planner
- Dawn Garcia - Administrative Assistant

### Technical Working Group (TWG)

- Jennifer Hobert - ADOT
- Elaine Mariolle - ADOT
- Alexandra Chavez - Town of Marana
- Stephen E. Dean - Town of Marana
- Diahn Swartz - Town of Marana
- Jason Bahe - Pascua Yaqui Tribe
- Jonathan Crowe - Pima County
- Mike Hendrix - Pima County
- Galo Galovale - Town of Sahuarita
- Carlos Suarez - Town of Sahuarita
- Molly Leyba - City of South Tucson
- Jouse Licea - City of South Tucson
- Melissa Pablo - Tohono O'odham Nation
- Lydia Barker - City of Tucson
- Benjamin Elias - City of Tucson
- Ryan Fagan - City of Tucson
- Anona Miller - University of Arizona

### Pima Association of Governments Regional Council Members

*City of Tucson Mayor*
**Regina Romero**
Chair

*Town of Marana Mayor*
**Jon Post**
Vice Chair

*Town of Sahuarita Mayor*
**Tom Murphy**
Treasurer

*City of South Tucson Mayor*
**Roxanna Valenzuela**

*Pima County Supervisor*
**Dr. Matt Heinz**

*Town of Oro Valley Mayor*
**Joe Winfield**

*Tohono O'odham Nation Chairman*
**Verlon Jose**

*Pascua Yaqui Tribe Chairman*
**Julian Hernandez**

*Arizona State Transportation Board*
**Ted Maxwell**

**Consultant Team**

Kimley»Horn alta GORDLEYGROUP



## TABLE OF CONTENTS

# 01
# INTRODUCTION

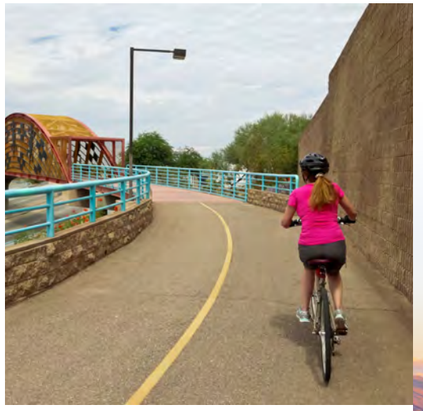
The Pima Association of Governments (PAG) is a regional planning agency that supports coordinated transportation efforts across Pima County. The Regional Active Transportation Plan (RATP) provides a unified vision and strategy to guide walking and biking improvements throughout the region. By updating and combining PAG's previous bicycle and pedestrian plans, the RATP helps local agencies prioritize investments, coordinate across jurisdictions, and expand safe, accessible travel options. The RATP also promotes regional connectivity by encouraging consistent infrastructure and design approaches that better link communities and support a more integrated active transportation network.

## What is Active Transportation?

Active transportation includes walking, biking, and other non-motorized or low-powered options for getting around, such as scooters, e-bikes, and motorized skateboards. These modes promote healthier lifestyles, cleaner air, and a higher quality of life. By expanding travel choices beyond cars, active transportation helps create safer, more connected communities.

## Who is PAG?

PAG is the federally required and state-designated **Metropolitan Planning Organization** (MPO) for the greater Tucson region. PAG works with local governments to plan transportation improvements and secure federal funding for projects like safer roads, better transit, congestion reduction, and more bike and pedestrian infrastructure across Pima County.

## PLANNING PROCESS

The RATP was developed through a structured process, shown in **Figure 1**, to define a regional vision, assess current conditions, and identify opportunities to improve walking, biking, and other active travel options across Pima County. The process began with establishing goals and performance measures to guide investments and track progress toward a more connected, accessible transportation network.

A comprehensive review of existing conditions, including infrastructure, safety, equity, and public health, was paired with the first phase of public engagement, which asked residents where new or improved facilities should be located. This input helped identify gaps in the network and informed a corridor-level analysis to prioritize investments where the greatest impact could be achieved.

The planning process included the development of a toolbox of preferred design treatments to support consistency across jurisdictions. A second phase of public engagement was conducted to review and refine draft project recommendations, ensuring they reflect community needs and values. Together, these steps build momentum for future investments and support a more integrated regional approach to active transportation.

**Figure 1.** RATP Planning Process


**Figure 2.** PAG Region


**Figure 3.** Urbanized Area

The PAG region covers all of Pima County, as shown in **Figure 2**. While the same analysis was conducted across Pima County, most of the issues and recommendations relate to the Tucson urbanized area (**Figure 3**), where most people live and travel.

## VISION AND GUIDING PRINCIPLES

The vision, goals, and strategies for the RATP were developed though a review of previous planning efforts, analysis of safety and health trends, and public input. The process helped identify regional priorities and values, which were translated into a guiding vision for active transportation in Pima County. Supporting goals and performance measures were then established to help track progress and inform future decision-making.

### 1 Promote safe, cohesive, context-appropriate active transportation infrastructure across jurisdictional boundaries.

**Strategy 1:** Support member agencies in their efforts to incorporate best practice principles into their general plans, development workflows, and other relevant processes.

**Strategy 2:** Identify locations where improvements can be made to the transition between facilities.

**Strategy 3:** Support member agencies in their efforts to reduce the frequency and severity of crashes.

### 2 Promote well-maintained active transportation facilities across jurisdictional boundaries and improve the physical condition of these facilities.

**Strategy 1:** Maintain pavement condition datasets that are accessible to all jurisdictions.

**Strategy 2:** Periodically review pavement condition data on active transportation facilities.

**Strategy 3:** Utilize orthophoto, lidar, or other readily available sensor data to measure and track the physical condition of active transportation facilities.

**Strategy 4:** Develop or utilize existing tools to identify locations in the active transportation network that are vulnerable to flooding.

### 3 Continually collect and track active transportation data to support data-driven decision making.

**Strategy 1:** Create a tool to process sensor and crowd-sourced data to track and model active transportation travel behavior.

**Strategy 2:** Leverage each jurisdiction's data collection efforts to share datasets whenever practical.

**Strategy 3:** Develop regional tools to track safety trends by location and gaps in active transportation facilities.

**Strategy 4:** Reduce the impacts of heat on users of the active transportation network.

## VISION

**The greater Tucson region will develop and maintain an active transportation network that is safe, accessible, comfortable, convenient, and desirable for all ages and abilities.**

### 4 Prioritize active transportation infrastructure that provides connections between residential areas, transit facilities, and activity centers. This will provide first- and last-mile walking and biking connections to transit and expand the reach of the active transportation network.

**Strategy 1:** Support member agencies in increasing the number of housing units served by active transportation facilities.

**Strategy 2:** Support member agencies in increasing the number of activity centers served by active transportation facilities.

**Strategy 3:** Support member agencies in increasing the percentage of transit facilities that are served by active transportation facilities.

**Strategy 4:** Support member agencies in converting short car trips to activity centers to active transportation trips.

### 5 Promote an active transportation network that supports mobility, access, health and improved air quality.

**Strategy 1:** Invest active transportation resources to address network gaps in underserved communities.

**Strategy 2:** Support jurisdictional partners in their efforts to identify projects which protect vulnerable road users.

**Strategy 3:** Track data related to heat vulnerability and prioritized improvements in areas with poor health outcomes.

**Strategy 4:** Ensure users can access healthcare facilities via an active transportation network.

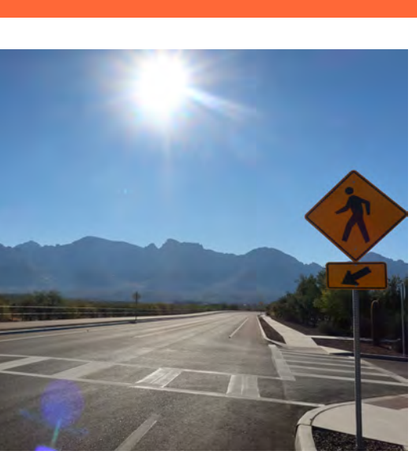
**Strategy 5:** Promote the use of active transportation to help improve air quality.

### 6 Identify funding opportunities through coordination with member agencies to implement RATP recommendations during the RMAP and TIP development process

**Strategy 1:** Support member jurisdictions in their efforts to identify eligible local, regional, state and federal funding sources for high priority projects during the RMAP and TIP development process.

# 02

# UNDERSTANDING OUR REGION





## HOW DOES THE REGION CONNECT?

A core objective of the RATP is to develop a consistent, region-wide dataset to support analyses and decision-making. This dataset integrates information on existing infrastructure, equity focus areas, and network gaps using data from PAG and its member agencies, along with other trusted sources. The resulting dataset, shown in **Figure 4**, provides a strong foundation for identifying regional needs and prioritizing future improvements. The existing pedestrian and bicycle networks on major roadways are shown in **Figure 5** and **Figure 6**, respectively, on the following pages.

**Figure 4.** Regional Dataset Components

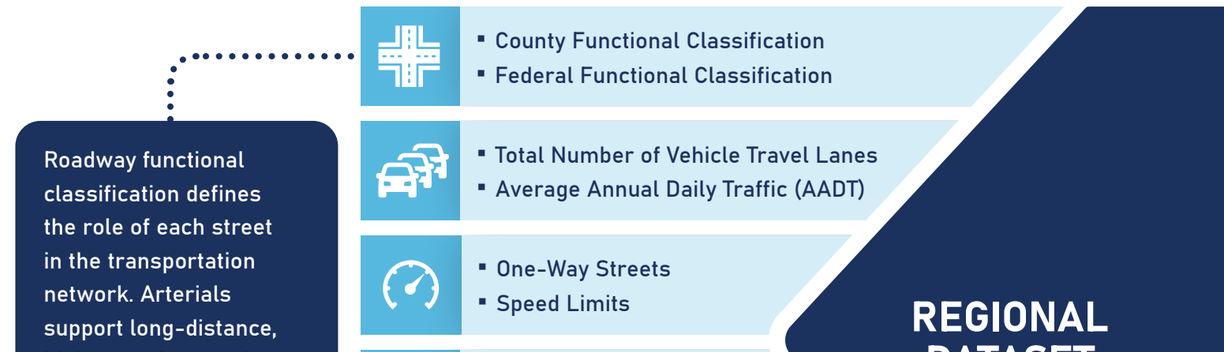
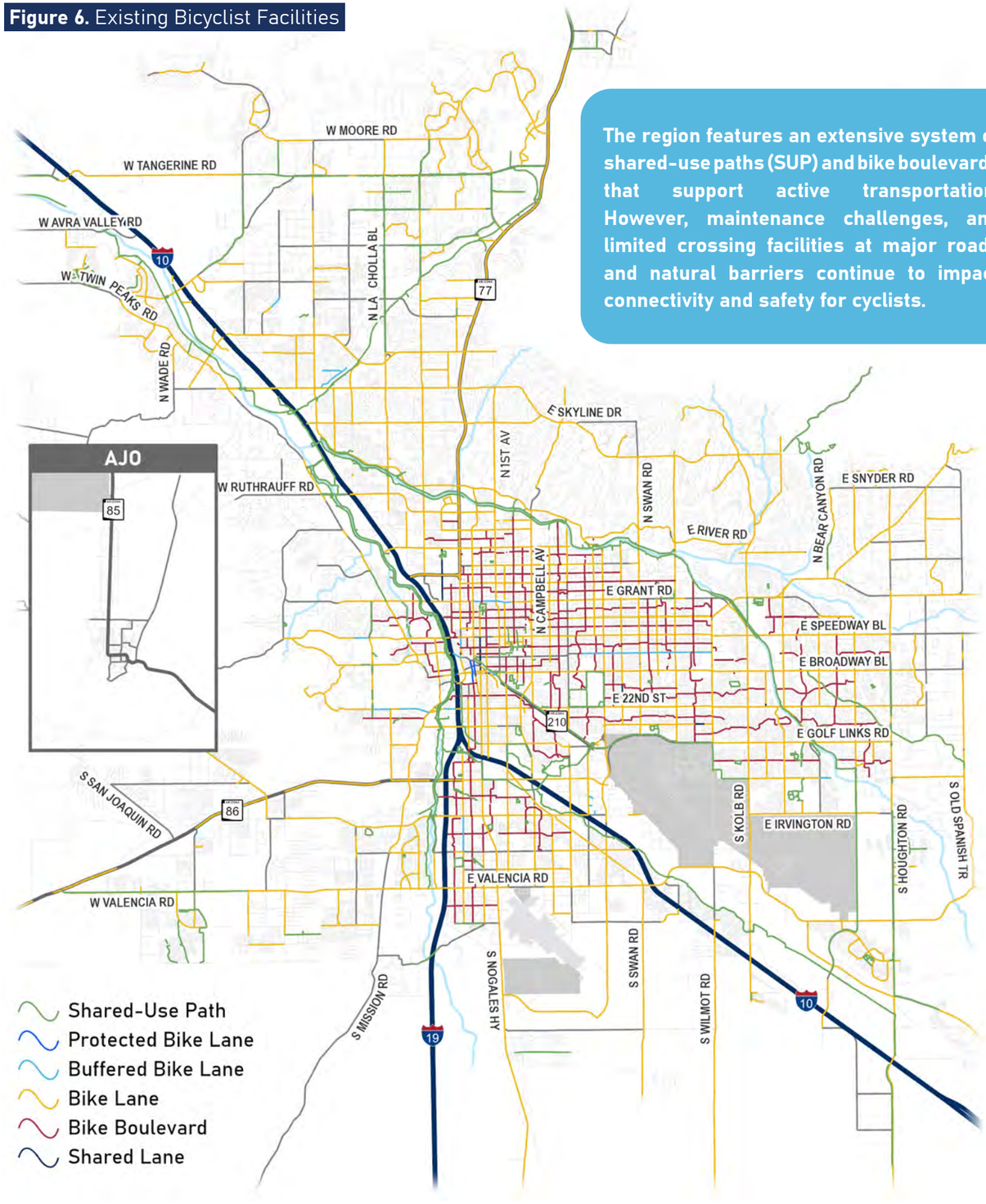



**Figure 5.** Existing Pedestrian Facilities


**Many sidewalk facilities across the greater Tucson region are inconsistent, with frequent gaps, narrow widths, and limited separation from vehicle traffic. These conditions can create barriers to safe and comfortable travel for pedestrians and other active transportation users.**

**Figure 6.** Existing Bicyclist Facilities




**The region features an extensive system of shared-use paths (SUP) and bike boulevards that support active transportation. However, maintenance challenges, and limited crossing facilities at major roads and natural barriers continue to impact connectivity and safety for cyclists.**

## RELEVANT PLANS REVIEW

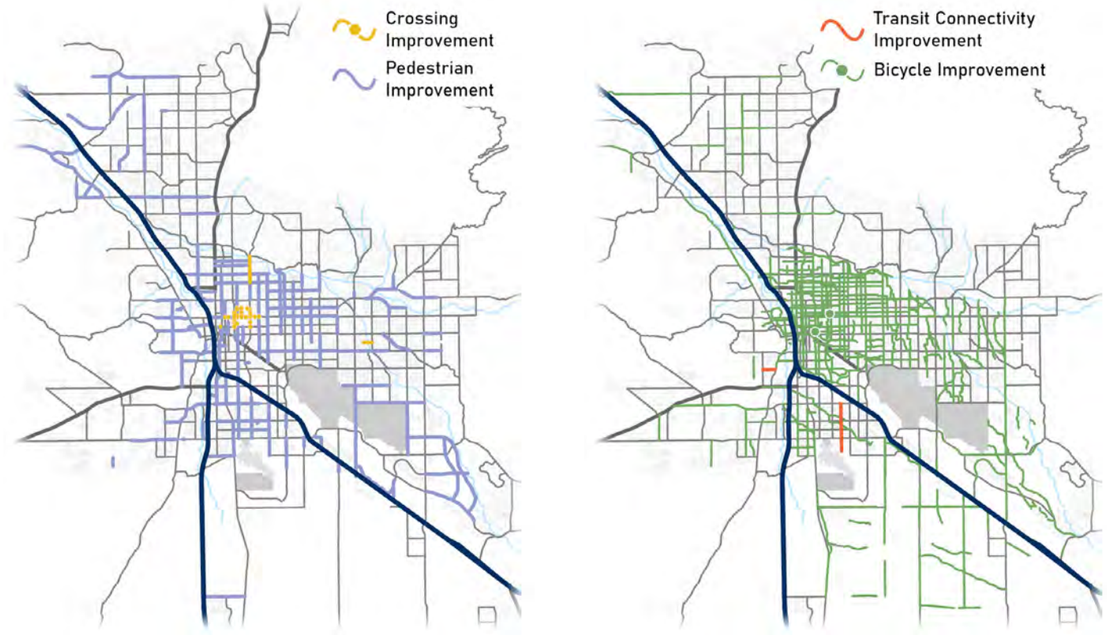
Understanding how active transportation has been addressed in previous and ongoing planning efforts is essential for building on existing goals and ensuring regional consistency. The review revealed consistent priorities, including collaboration among agencies, development of continuous active transportation networks that connect major activity centers, and integration with transit to support multimodal travel. Reviewing plans from the PAG region, along with statewide initiatives, provides valuable context on safety priorities, infrastructure strategies, and performance measures.


## PREVIOUSLY RECOMMENDED IMPROVEMENTS

Active transportation improvement projects were identified from a range of existing planning documents, as well as Capital Improvement Plans (CIPs) from PAG member agencies and the PAG Transportation Improvement Program (TIP). Projects from local CIPs represent funded and programmed efforts across the region and provide important context for understanding current priorities. Recommendations from previous plans were compiled and organized by type, including pedestrian, bicycle, crossing, and transit connectivity improvements and are shown in **Figure 7**.

Categorizing these projects helps clarify the types of investments being prioritized and reveals opportunities to strengthen regional coordination. The distribution of improvements also highlights areas where gaps remain in the active transportation network that need to be addressed. This information supports the recommendations, building on existing efforts and contributes to improving the active transportation network.

**Figure 7.** Previously Recommended Pedestrian, Bicycle, Crossing, and Transit Improvements




**158** pedestrian improvements

**46** crossing improvements

**244** bicycle improvements

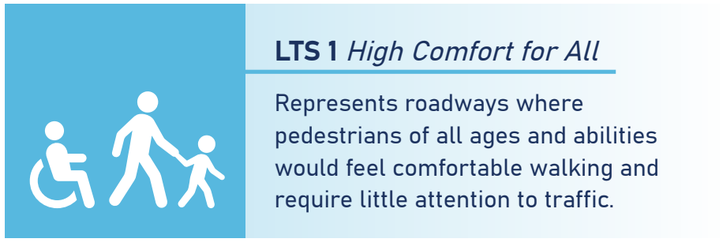
**2** transit improvements

** While many improvements include features for pedestrians, bicyclists, and transit users, each was categorized based on its primary function.*

## LEVEL OF TRAFFIC STRESS

Level of Traffic Stress (LTS) was used to evaluate how comfortable pedestrians and bicyclists feel on different roadway segments, based on factors shown in **Figure 8**, including lane count, speed limits, and existing facilities. Most arterial and collector roads in the region are rated as highly stressful for both modes due to narrow sidewalks, high speeds, and limited dedicated infrastructure. While LTS was evaluated across the entire roadway network, **Figures 9** and **10** highlight the high-stress areas on arterial roadways, where narrow sidewalks, high speeds, and limited dedicated facilities make travel particularly uncomfortable. These major roadways often act as barriers to active transportation, underscoring the need for improvements like lower speeds, narrower lanes, and safer crossings to boost comfort and connectivity.

**Figure 8.** Level of Traffic Stress Factors



**LTS 1** *High Comfort for All*

Represents roadways where pedestrians of all ages and abilities would feel comfortable walking and require little attention to traffic.

**LTS 2** *High Comfort for Most*

Represents slightly less comfortable roadways that require more attention to traffic and are suitable for children over 10, teens, and adults.

**LTS 3** *Increasing Stress for Most*

Represents moderately uncomfortable roadways, where most able-bodied adults would feel uncomfortable but safe.

**LTS 4** *High Stress Experience*

Represents high traffic stress and would be used only by able-bodied adults with limited route choices.

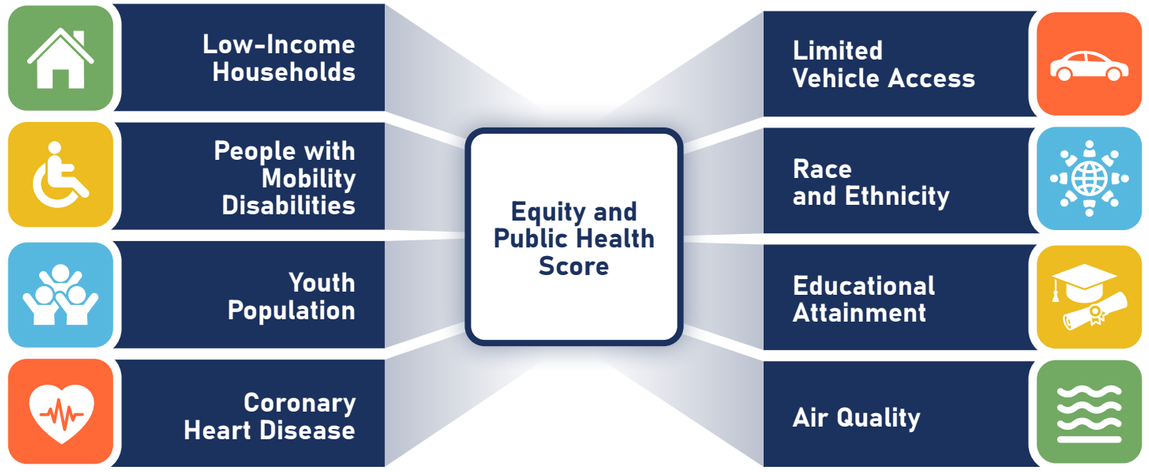
**Figure 9.** Poor Pedestrian LTS

**Figure 10.** Poor Bicyclist LTS

## EQUITY AND PUBLIC HEALTH

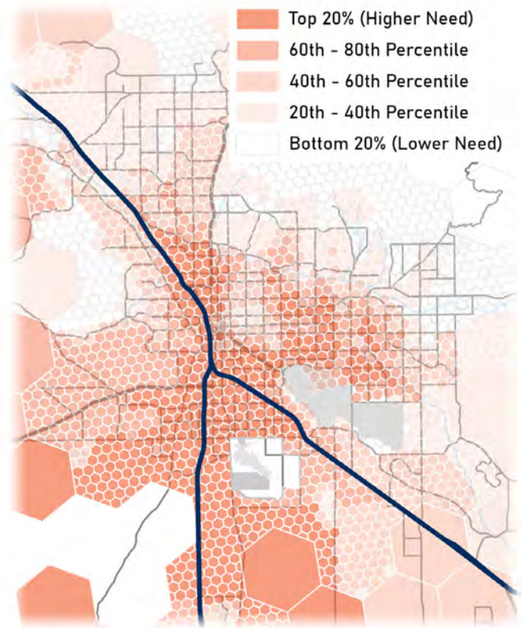
The equity and public health analysis highlights areas within the region where socioeconomic and health-related challenges overlap, helping to identify communities with greater need for active transportation investment. Variables considered in the analysis, shown in **Figure 11**, include income levels, educational attainment, access to vehicles, air quality, and rates of mobility-related disabilities and are consolidated into an equity and public health score.

**Figure 11.** Equity and Public Health Score Components




The resulting Equity and Public Health Scores are shown in **Figure 12**. Areas with higher concentrations of need are generally located south of I-10 and near I-19, including neighborhoods such as Drexel Heights and Flowing Wells. Many of these communities are situated near major transportation infrastructure, such as interstate highways and the Tucson International Airport, which can create physical and environmental barriers to walking and biking. Limited access to vehicles in these areas increases reliance on active transportation, making safe and connected infrastructure critical. Rural areas, including much of the Tohono O'odham Nation, show elevated levels of need due to similar factors, underscoring the importance of equitable investment across both urban and rural contexts.

**Figure 12.** Equity and Public Health Score



## TRAVELER ALIGNMENT AND CROSSING DEMAND

Traveler alignment identifies areas where short vehicle trips could be converted to walking or biking, helping to pinpoint locations with high potential demand for active transportation facilities. This can be done by applying trip data to the arterial roadway network and surrounding areas to highlight corridors where mode shift is most feasible. The resulting traveler alignment is shown in **Figure 13**. While vehicle trips may occur on major roads, the potential for active transportation often exists on adjacent or parallel routes that offer safer and more comfortable conditions.

**Areas with the highest mode shift potential are concentrated near central Tucson and in neighborhoods north of the Tucson International Airport, where trip density and proximity to destinations support walking and biking.**

Crossing demand focuses on locations where short vehicle trips cross major roadways, indicating where improved crossing infrastructure could reduce barriers and support safer, more direct routes for pedestrians and bicyclists. The resulting crossing demand is shown in **Figure 14**. Locations with high crossing demand represent key opportunities areas to enhance connectivity and encourage active transportation by addressing physical barriers in the network.

**High crossing demand is present in several areas, including east Tucson near Kolb Road and Speedway Boulevard, around the Tucson Mall, Marana near I-10, and neighborhoods north of the airport.**

**Figure 13.** Traveler Alignment

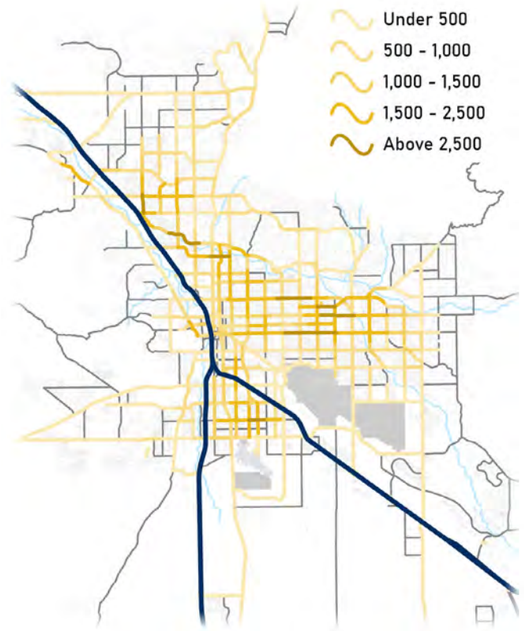
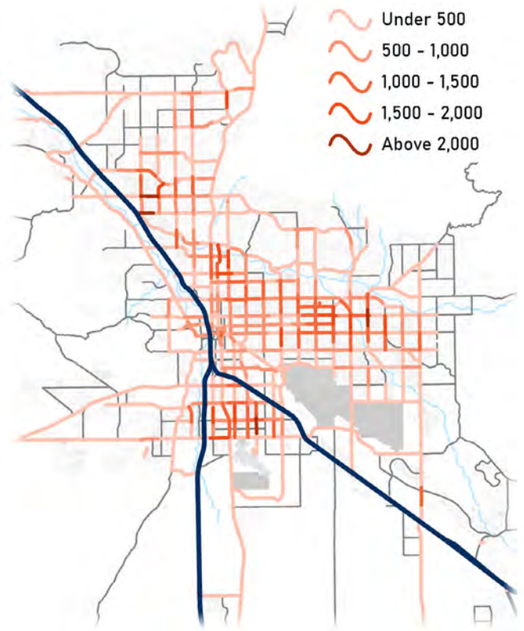


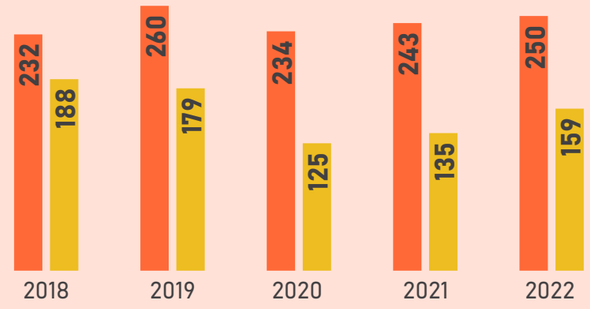

**Figure 14.** Crossing Demand




## SAFETY ANALYSIS

Safety was evaluated using a collision severity index, which accounts for both the frequency and severity of pedestrian- and bicycle-involved crashes along the region's arterial roadway network. This index provides a weighted measure that highlights segments with elevated safety concerns based on normalized crash data. Shown in **Figures 15** and **16**, high-risk locations are distributed across the region's major corridors. These findings emphasize the importance of targeted improvements to reduce crash severity and enhance safety for people walking and biking along high-traffic roadways.

**Figure 17.** Annual Active Transportation Crashes




Despite a dip during the COVID-19 pandemic, **Figure 17** shows annual active transportation crashes have remained consistently high.

Nearly **50%** of all active transportation crashes in the region occur during evening or nighttime hours.

**Figure 15.** Pedestrian Safety Index

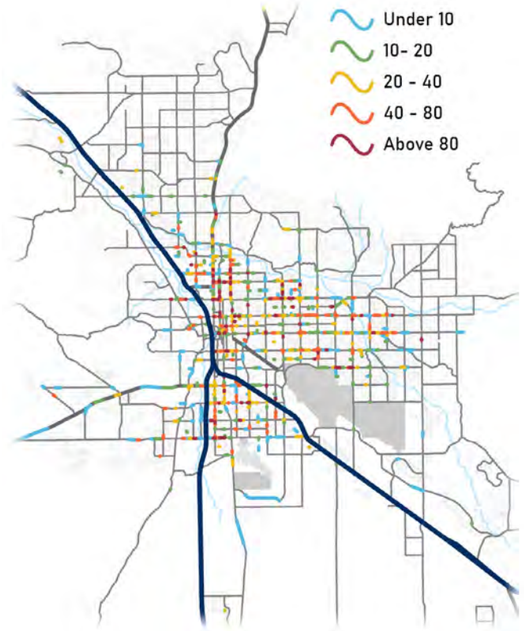
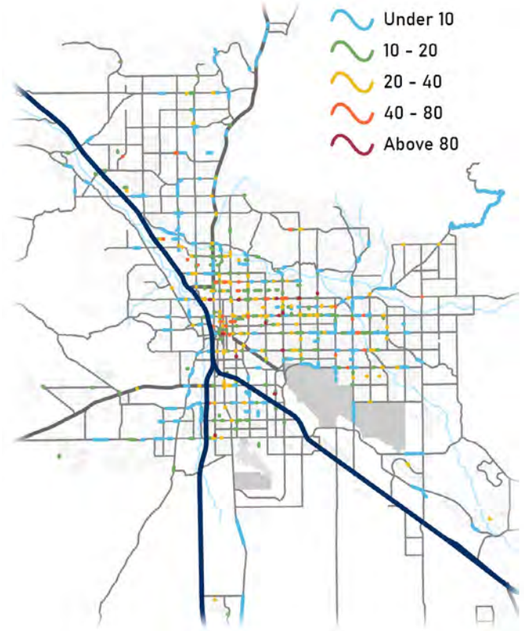



**Figure 16.** Bicycle Safety Index



## WHERE ARE THE MISSING LINKS?

Connectivity was measured by evaluating how far someone can travel using the existing roadway network within a 10-minute walk or 15-minute bike ride. This measurement compares the actual area that can be reached to an idealized area without barriers, resulting in a ratio that reflects the effectiveness of the active transportation network. The pedestrian and bicycle connectivity ratios are shown in **Figures 18** and **19**, respectively. Higher ratios indicate stronger connectivity.

Bicycle connectivity is highest in central Tucson, where the street network is dense and well-connected. Most suburban and rural areas show lower connectivity, though Picture Rocks stands out with a relatively high ratio due to its development pattern. Pedestrian connectivity follows a similar trend but is more affected by large roads and developments that limit crossing opportunities. Connectivity to transit, measured by access to bus stations via walking or biking, is strongest near downtown Tucson and significantly lower in areas such as the City of South Tucson, the Town of Oro Valley, the vicinity of Tucson International Airport, and the Pascua Yaqui Tribe.

**Figure 18.** Pedestrian Connectivity

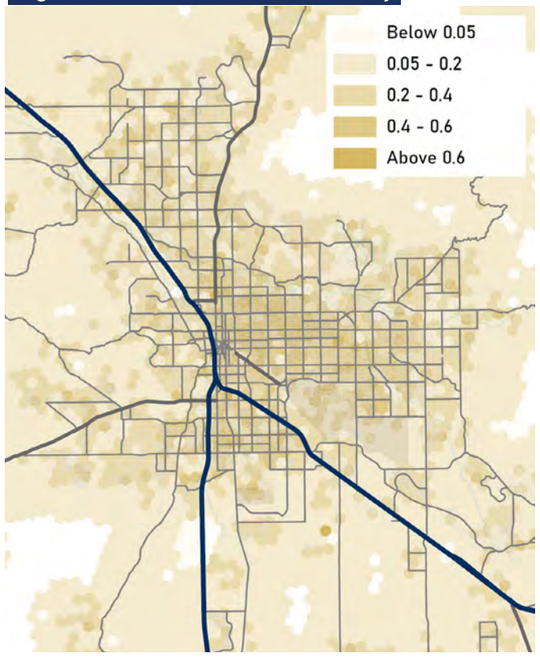
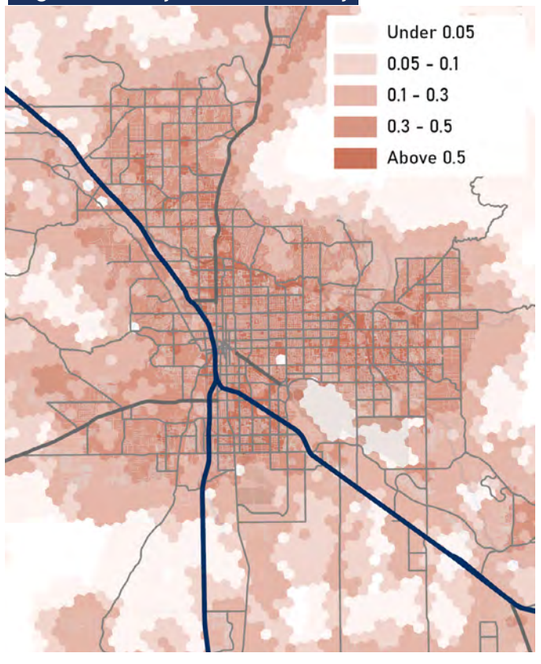



**Figure 19.** Bicycle Connectivity




## WHERE THE COMMUNITY SEES OPPORTUNITY

The first round of public engagement took place from July to October of 2024 and was designed to gather input on existing conditions and identify priorities for active transportation improvements. Feedback was collected through both virtual and in-person formats. The content focused on barriers, gaps, and areas where infrastructure is working well. Online tools included an interactive map and survey (**Figure 20**), where participants could pinpoint specific locations with needs related to biking, walking, safety, and access to destinations. Outreach was supported through social media and agency websites to encourage broad participation.

In-person engagement was conducted through pop-up events held across the region to raise awareness and collect input from a diverse audience. Attendees learned about the RATP and were guided to the online tools to share feedback on infrastructure needs and opportunities for improvement. Participants identified locations that either exemplify successful active transportation infrastructure or are strong candidates for future investment. These locations were used to refine safety considerations, as well as in the network prioritization process.

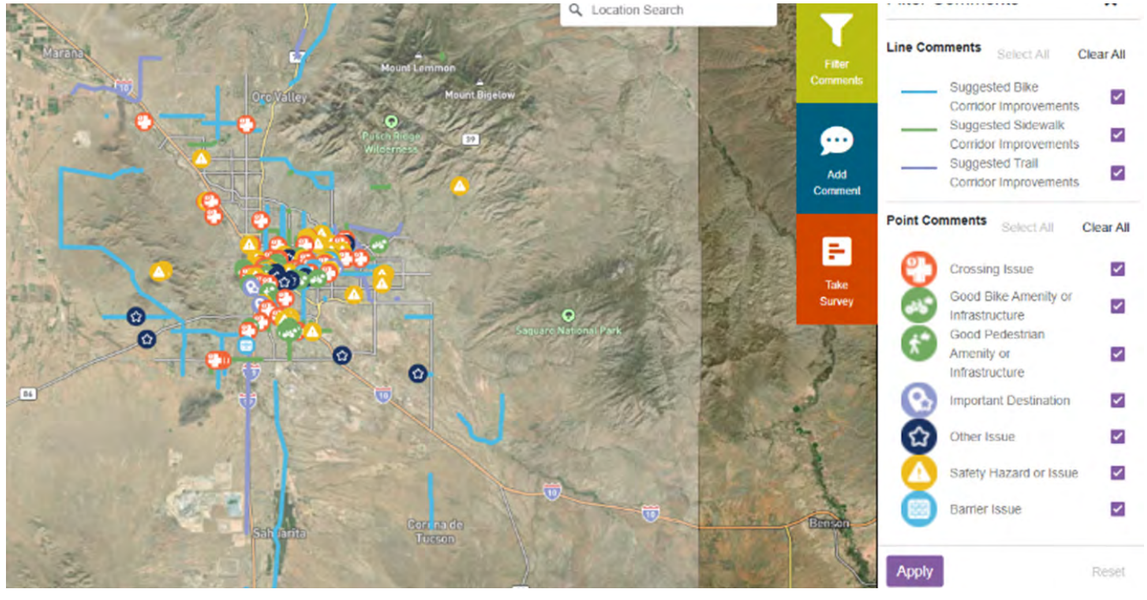
**115** survey responses

**277** map comments

### Pop-up Event Locations

- Summer Road Races (Reid Park)
- Meet Me at Maynards (Hotel Congress)
- Breeze in the Trees 5K (Pecan Festival Grounds)
- FUGA Bicicleteada del Sur (El Pueblo Center)

**Figure 20.** Interactive Map



# 03

# IDENTIFYING REGIONAL NEEDS



To identify priority corridors for active transportation, several network alternatives were developed to explore how different regional priorities shape key routes. While the preferred high-priority network is primarily based on the arterial roadway system, active transportation demand does not always follow these major corridors. Nearby local streets, collector roads, or off-street trails often offer safer, more comfortable, or more direct connections for people walking, biking, or using other forms of active transportation. These adjacent routes help fill gaps in the existing network and better reflect local travel patterns. To support a more localized and context-sensitive approach, the region was divided into nine geographic areas that are shown in **Figure 21**. This allows for detailed corridor analysis and recommendations tailored to each area's unique characteristics and needs.

## CORRIDOR IDENTIFICATION PROCESS

**1**

### IDENTIFY PRIORITY NETWORK ALTERNATIVES

Three priority network alternatives were created based on the existing conditions analysis and input from the first round of public engagement. Each alternative emphasizes different regional priorities and helps identify key active transportation corridors across the region.

**2**

### DEVELOP EVALUATION CRITERIA AND WEIGHTING

To assess the network alternatives, regional priorities were translated into evaluation criteria. Each alternative was evaluated using a tailored weighting system that emphasizes the priorities most relevant to that scenario, ensuring a fair and meaningful comparison.

**3**

### IDENTIFY HIGH-PRIORITY NETWORK FOR EACH ALTERNATIVE

Weighted criteria were applied to arterial roadway segments across the region. This process highlighted top-performing segments within each geographic area, which were then connected to form a high-priority network for each alternative.

**4**

### SELECT PREFERRED HIGH-PRIORITY NETWORK

A formula was applied to compare the high-priority networks from each alternative and identify the region's preferred high-priority network.

**5**

### DEVELOP PROJECTS FOR THE PREFERRED NETWORK

Using the preferred high-priority network, active transportation projects were developed to address current gaps on the preferred high-priority network and meet demand.

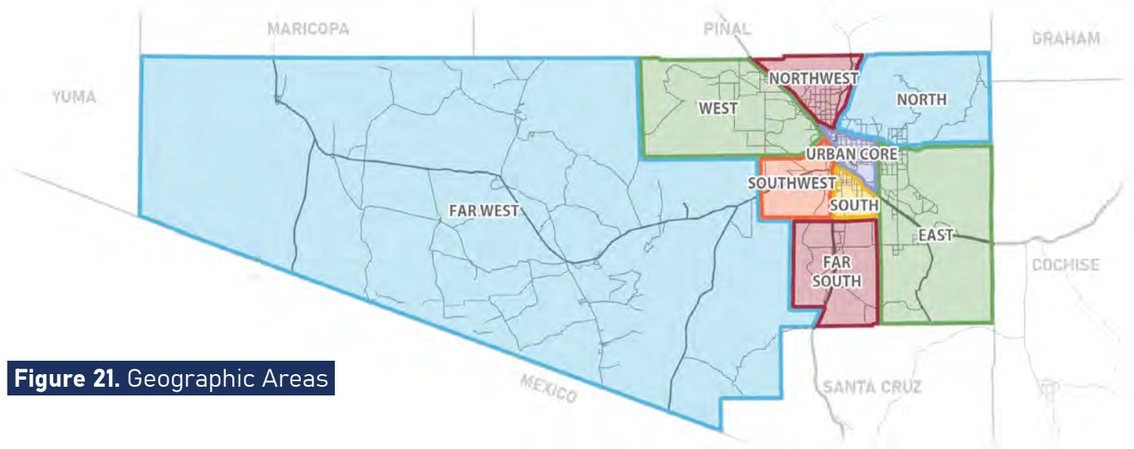



**Figure 21.** Geographic Areas

## 1 PRIORITY NETWORK ALTERNATIVES

Each priority network alternative aims to prioritize a different key element to a successful active transportation system.

### MAXIMIZING NEED-BASED CONNECTIVITY

Focuses on areas where people are most likely to walk or bike and have fewer transportation options. This helps connect communities that rely more on active transportation.

### MAXIMIZING ACCESSIBILITY

Aims to reach as many people as possible by improving connections in places with lots of residents, jobs, and destinations across the region.

### MAXIMIZING SAFETY

Targets locations with safety concerns for people walking and biking, using data and public input to guide improvements where they are most needed.

## 2 CORRIDOR PRIORITIES AND EVALUATION CRITERIA

Eight corridor priorities, shown in **Figure 22**, were defined to guide the evaluation of arterial segments, each with its own set of technical criteria that helped shape the network alternatives. The priority weighting for each network alternative is shown in **Figure 23**. The resulting high-priority network for the Maximizing Need-Based Connectivity, Accessibility, and Safety alternatives are shown in **Figure 24**, **Figure 25**, and **Figure 26**, respectively.

**Figure 22.** Corridor Priorities

| | | | |
|---|---|---|---|
| Equity and Public Health | Active Trip Potential | Equity Area Travel | Connectivity |
| Traveler Alignment and Crossing Demand | Safety | Destination Access | Public Engagement |

**Figure 23.** Network Alternative Weighting

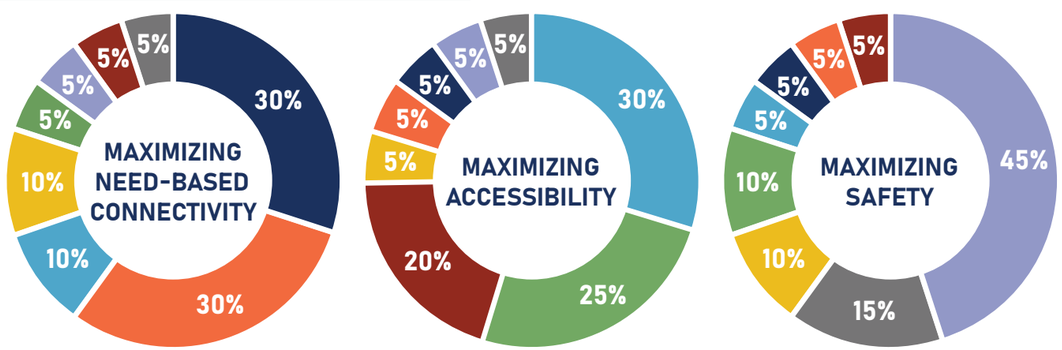



**Figure 24.** Maximizing Need-Based Connectivity Alternative

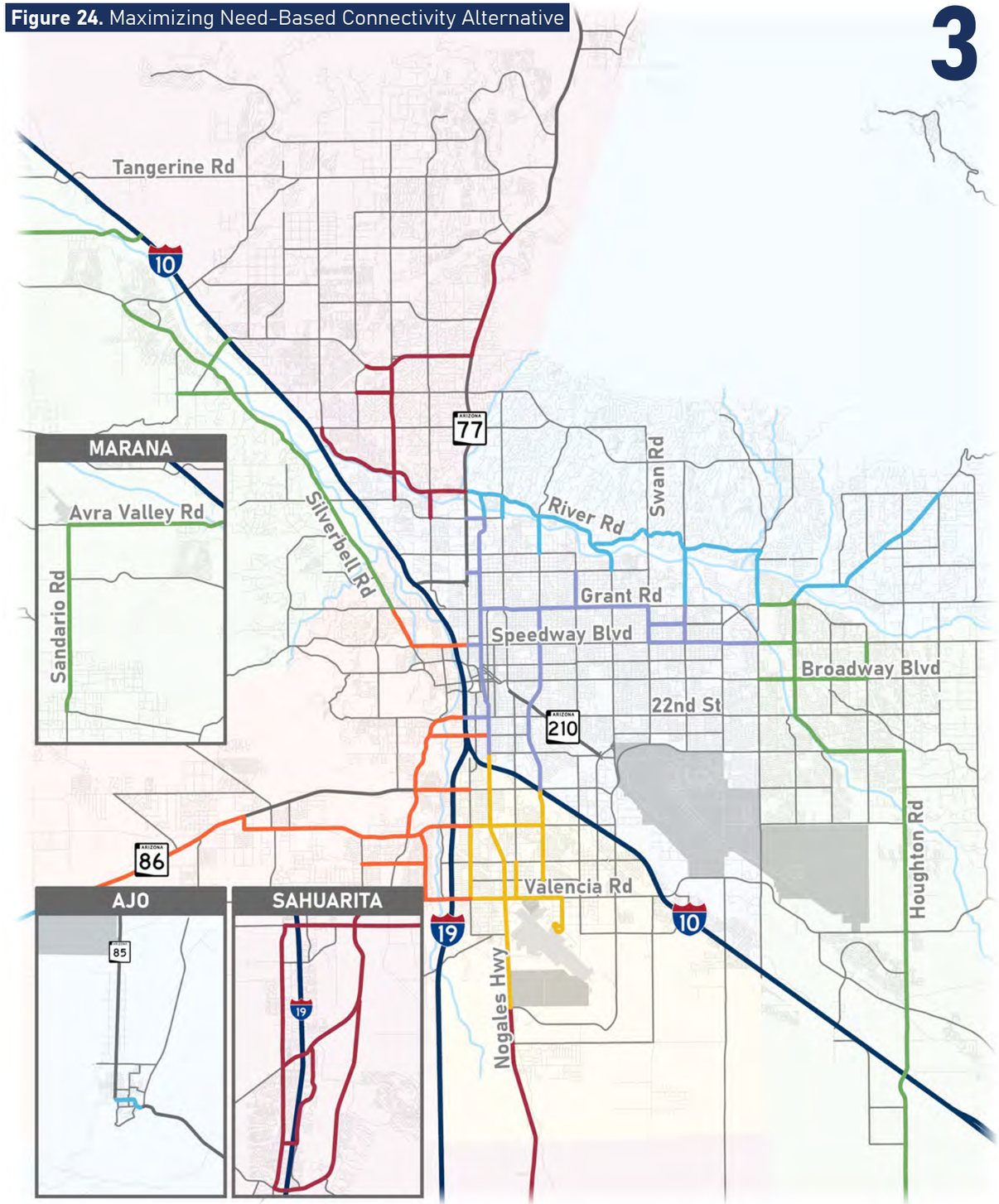


**Figure 25.** Maximizing Accessibility Alternative

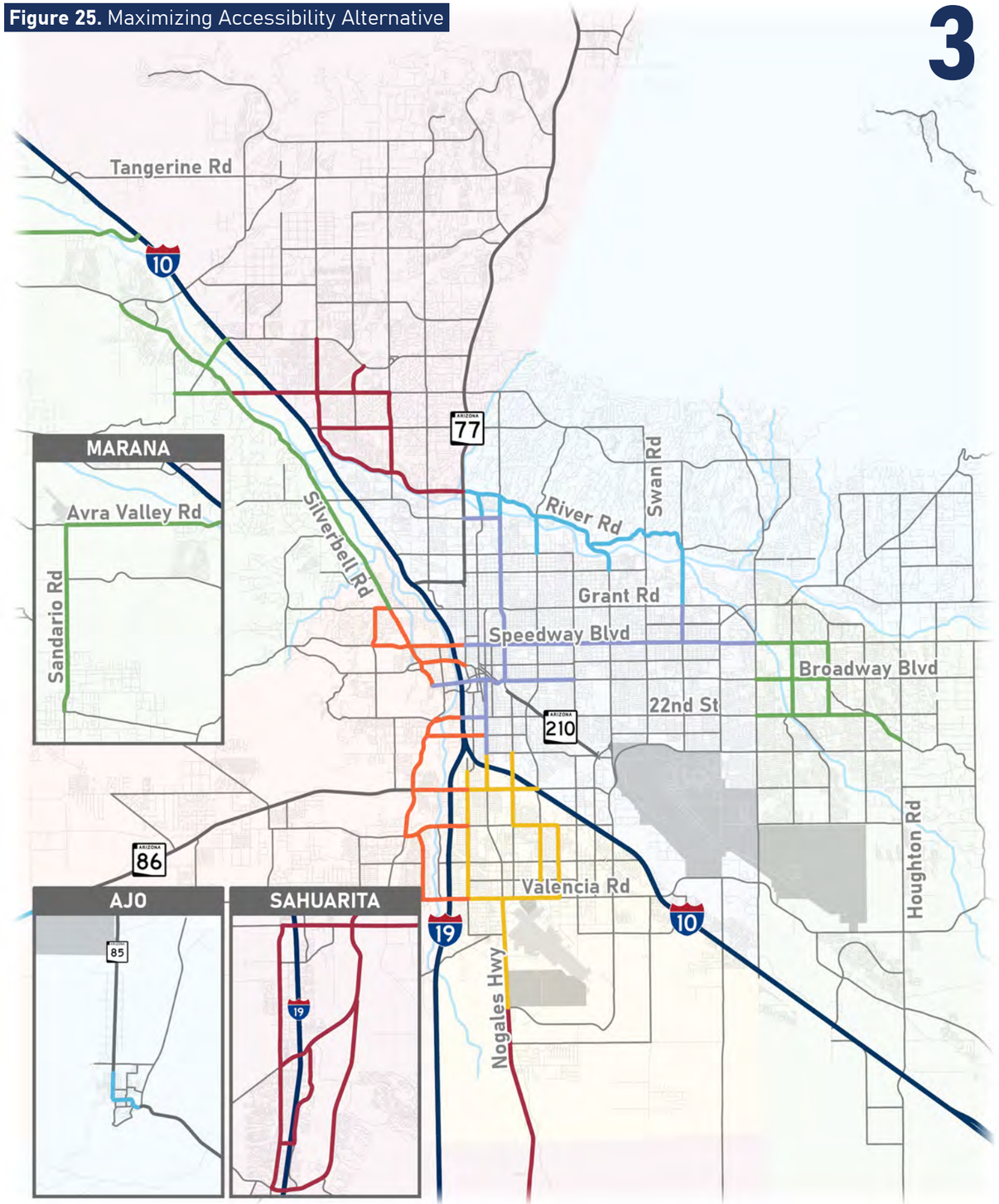
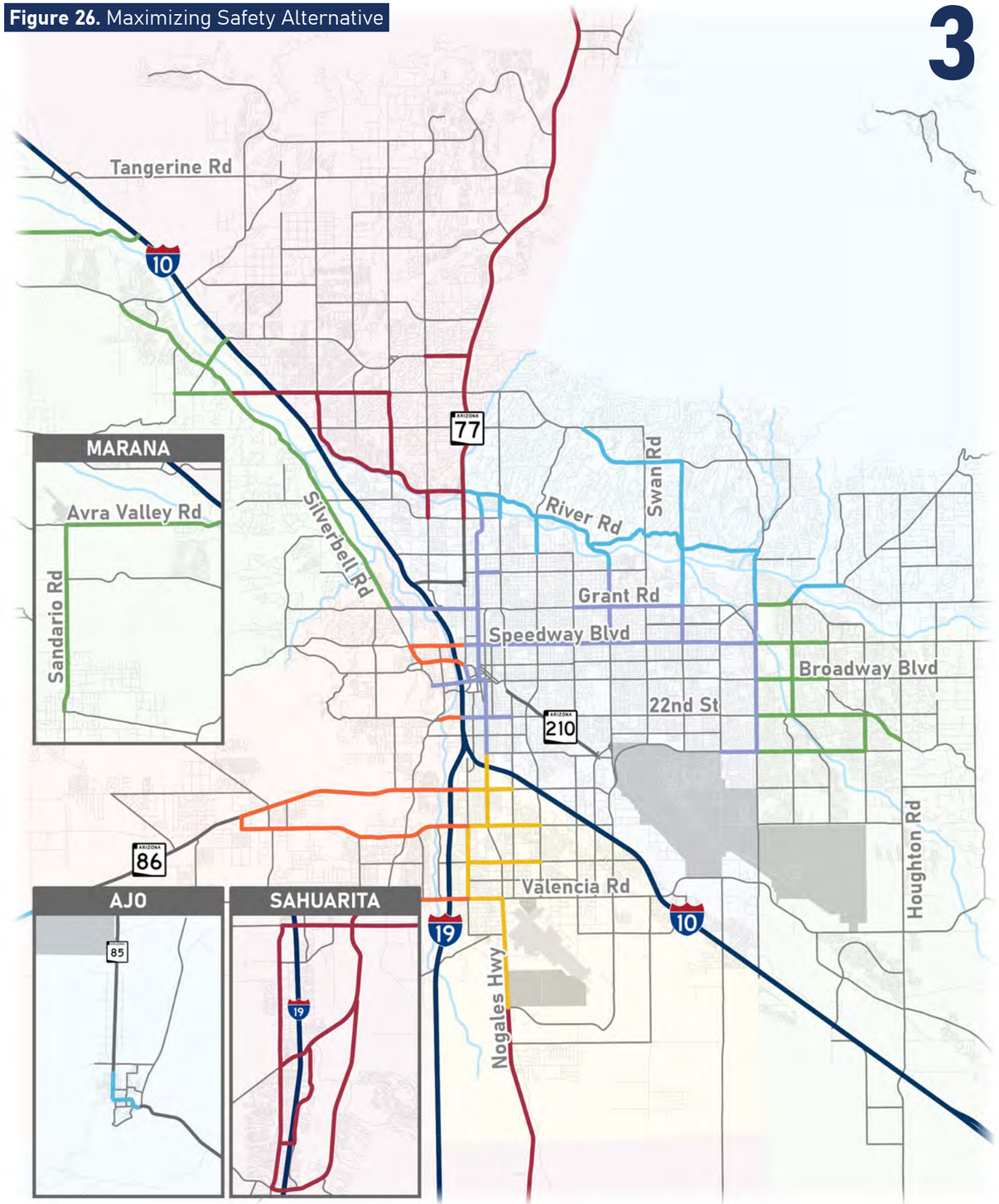



**Figure 26.** Maximizing Safety Alternative



# 4 SELECT PREFERRED HIGH-PRIORITY NETWORK

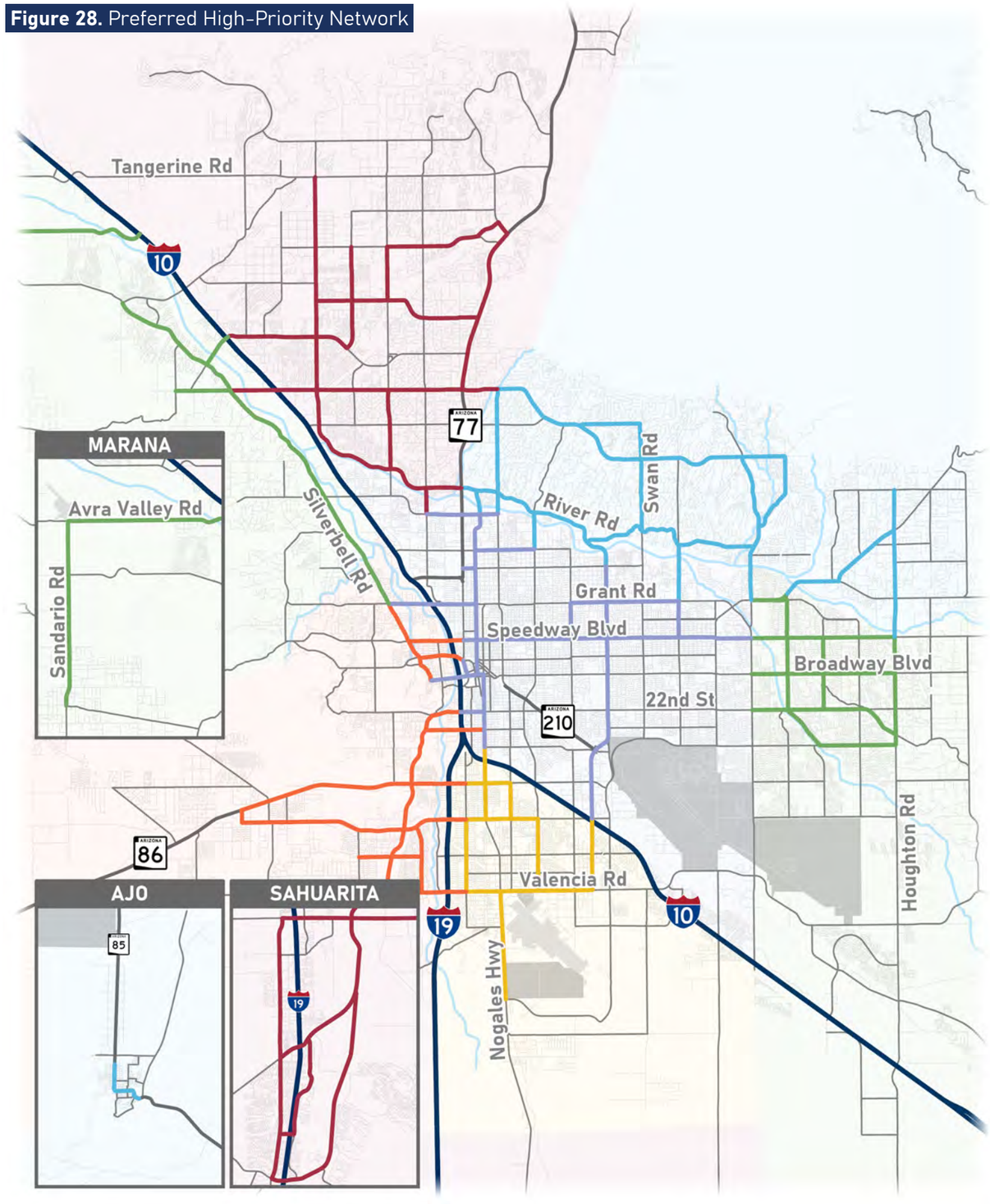
After developing the regional priority network alternatives, a methodology that leverages segments appearing in the majority of the priority network alternatives, shown in **Figure 27**, was applied. This approach ensures that the preferred network reflects broad regional consensus and captures the most critical active transportation corridors.

**Figure 27.** Preferred High-Priority Network Selection Process


The preferred network is shown in **Figure 28** and consists of 202 segments, offering comprehensive coverage across the region. It provides strong connectivity in both east-west and north-south directions, supporting active transportation links between key communities. Notably, the network includes corridors that connect central Tucson with the City of South Tucson, as well as routes linking Tucson to Marana, Oro Valley, and Sahuarita. These connections enhance regional mobility and promote accessible, community-oriented transportation options.

- **47** urban core segments
- **27** east segments
- **9** far south segments
- **31** northwest segments
- **26** southwest segments
- **8** west segments
- **29** north segments
- **19** south segments
- **6** far west segments

**Figure 28.** Preferred High-Priority Network



## AIR QUALITY IMPROVEMENT BENEFIT

The Preferred High-Priority Network is designed to make walking and biking safer, more convenient, and better connected across the region. If all recommended projects are built, the network is expected to reduce driving by nearly 14.5 million miles each year. This shift brings measurable environmental and economic benefits.

Using data from the EPA's MOVES4 model, PAG estimated reductions in several harmful air pollutants. These include carbon dioxide equivalents (CO2e), nitrogen oxides (NOx), fine and coarse particulate matter (PM2.5 and PM10), and volatile organic compounds (VOCs). These pollutants contribute to climate change and negatively affect public health.

The estimated amount of pollution that could be avoided each year if the network is built was calculated using regional emissions data. For pollutants like NOx, PM2.5, and CO2e, economic value of these reductions was also estimated using guidance from the U.S. Department of Transportation (USDOT). These values reflect the costs associated with pollution-related health impacts and environmental damage.

In total, the network is projected to generate approximately $1.6 million in annual savings from air quality improvements, primarily by reducing emissions from motor vehicles. These savings account for avoided health care costs, fewer pollution-related illnesses, and lower environmental damage.

It also supports public health, with an estimated $121 million in yearly benefits from increased walking and biking. These benefits come from higher physical activity levels, which reduce chronic disease rates, improve mental health, and lower health care expenditures. Safer, more connected active transportation options also reduce traffic injuries and fatalities, further contributing to these savings. By reducing vehicle miles traveled, the region can also expect lower roadway maintenance costs by another $1.3 million annually, including expenses related to street repair and resurfacing, emergency response, traffic enforcement, lighting, and transportation planning. These outcomes show that the Preferred High-Priority Network is not only a smart investment in mobility, but also a meaningful step toward a healthier and more sustainable region.

**VOC** — **4.58 metric tons** of Volatile Organic Compounds reduced annually

**NOx** — **3.14 metric tons/$69,000** of Oxides of Nitrogen reduced annually

**PM2.5** — **0.14 metric tons/$149,000** of Fine Particulate Matter reduced annually

**PM10** — **0.57 metric tons** of Coarse Particulate Matter reduced annually

**CO2e** — **5,463 metric tons/$1,401,000** of Carbon Dioxide Equivalents reduced annually

**TOTAL** — **5,471 metric tons/$1,618,000** of Air Quality Improvement Benefit annually

# 04

# BUILDING BLOCKS OF A HIGH-QUALITY NETWORK



A collection of active transportation facility types and treatments appropriate for the regional priority network, called the Active Transportation Toolbox, was developed to guide infrastructure planning and improvements across the region. The full version of the Active Transportation Toolbox can be found in **Appendix A.** It helps jurisdictions choose the right options for different contexts by referencing national best practices and regional standards. These facilities function as the building blocks for a high-quality active transportation network, offering the tools needed to create safe, comfortable, and connected routes for people walking, biking, and rolling. **Figure 29** provides an overview of the treatment categories included in the Active Transportation Toolbox, along with key components for each facility type to support consistent and informed decision-making.

**Figure 29.** Active Transportation Toolbox Treatment Types and Key Components

**OFF-STREET IMPROVEMENTS**
Pedestrian and bicycle facilities separated from the roadway with a curb or buffer

**TRAFFIC CALMING MEASURES**
Roadway and intersection enhancements to reduce speeding and distracted driving

**ON-STREET IMPROVEMENTS**
Pedestrian and bicycle facilities along the roadway in the roadway footprint

**CROSSING IMPROVEMENTS**
Intersection active transportation treatments and midblock crossings

**QUICK-BUILD SOLUTIONS**
Affordable, fast, and temporary active transportation treatments

The following information was included for each treatment type and documented key information for implementation of each treatment.

**IMPROVEMENT DEFINITION**
Explanation of potential improvement

**USER GROUP IMPACTED**
Pedestrians, those using personal mobility devices, bicyclists, and scooters

**BENEFITS AND CONSIDERATIONS**
Advantages and factors for implementing potential improvement

**COST**
Low, medium, and high cost

**APPLICATION**
Physical context, speed and volume, functional classification

**AMENITY OPTIONS**
Lighting, shade, wayfinding, technology

**REGIONAL TREATMENT GUIDELINES**
Geographic considerations, markings, signage

**TRANSIT INTEGRATION**
Coordination with transit facilities

**REFERENCES TO LOCAL STANDARDS AND NATIONAL BEST PRACTICES**
Additional resources for design details

The facility treatments listed in this section represent a subset of those available in the full Active Transportation Toolbox. These are the treatments most commonly applied in the RATP's recommendations, selected for their relevance to local conditions and potential to improve comfort and connectivity. While the Active Transportation Toolbox includes a wider range of options, this focused list highlights the core elements used to build out a high-quality active transportation network across the region.

## On-Street Improvements

### Buffered Bike Lane

- A conventional bike lane paired with a designated buffer space separating the bicycle lane from the adjacent traffic with striping.

### Separated Bike Lane

- A bicycle facility adjacent to the roadway that provides a physical separation through the use of vertical objects between the vehicular and bicycle lanes.

### Cycle Track

- An exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane allowing movement in both directions.

### Bicycle Boulevard

- A local street designated and designed to give bicycle travel priority. A bicycle boulevard uses signs, pavement markings, and traffic calming measures to discourage through trips by motor vehicles and slow traffic.

### Paved Shoulder

- The edge of the roadway that serves as a space for bicyclists and pedestrians to travel where bike lanes and sidewalks are not provided.

## Off-Street Improvements

### Sidewalk

- A paved portion of a street right-of-way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.

### Shared-Use Path (SUP)

- A pathway for both bicycles and pedestrians that is physically separated from motorized vehicular traffic by an open space or barrier.

## Traffic Calming

### Traffic Circles

- A raised island, placed within an unsignalized intersection, around which traffic circulates.

## Crossings

### Marked Crosswalk

- A location dedicated for pedestrians to cross the street through the use of striping on the roadway surface.

### Raised Crosswalk

- A ramped speed table spanning the entire width of the roadway, often placed at mid-block crossing locations. The crosswalk is marked with paint and/or special paving materials.

### Pedestrian Refuge Island (PRI)

- A space in the center of the road where a vulnerable road use can safely wait, separated from motor vehicle lanes, while crossing the street in two stages.

### Bike Box

- A designated area in advance of a crosswalk at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.

### Pedestrian Hybrid Beacon (PHB)

- A pedestrian traffic control device designed to help pedestrians safely cross higher-speed roadways at mid-block crossings and uncontrolled intersections. Also known as a High intensity Activated crossWalK (HAWK).

### Shared-Use Path Bridge

- A structure that allows for pedestrians and bicyclists to travel over natural or build obstacles in the transportation network.

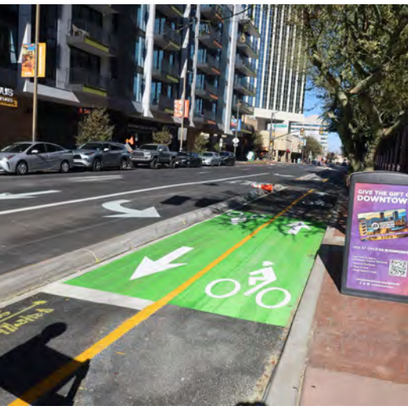







# 05

# STRENGTHENING REGIONAL CONNECTIONS






Each segment of the preferred high-priority network was individually assessed to determine whether a recommended project was needed. Existing and programmed infrastructure was reviewed for alignment with the Active Transportation Toolbox, and if it met context-appropriate standards, no new project was proposed. For segments lacking suitable facilities, new recommendations were developed using Active Transportation Toolbox guidance and roadway conditions such as speed and volume. **Figure 30** illustrates the overall project development process used to guide these evaluations.

**Figure 30.** Recommended Project Development Process

**PREFERRED NETWORK SEGMENT**

Each segment on the preferred high-priority network was assessed individually through the following process.

**1 REVIEW OF EXISTING FACILITIES**

Segments were reviewed for existing bicycle and pedestrian infrastructure and evaluated against the Active Transportation Toolbox. If the facilities were deemed appropriate for the context, no new project was proposed.

**2 IDENTIFY PROGRAMMED PROJECTS**

Previously programmed projects were reviewed to identify overlaps with network segments. Each was evaluated against the Active Transportation Toolbox, and if the treatment was context-appropriate, no new project was proposed for that segment.

**3 CONSIDER PREVIOUSLY RECOMMENDED PROJECTS**

Previously recommended projects were reviewed for overlap with network segments. Each was evaluated against the Active Transportation Toolbox, and if the recommendation was context-appropriate, no new project was proposed.

**4 DEVELOP PROJECT**

New projects were developed by reviewing current and surrounding roadway and trail conditions to identify the most suitable alignment. Each was evaluated using the Active Transportation Toolbox to determine context-appropriate treatments based on roadway speed and volume. Where possible, adjacent segments were combined to create comprehensive project recommendations.

**Figure 31.** Recommended Regional Active Transportation Network Projects

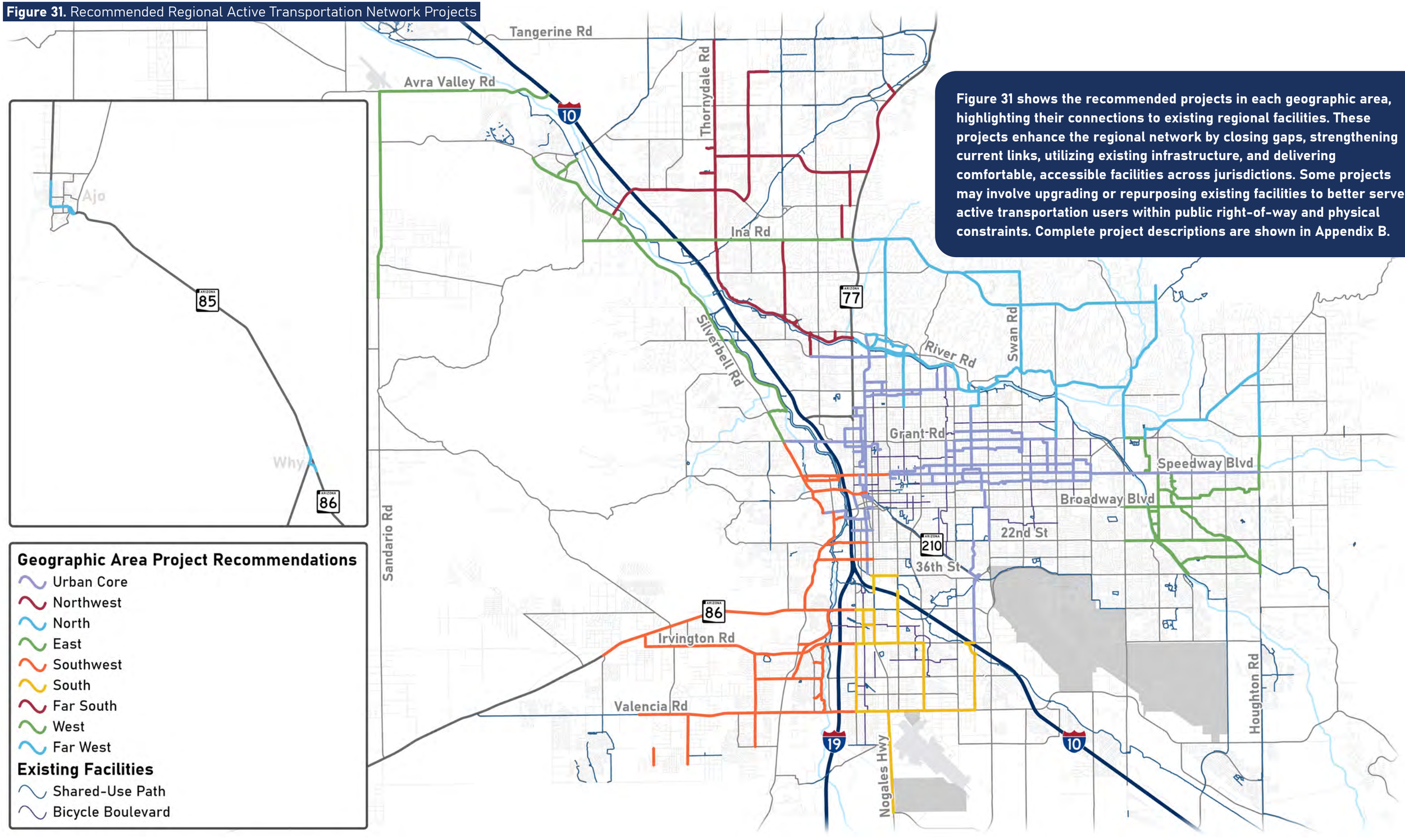



**Figure 31 shows the recommended projects in each geographic area, highlighting their connections to existing regional facilities. These projects enhance the regional network by closing gaps, strengthening current links, utilizing existing infrastructure, and delivering comfortable, accessible facilities across jurisdictions. Some projects may involve upgrading or repurposing existing facilities to better serve active transportation users within public right-of-way and physical constraints. Complete project descriptions are shown in Appendix B.**

**Figure 32.** Urban Core Recommended Projects

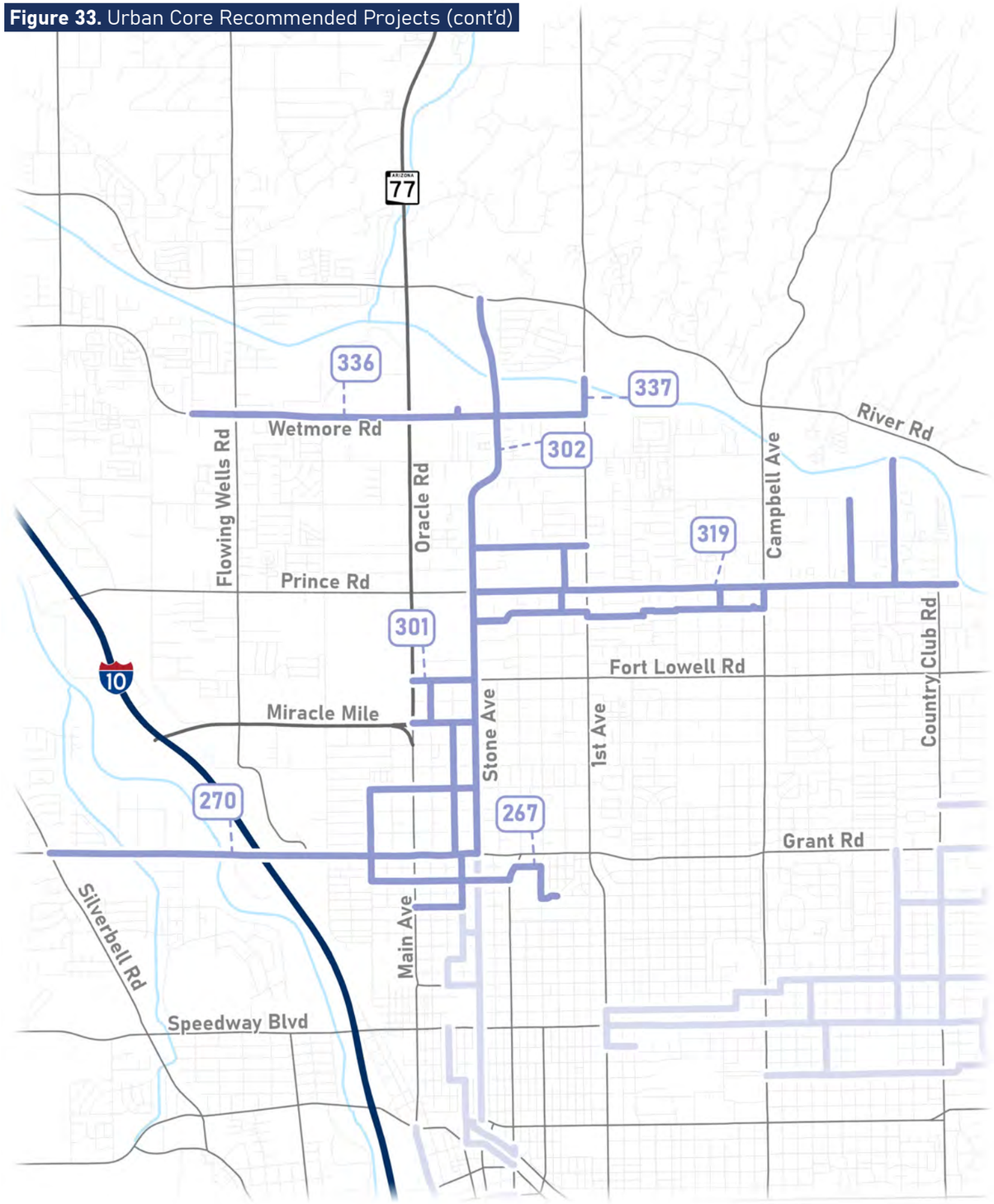

The Urban Core Geographic Area has a total of 32 project recommendations, with 10 shown in **Figure 32** and the table below.

**Urban Core Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **129** 18th St Bicycle Boulevard Upgrades (18th St from I-10 Frontage Rd to 6th Ave) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | ✓ | | | ✓ | | | $0.7 |
| **130** 8th Ave Bicycle Boulevard Upgrades (8th Ave from 36th St to 18th St) | | | | | | | | | | | | | | |
| | | | ✓ | | ✓ | | | | | | ✓ | | ✓ | $1.6 |
| **160** 8th Ave Bicycle Boulevard Upgrades (8th Ave from 18th St to Broadway Blvd) | | | | | | | | | | | | | | |
| ✓ | | | ✓ | | | | | | | | ✓ | | | $0.4 |
| **167** Congress St Active Transportation Improvements (Congress St from Silverbell Rd to Stone Ave) | | | | | | | | | | | | | | |
| | | ✓ | | | | | | | | | ✓ | ✓ | | $1.4 |
| **171** Congress St Separated Bike Lanes (Congress St from Stone Ave to 6th Ave) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | | | | | | $0.2 |
| **172** 6th Ave Cycle Track (6th Ave from Congress St to Broadway Blvd) | | | | | | | | | | | | | | |
| | | ✓ | | | | | | | | | | | | $0.1 |
| **197** Granada Ave Active Transportation Improvements (Granda Ave from Saint Mary's Rd to Congress St) | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $0.8 |
| **204** Stone Ave Bicycle Connectivity Enhancements (Toole Ave from Church Ave to 6th Ave) | | | | | | | | | | | | | | |
| | | ✓ | | | ✓ | | | | | | | | | $2.1 |
| **223** Stone Ave Active Transportation Improvements (Stone Ave from Drachman St to 6th St) | | | | | | | | | | | | | | |
| | | | ✓ | | ✓ | | | | | | ✓ | ✓ | | $1.3 |
| **266** Stone Ave Active Transportation Connectivity Improvements (Stone Ave from Grant Rd to Drachman St) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | ✓ | | $1.6 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 33.** Urban Core Recommended Projects (cont'd)




The Urban Core Geographic Area has a total of 32 project recommendations, with seven shown in **Figure 33** and the table below.

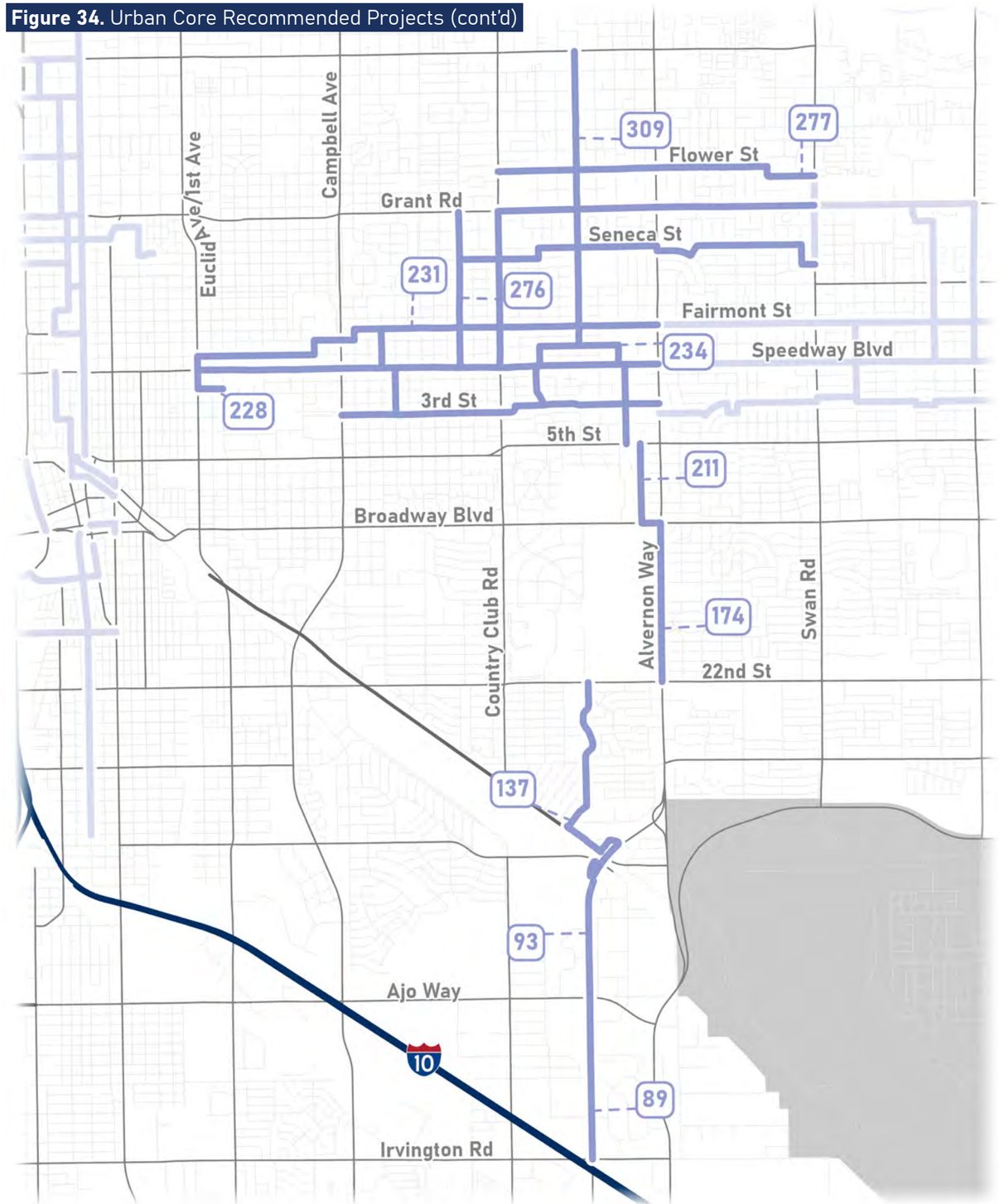
| Urban Core Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **267 Grant Rd Active Transportation Connectivity Improvements (Grant Rd from Oracle Rd to Stone Ave)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | | $0.9 |
| **270 Grant Rd Active Transportation Connectivity Improvements (Grant Rd from Silverbell Rd to Oracle Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | ✓ | | $4.0 |
| **301 Fort Lowell Rd Active Transportation Improvements (Fort Lowell Rd from Oracle Rd to Stone Ave)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | | $0.4 |
| **302 Stone Ave Active Transportation Connectivity Improvements (Stone Ave from River Rd to Grant Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | ✓ | | | ✓ | | ✓ | ✓ | | $6.4 |
| **319 Prince Rd Active Transportation Connectivity Improvements (Prince Rd from Stone Ave to Country Club Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | ✓ | | | | ✓ | | ✓ | ✓ | | $5.1 |
| **336 Wetmore Rd Active Transportation Improvements (Wetmore Rd from Flowing Wells Rd to Oracle Rd)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $2.1 |
| **337 Wetmore Rd Active Transportation Improvements (Wetmore Rd from Stone Ave to 1st Ave)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $1.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**The City of Tucson has several additional high-priority active transportation projects that are not located on the Preferred High-Priority Network:**

- 29th St Corridor Modernization
  (from Alvernon Way to Craycroft Rd)
- Pima St Corridor Modernization
  (from Tucson Blvd to Swan Rd)
- Pantano Wash SUP Bridges
  (at Kenyon Dr and Sundew Dr/29th St)
- I-19/Nebraska St SUP Bridge
  (from Connecticut Dr to Tucson Spectrum)
- Country Club Rd Road Diet
  (from Rillito Creek to SR 210)
- Kolb Rd/Irvington Rd SUP
  (Kolb Rd from Escalante Rd to Irvington Rd and Irvington Rd from Kolb Rd to Houghton Rd)
- Golden Hills Ct Bike Boulevard
  (from Greasewood Rd to The Loop)

**Figure 34.** Urban Core Recommended Projects (cont'd)

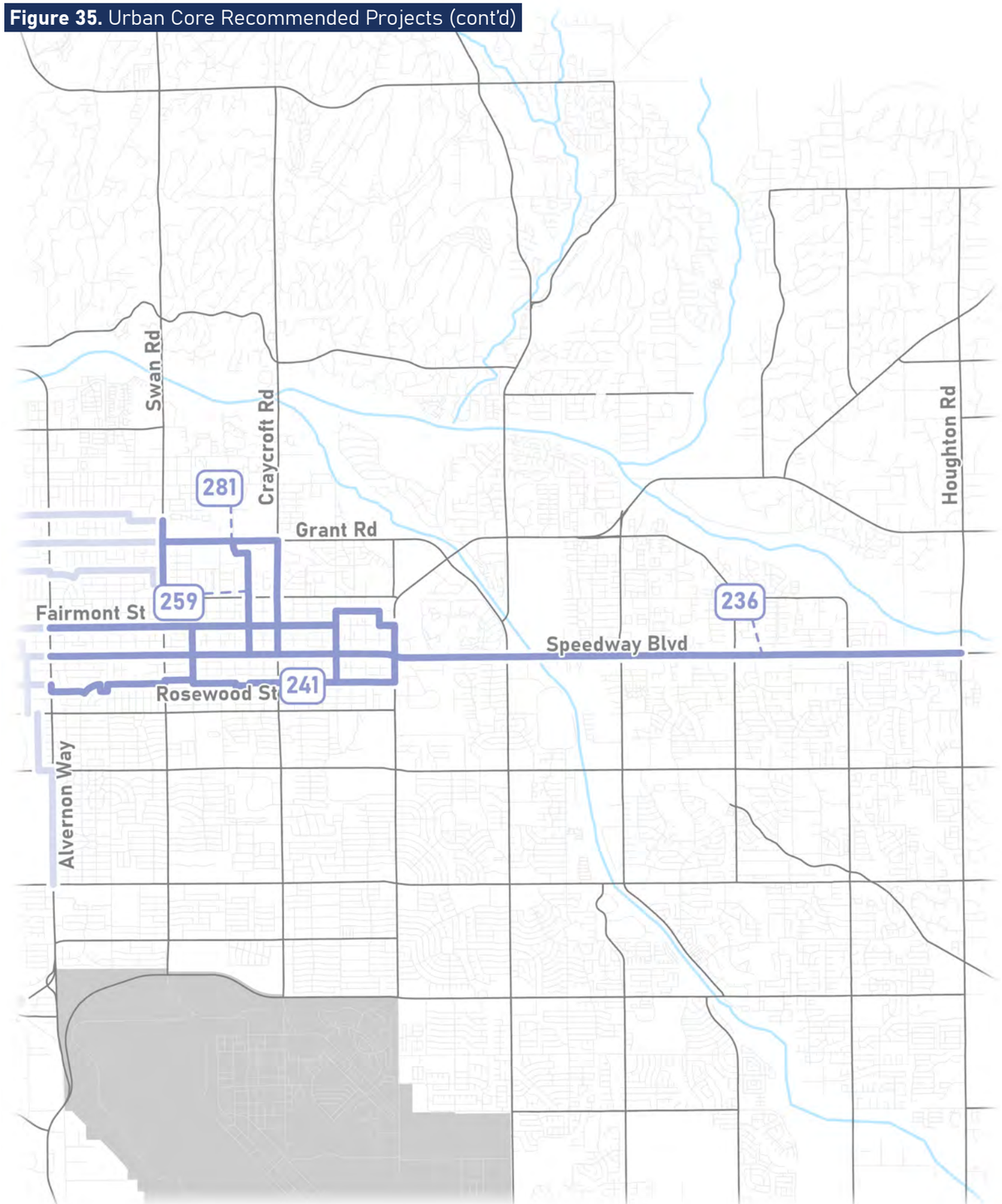



The Urban Core Geographic Area has a total of 32 project recommendations, with 11 shown in **Figure 34** and the table below.

| Urban Core Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **89** Palo Verde Rd SUP Extension (Palo Verde Rd from Irvington Rd to Ajo Way) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.1 |
| **93** Palo Verde SUP (Palo Verde Rd from Ajo Way to 36th St) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $0.9 |
| **137** Palo Verde Ave/Layton Pl Bicycle Boulevard Upgrades and Shared-Use path Connection (Palo Verde Ave from 22nd Ave to Aviation Pkwy) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | ✓ | ✓ | $1.2 |
| **174** Alvernon Way Active Transportation Improvements (Alvernon Way from Broadway Blvd to 22nd St) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | ✓ | | ✓ | ✓ | | $2.3 |
| **211** El Camino Del Norte Bicycle Boulevard (El Camino Del Norte from Broadway Blvd to 5th St) | | | | | | | | | | | | | | |
| | ✓ | | | | ✓ | | | | ✓ | | ✓ | ✓ | | $1.1 |
| **228** Speedway Blvd Active Transportation Improvements (Speedway Blvd from Euclid Ave to Campbell Ave) | | | | | | | | | | | | | | |
| | | ✓ | ✓ | | ✓ | | | | | | ✓ | ✓ | | $2.4 |
| **231** Speedway Blvd Active Transportation Connectivity Improvements (Speedway Blvd from Campbell Ave to Alvernon Way) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | | $2.8 |
| **234** Palo Verde Blvd/Dodge Blvd Bicycle Boulevard Upgrades (Palo Verde Blvd from Grant Rd to 5th St) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | | $2.1 |
| **276** Country Club Rd Active Transportation Connectivity Improvements (Country Club Rd from Grant Rd to Speedway Blvd) | | | | | | | | | | | | | | |
| | | | ✓ | | | ✓ | | | | | ✓ | | | $1.2 |
| **277** Grant Rd Active Transportation Connectivity Improvements (Grant Rd from Country Club to Swan Rd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | | $2.8 |
| **309** Palo Verde Ave Bicycle Boulevard Upgrades (Palo Verde Ave from Grant Rd to Fort Lowell Rd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | | $1.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 35.** Urban Core Recommended Projects (cont'd)

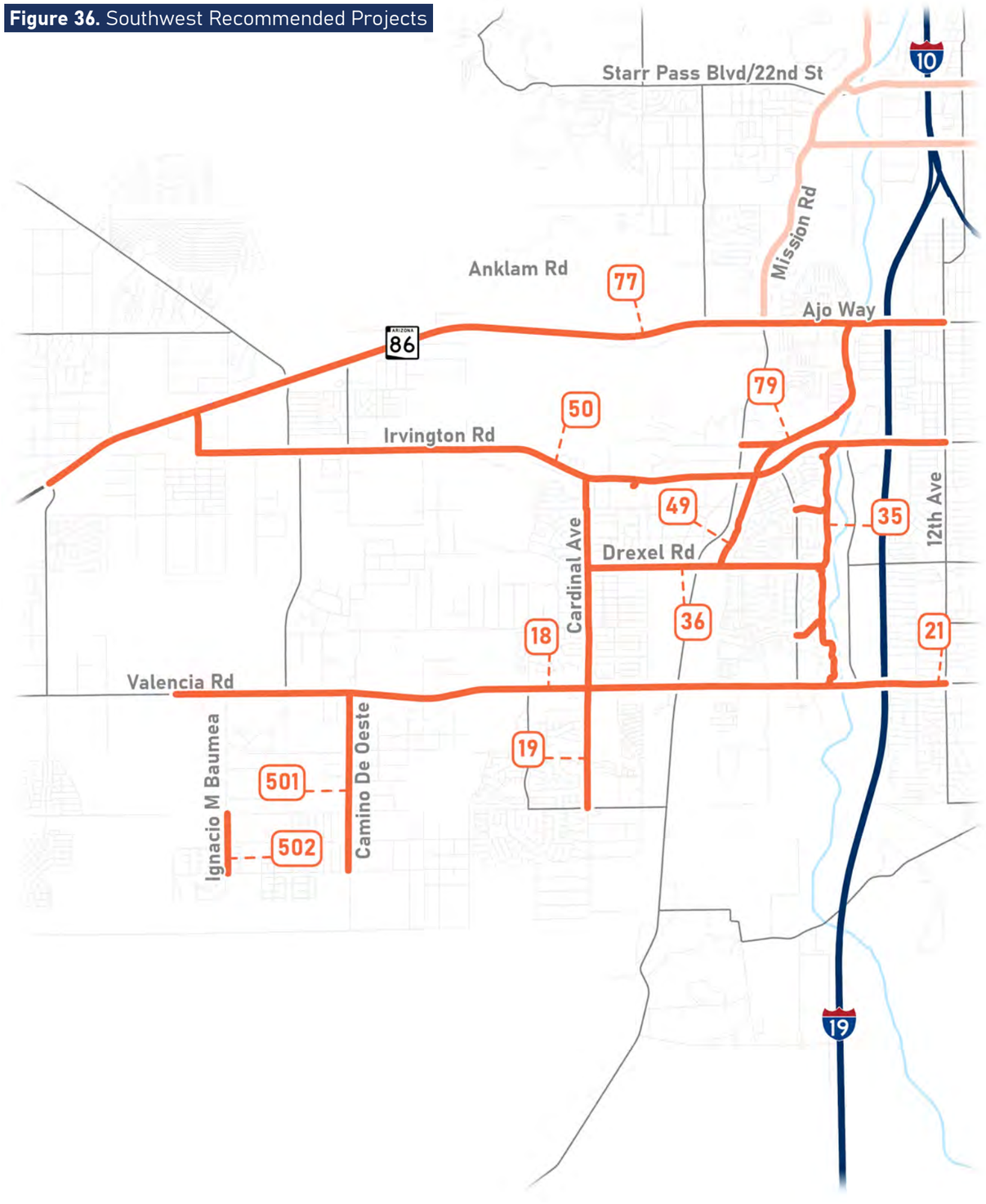



The Urban Core Geographic Area has a total of 32 project recommendations, with four shown in **Figure 35** and the table below.

| Urban Core Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **236 Speedway Blvd Active Transportation Connectivity Improvements (Speedway Blvd from Wilmot Rd to Houghton Rd)** | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | ✓ | | ✓ | ✓ | | $8.2 |
| **241 Speedway Blvd Active Transportation Connectivity Improvements (Speedway Blvd from Alvernon Way to Wilmot Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | | $4.0 |
| **259 Craycroft Rd Active Transportation Connectivity Enhancements (Craycroft Rd from Grant Rd to Speedway Blvd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | ✓ | | ✓ | | ✓ | | | $1.7 |
| **281 Grant Rd Active Transportation Connectivity Improvements (Grant Rd from Swan Rd to Craycroft Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | ✓ | | $3.3 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 36.** Southwest Recommended Projects

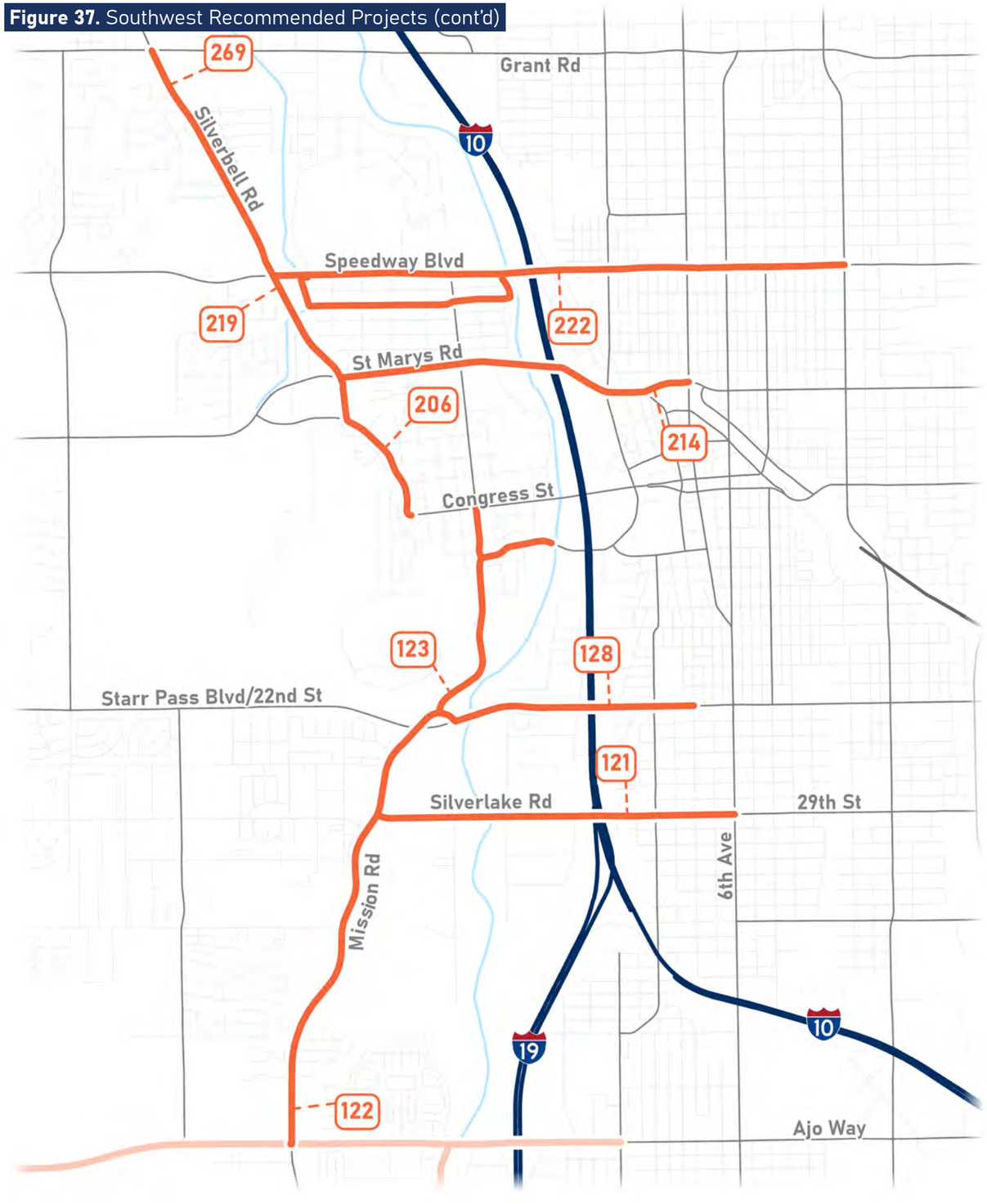



The Southwest Geographic Area has a total of 20 project recommendations, with 11 shown in **Figure 36** and the table below.

| Southwest Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **18** Valencia Rd Separated Bike Lanes (Valencia Rd from Casino Del Sol to Midvale Park Rd) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | | | | | | $15.6 |
| **19** Cardinal Ave Active Transportation Improvements (Cardinal Ave from Irvington Rd to Los Reales Rd) | | | | | | | | | | | | | | |
| | | | | ✓ | | | | | | | ✓ | ✓ | | $5.8 |
| **21** Valencia Rd Active Transportation Improvements (Valencia Rd from Midvale Park Rd to 12th Ave) | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $2.1 |
| **35** Midvale Park Trail Connectivity Enhancements (Midvale Park Path from Irvington Rd to Valencia Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $0.8 |
| **36** Drexel Rd SUP (Drexel Rd from Cardinal Ave to Midvale Park Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.9 |
| **49** Mission Rd Wash SUP (Mission Rd Wash from Irvington Rd to Drexel Rd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $0.9 |
| **50** Irvington Rd SUP (Irvington Rd from Ajo Way to 12th Ave) | | | | | | | | | | | | | | |
| ✓ | | | | | ✓ | | | | | | | ✓ | | $14.0 |
| **77** Ajo Way SUP (Ajo Way from Camino Verde to 12th Ave) | | | | | | | | | | | | | | |
| | | | | | ✓ | | ✓ | | ✓ | | | ✓ | | $15.3 |
| **79** Irvington Pl SUP Connection (Irvington Pl from Mission Rd to The Loop) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.8 |
| **501** Pasqua Yaqui Tribe Priority Project 1 (Camino De Oeste from Valencia Rd to Calle Torim) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $2.5 |
| **502** Pasqua Yaqui Tribe Priority Project 2 (Ignacio M Baumea from Los Reales Rd to Calle Torim) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $0.6 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 37.** Southwest Recommended Projects (cont'd)



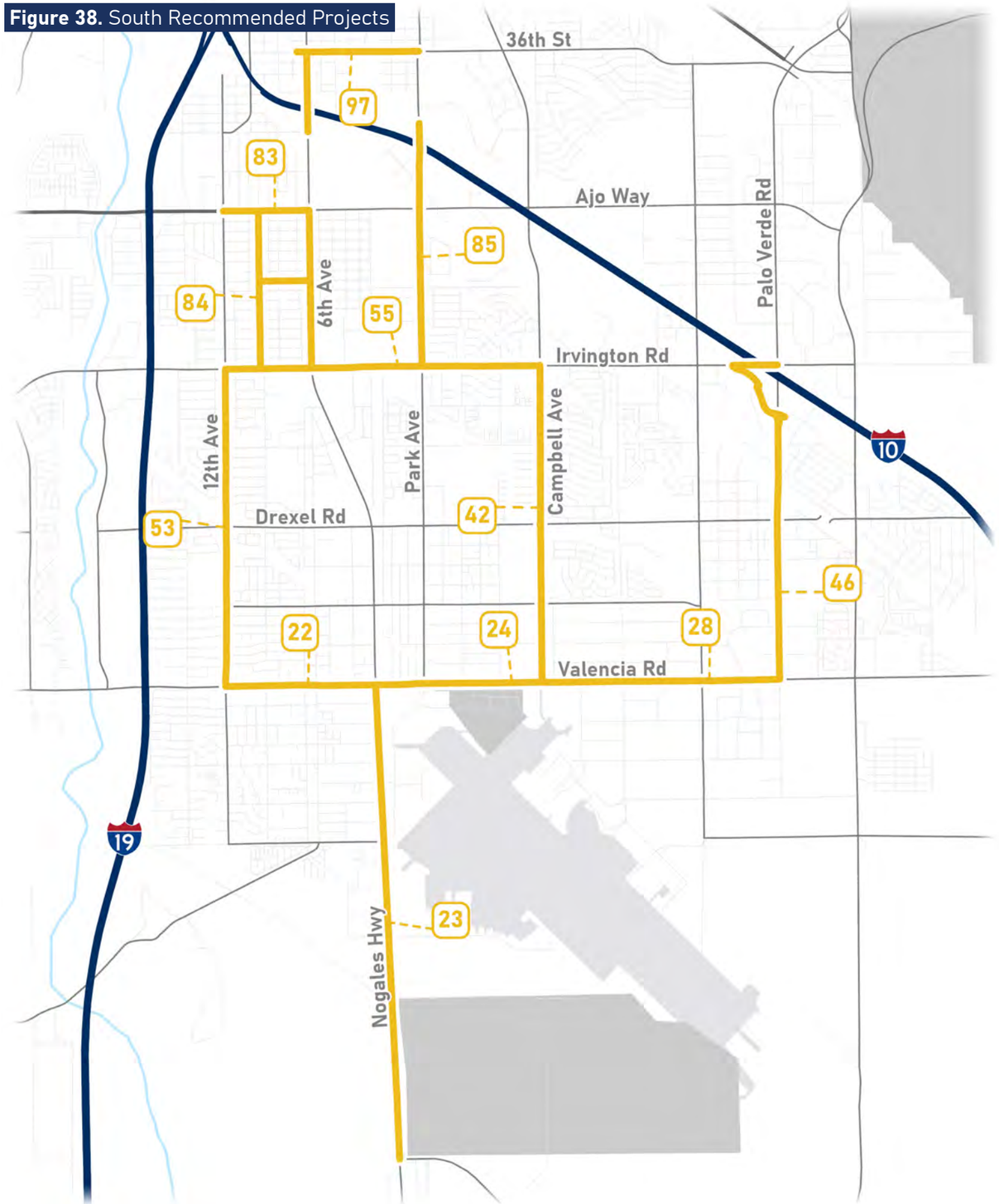

The Southwest Geographic Area has a total of 20 project recommendations, with nine shown in **Figure 37** and the table below.

**Southwest Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **121 29th St Active Transportation Improvements (29th St from Mission Rd to 6th Ave)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $2.7 |
| **122 Mission Rd Active Transportation Improvements (Mission Rd from Silverlake Rd to Ajo Way)** | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | ✓ | ✓ | | $3.1 |
| **123 Mission Rd Active Transportation Improvements (Mission Rd from Congress St to 29th St)** | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $2.2 |
| **128 Starr Pass Blvd Active Transportation Improvements (Starr Pass Blvd from Mission Rd to 8th Ave)** | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $1.1 |
| **206 Silverbell Rd Active Transportation Improvements (Silverbell Rd from Saint Mary's Rd to Congress St)** | | | | | | | | | | | | | | |
| ✓ | | | | | | | | | | | ✓ | | | $0.4 |
| **214 Saint Mary's Rd Active Transportation Improvements (Saint Mary's Rd from Silverbell Rd to Granada Ave)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $2.1 |
| **219 Silverbell Rd Active Transportation Improvements (Silverbell Rd from Speedway Blvd to Saint Mary's Rd)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $0.9 |
| **222 Speedway Blvd Active Transportation Improvements (Speedway Blvd from Silverbell Rd to Euclid Ave)** | | | | | | | | | | | | | | |
| | | | ✓ | | ✓ | | | | ✓ | | ✓ | ✓ | | $4.2 |
| **269 Silverbell Rd Active Transportation Improvements (Silverbell Rd from Grant Rd to Speedway Blvd)** | | | | | | | | | | | | | | |
| ✓ | | | | | | | | | | | ✓ | | | $1.5 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 38.** South Recommended Projects



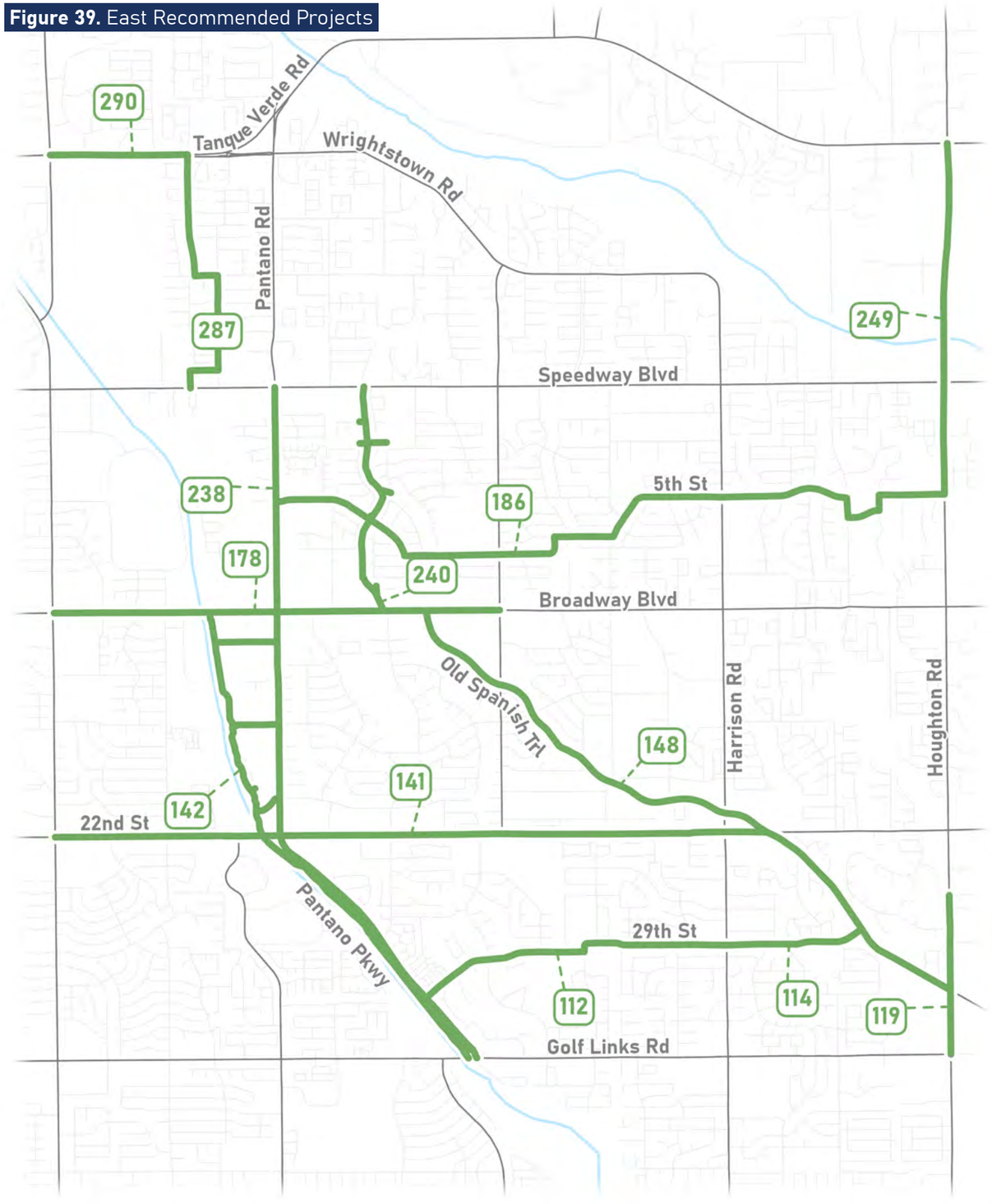

The South Geographic Area has a total of 12 project recommendations, shown in **Figure 38** and the table below.

**South Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **22 Valencia Rd Active Transportation Improvements (Valencia Rd from 12th Ave to Nogales Hwy)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $1.1 |
| **23 Nogales Highway SUP (Nogales Hwy from Valencia Rd to Aerospace Pkwy)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $6.6 |
| **24 Valencia Rd SUP (Valencia Rd from Nogales Hwy to Tucson Blvd)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $3.5 |
| **28 Valencia Rd Active Transportation Improvements (Valencia Rd from Tucson Blvd to Palo Verde Rd)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $2.2 |
| **42 Campbell Ave SUP (Campbell Ave from Irvington Rd to Valencia Rd)** | | | | | | | | | | | | | | |
| | | | | | | ✓ | | | | | | ✓ | | $4.5 |
| **46 Palo Verde Rd SUP (Palo Verde Rd from Irvington Rd to Valencia Rd)** | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | | ✓ | | $3.8 |
| **53 12th Ave Complete Street (12th Ave from Irvington Rd to Valencia Rd)** | | | | | | | | | | | | | | |
| ✓ | | | | | | | | | | | ✓ | ✓ | | $3.5 |
| **55 Irvington Rd SUP (Irvington Rd from 12th Ave to Campbell Ave)** | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | | ✓ | | $4.9 |
| **83 Ajo Way Active Transportation Improvements (Ajo Way from 12th Ave to 6th Ave)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $0.9 |
| **84 6th Ave Active Transportation Improvements (6th Ave from Ajo Way to Irvington Rd)** | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | | $1.1 |
| **85 Park Ave Active Transportation Improvements (Park Ave from I-10 WB Ramps to Irvington Rd)** | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | ✓ | ✓ | | $2.3 |
| **97 6th Ave SUP (6th Ave from 36th St to 44th St)** | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.4 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 39.** East Recommended Projects



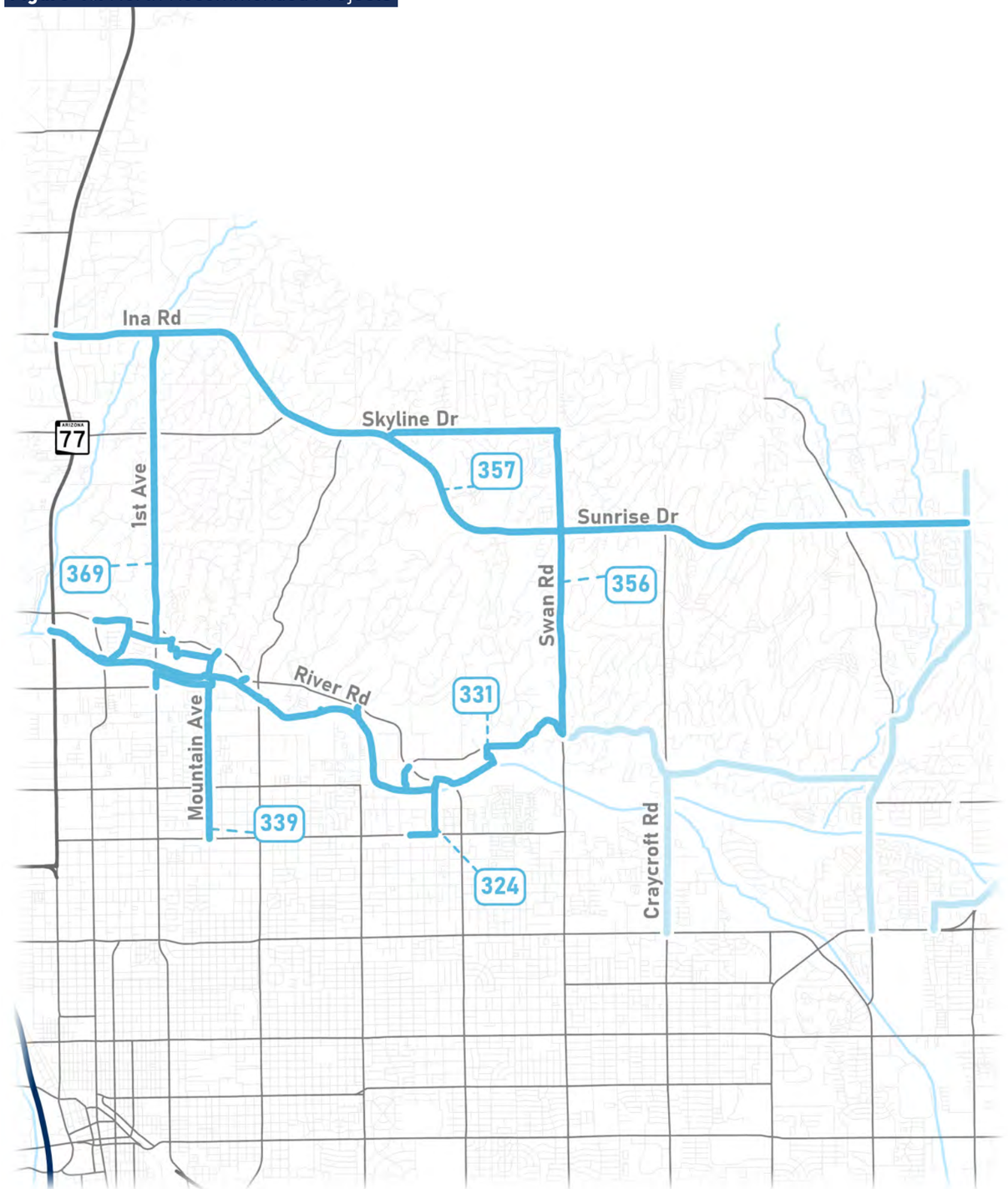

The East Geographic Area has a total of 14 project recommendations shown in **Figure 39** and the table below.

**East Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **112** 29th St Bicycle Boulevard Upgrades and Extension (29th St from Pantano Rd to Harrison Rd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | | $1.6 |
| **114** 29th St Bicycle Boulevard Upgrades (29th St from Harrison Rd to Old Spanish Trl) | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | | | $0.7 |
| **119** Houghton Rd SUP Extension (Houghton Rd from Golf Links Rd to Via Alta Mira) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $0.8 |
| **141** 22nd St SUP (22nd St from Kolb Rd to Old Spanish Trl) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | ✓ | ✓ | | $5.8 |
| **142** Pantano Rd Loop Enhancements (Pantano Rd from Golf Links Rd to Broadway Blvd) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | ✓ | ✓ | | $5.3 |
| **148** Old Spanish Trl SUP Upgrades (Old Spanish Trl from Houghton Rd to Broadway Blvd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | $5.6 |
| **178** Broadway Blvd SUP (Broadway Blvd from Kolb Rd to Camino Seco) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | ✓ | ✓ | | $3.7 |
| **186** Vicksburg St/5th St Bicycle Boulevard Upgrades (Vicksburg St from Sarnoff Dr to Houghton Rd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | ✓ | $4.5 |
| **238** Pantano Rd Sidewalk Enhancements (Pantano Rd from Broadway Blvd to Speedway Blvd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | | | ✓ | | ✓ | $1.7 |
| **240** New Trail West of Sarnoff Dr (West of Sarnoff Dr from Broadway Blvd to Speedway Blvd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.5 |
| **249** Houghton Rd SUP Extension (Houghton Rd from 5th St to Tanque Verde Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $1.7 |
| **287** Grady Ave/Camino Pio Decimo Bicycle Boulevard Upgrades (Grady Ave/Camino Pio Decimo from Speedway Blvd to Tanque Verde Rd) | | | | | | | | | | | | | | |
| | | | ✓ | | | | | | ✓ | | ✓ | | | $1.9 |
| **290** Udall Park SUP (Tanque Verde Rd from Sabino Canyon Rd to Camino Pio Decimo) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $0.7 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 40.** North Recommended Projects




The North Geographic Area has a total of 14 project recommendations, with six shown in **Figure 40** and the table below.

**North Project Recommendation Elements**

| | Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **324** Dodge Blvd Active Transportation Improvements (Dodge Blvd from Alvernon Way to Fort Lowell Rd) | | | | | | | ✓ | | | | | | ✓ | | $0.8 |
| **331** River Road Loop Connection (River Rd from Oracle Rd to Swan Rd) | | | | | | | | | | ✓ | | | ✓ | | $4.3 |
| **339** Mountain Ave Loop Connection (Mountain Ave from Fort Lowell Rd to River Rd) | | ✓ | | | | | | | | | | ✓ | ✓ | | $5.5 |
| **356** Swan Rd SUP (Swan Rd from River Rd to Skyline Dr) | | | | | | | | | | | | ✓ | ✓ | | $5.0 |
| **357** Ina Rd SUP (Ina Rd from Oracle Rd to Sabino Canyon Rd) | | | | | | ✓ | | | | ✓ | | ✓ | ✓ | | $22.2 |
| **369** 1st Ave Active Transportation Improvements (1st Ave from South of River Rd to Ina Rd) | | | | | | | | | | | | ✓ | ✓ | | $5.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

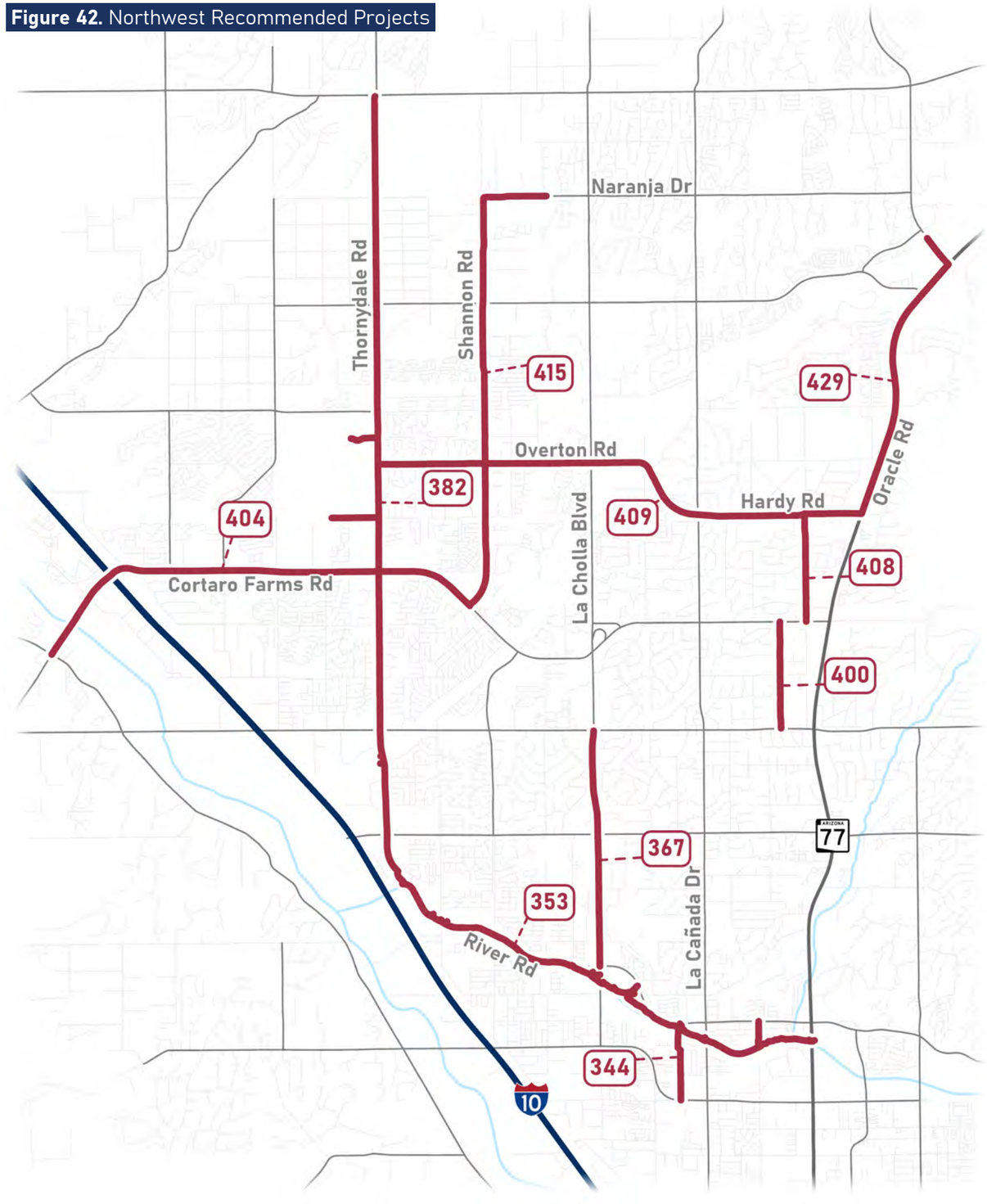
**Figure 41.** North Recommended Projects (cont'd)


The North Geographic Area has a total of 14 project recommendations, with eight shown in **Figure 41** and the table below.

| North Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **294** Tanque Verde Active Transportation Improvements (Tanque Verde Rd from Camino Pio Decimo to Catalina Hwy) | | | | | | | | | | | | | | |
| | ✓ | | ✓ | | | | | | | | ✓ | ✓ | | $6.6 |
| **322** Sabino Canyon Rd SUP (Sabino Canyon Rd from Tanque Verde Rd to River Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $10.8 |
| **323** Craycroft Rd Active Transportation Improvements (Craycroft Rd from Grant Rd to River Rd) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | | $9.0 |
| **325** River Rd SUP (River Rd from Swan Rd to Sabino Canyon Rd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | ✓ | ✓ | ✓ | | $8.6 |
| **327** Catalina Hwy SUP (Catalina Hwy from Tanque Verde Rd to Houghton Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | | ✓ | | $5.2 |
| **328** Houghton Rd Shoulder Improvements (Houghton Rd from Tanque Verde Rd to Snyder Rd) | | | | | | | | | | | | | | |
| | | | | ✓ | | | | | | | | | | $2.8 |
| **330** Sabino Canyon Rd SUP (Sabino Canyon Rd from River Rd to Kolb Rd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $0.7 |
| **347** Sabino Canyon Rd SUP (Sabino Canyon Rd from Kolb Rd to Rudasill Rd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $6.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 42.** Northwest Recommended Projects



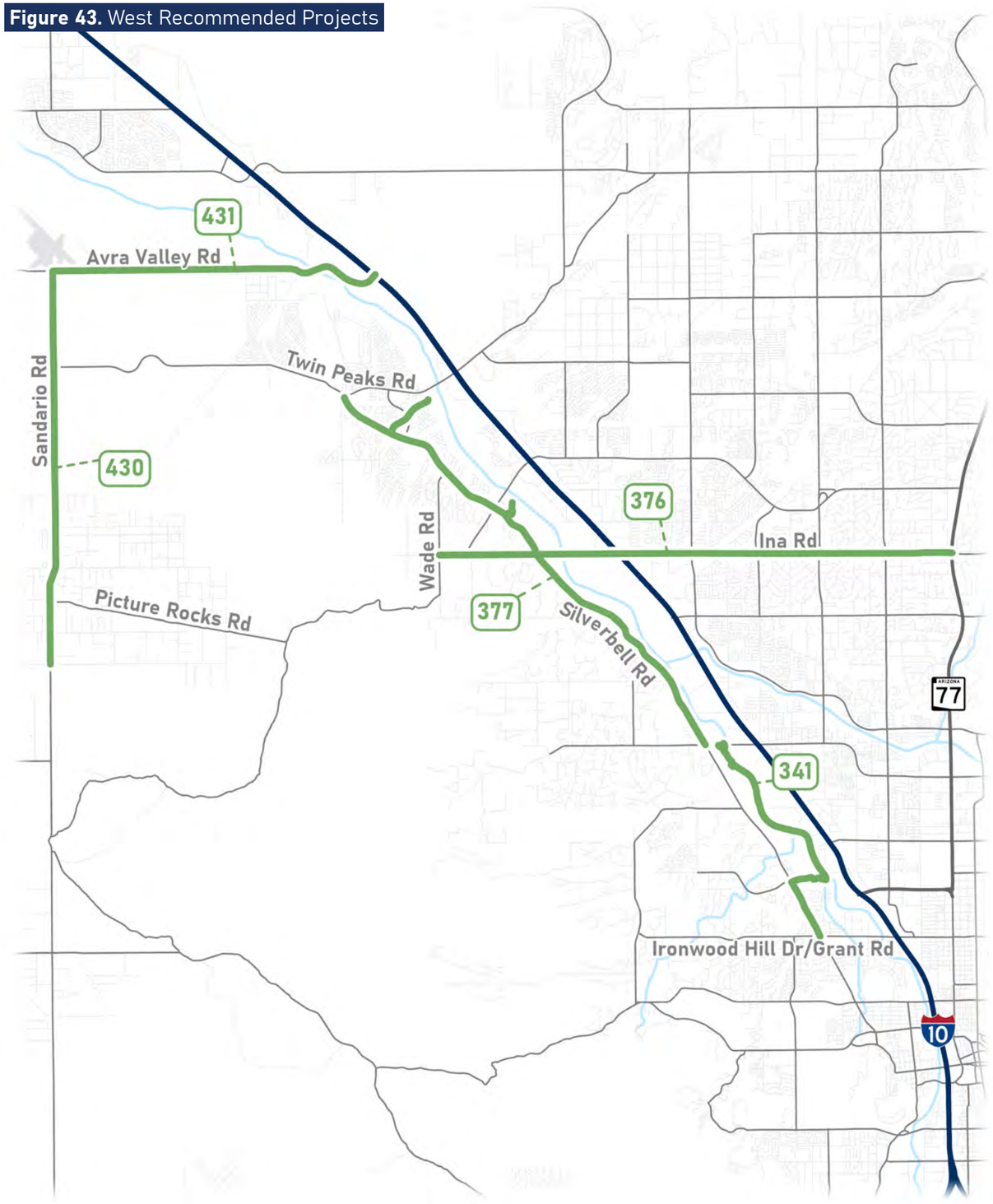

The Northwest Geographic Area has a total of 10 project recommendations, shown in **Figure 42** and the table below.

**Northwest Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **344** Pomona Ave Reconstruction (Pomona Ave from Ruthrauff Rd to The Loop) | | | | | | | | | | | | | | |
| ✓ | | | | | | | | | | ✓ | ✓ | | | $8.1 |
| **353** The Loop Wayfinding Signage Enhancements (The Loop from Orange Grove Rd to Oracle Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | | ✓ | | $3.0 |
| **367** La Cholla Blvd SUP (La Cholla Blvd from River Rd to Ina Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $4.9 |
| **382** Thornydale Rd SUP (Thornydale Rd from Orange Grove Rd to Tangerine Rd) | | | | | | | | | | | | | | |
| | | | | ✓ | ✓ | | | | ✓ | ✓ | | ✓ | | $17.2 |
| **400** Paseo Del Norte Active Transportation Improvements (Paseo Del Norte from Ina Rd to Magee Rd) | | | | | | | | | | | | | | |
| ✓ | | | | | | | | | | | ✓ | | | $1.3 |
| **404** Cortaro Farms Rd Active Transportation Improvements (Cortaro Farms Rd from Silverbell Rd to Shannon Rd) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | | | ✓ | ✓ | | $12.6 |
| **408** Northern Ave Active Transportation Improvements (Northern Ave from Magee Rd to Hardy Rd) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | | | ✓ | | | $4.1 |
| **409** Overton Rd Active Transportation Improvements (Overton Rd from Thornydale Rd to Oracle Rd) | | | | | | | | | | | | | | |
| | ✓ | | | | | | | | | | ✓ | ✓ | | $15.0 |
| **415** Shannon Rd SUP (Shannon Rd from Cortaro Farms Rd to Big Star Trl) | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ✓ | | $4.9 |
| **429** Oracle Rd SUP (Oracle Rd from Hardy Rd to 1st Ave) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | ✓ | | ✓ | | $15.5 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 43.** West Recommended Projects




The West Geographic Area has a total of five project recommendations, shown in **Figure 43** and the table below.

| West Project Recommendation Elements | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
| **341** Silverbell Rd SUP Connectivity Enhancements (Silverbell Rd from Goret Rd to The Loop) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $1.7 |
| **376** Ina Rd SUP (Ina Rd from Wade Rd to Oracle Rd) | | | | | | | | | | | | | | |
| | | | | | | | | | | ✓ | | ✓ | | $31.4 |
| **377** Silverbell Rd SUP (Silverbell Rd from Twin Peaks Rd to El Camino Del Cerro) | | | | | | | | | | | | | | |
| | | | | ✓ | | | | | | | ✓ | ✓ | | $14.9 |
| **430** Sandario Rd Shoulder Widening (Sandario Rd from Avra Valley Rd to Rudasill Rd) | | | | | | | | | | | | | | |
| | | | | ✓ | | | | | | | | | | $5.6 |
| **431** Avra Valley Rd Shoulder Widening (Avra Valley Rd from Sandario Rd to I-10) | | | | | | | | | | | | | | |
| | | | | ✓ | | | | | | | | | | $5.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

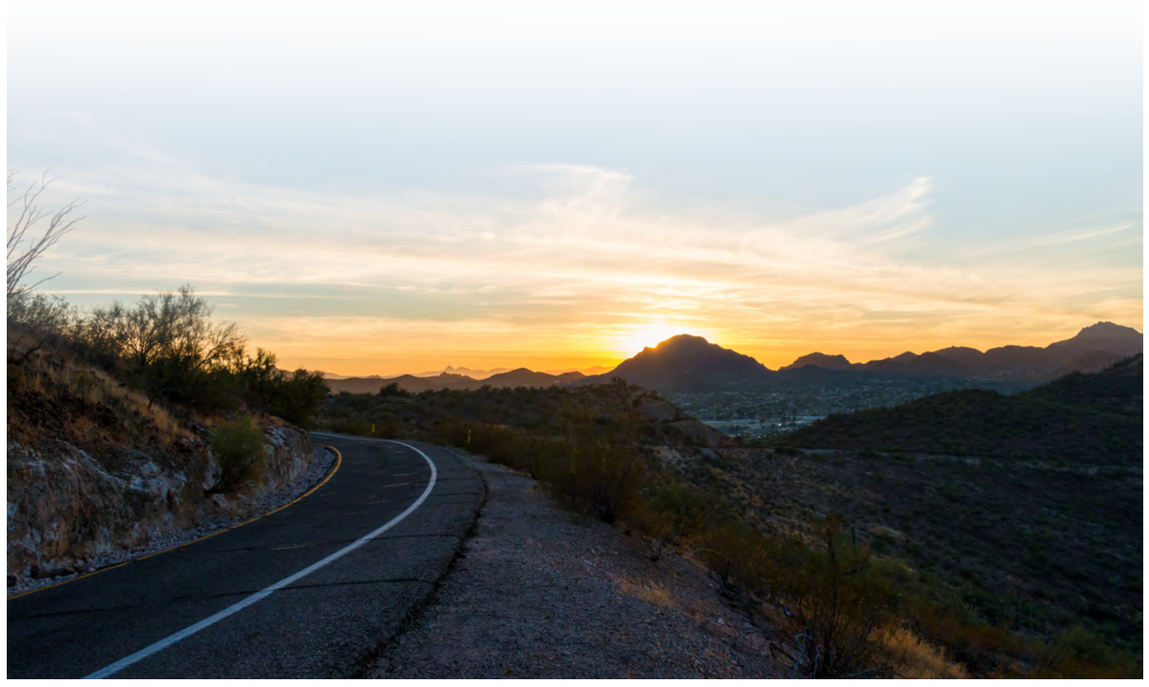
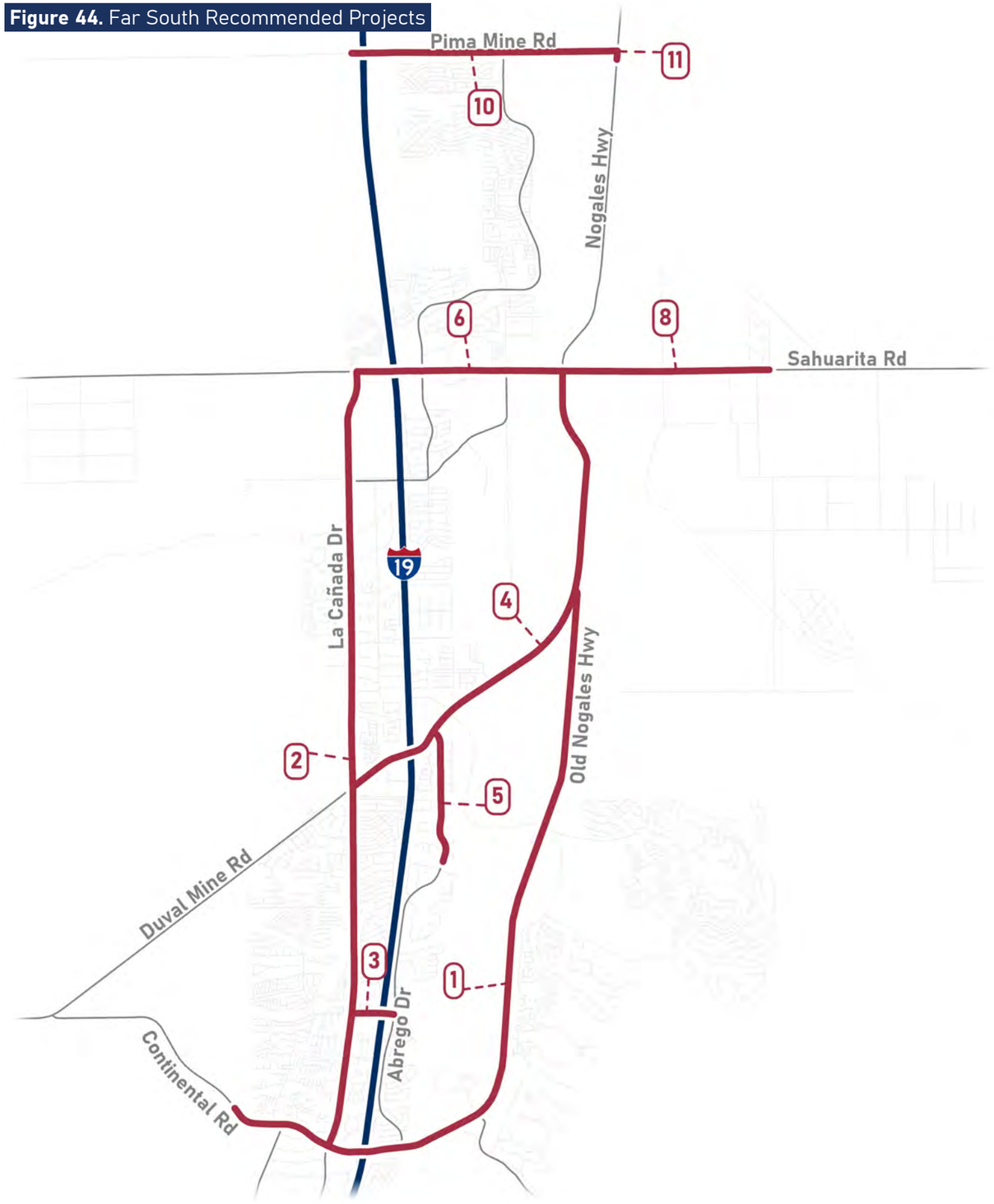


**Figure 44.** Far South Recommended Projects




The Far South Geographic Area has a total of nine project recommendations, shown in **Figure 44** and the table below.

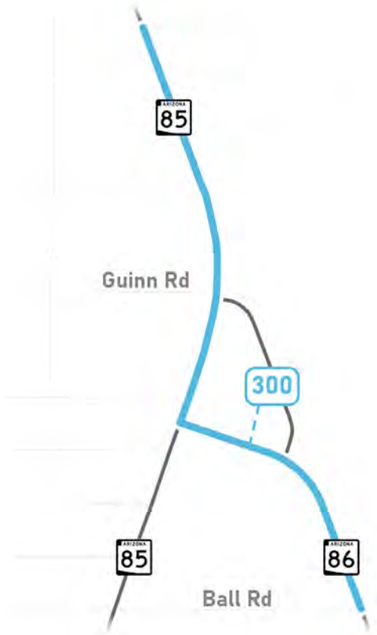
**Far South Project Recommendation Elements**

| | Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1 Continental Rd Active Transportation Improvements (Continental Rd from Green Valley Performing Arts and Learning Center to Nogales Hwy)** | | | | | | | | | | | ✓ | | ✓ | | $19.2 |
| **2 La Cañada Dr SUP (La Cañada Dr from Sahuarita Rd to Continental Rd)** | | | | | | ✓ | | ✓ | | | ✓ | | ✓ | | $12.0 |
| **3 Esperanza Blvd Separated Bike Lanes (Esperanza Blvd from La Cañada Dr to Abrego Dr)** | | ✓ | | | | | | | | | | | | | $1.2 |
| **4 Duval Mine Rd/Nogales Hwy Separated Bike Lanes (Duval Mine Rd/Nogales Hwy from La Cañada Dr to Sahuarita Rd)** | | ✓ | | | | | | | | | | | | | $15.0 |
| **5 Abrego Dr SUP (Abrego Dr from Nogales Hwy to Paseo de Golf)** | | | | | | | | | | | | | ✓ | | $1.4 |
| **6 Sahuarita Rd Active Transportation Improvements (Sahuarita Rd from La Cañada Dr to Nogales Hwy)** | | ✓ | | | | | | | | | | | ✓ | | $5.4 |
| **8 Sahuarita Rd Separated Bike Lanes (Sahuarita Rd from Nogales Hwy to Sahurarita Acres Rd)** | | ✓ | | | | | | | | | | | | | $5.8 |
| **10 Pima Mine Rd Shoulder Widening (Pima Mine Rd from I-19 to Nogales Hwy)** | | | | | ✓ | ✓ | | | | | | | ✓ | | $1.6 |
| **11 Nogales Highway Shoulder Widening (Nogales Hwy from Pima Mine Rd to 400' South of Pima Mine Rd)** | | | | | ✓ | | | | | | | | | | $0.1 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

**Figure 45.** Far West Recommended Projects (Ajo)


**Figure 46.** Far West Recommended Projects (Why)




The Far West Geographic Area has a total of three project recommendations, shown in **Figures 45** and **46**, as well as the table below.

**Far West Project Recommendation Elements**

| Buf. Bike Lane | Sep. Bike Lane | Cycle Track | Bicycle Blvd | Paved Shoulder | Marked Crsswk | Raised Crsswk | PRI | Bike Box | PHB | SUP Bridge | Sidewalk | SUP | Traffic Circles | Planning-Level Cost (Millions) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **300** SR 86 SUP (SR 86 from Sahuaro St to Ball Rd) | | | | | | | | | | | | | | |
| | | | | | ✓ | | | | | | | ✓ | | $0.9 |
| **413** Taladro St Active Transportation Improvements (Taladro St from Rocalla Ave to Elota Ave) | | | | | | | | | | | | | | |
| | | | | | | | | | | | ✓ | ✓ | | $0.2 |
| **421** Yermo Ave Active Transportation Improvements (Yermo Ave from North St to Rocalla Ave) | | | | | | | | | | | | | | |
| | | | | | | | | | ✓ | | | ✓ | | $2.4 |

*Pedestrian Refuge Island (PRI); Pedestrian Hybrid Beacon (PHB); Shared-Use Path (SUP)*

## WHAT DOES THE COMMUNITY THINK?

The second round of public engagement focused on collecting feedback on the draft projects included in the preferred high-priority network. Engagement opportunities were offered both in-person and virtually during the July–August 2025 outreach period. The virtual component utilized a web mapping application to present network segments and proposed improvements in an interactive format. Participants could explore project details and provide input by submitting comments or indicating support or opposition for specific segments.

In-person outreach was conducted through pop-up events held at key active transportation activity centers across the region. These events aimed to raise awareness of the draft network and encourage public participation. Attendees were provided with project flyers that directed them to the virtual map, allowing for continued engagement beyond the event itself.

Public feedback played a critical role in refining the draft project recommendations by offering local insights, identifying potential gaps, and suggesting better connection points within the active transportation system. Input from community members helped ensure that the recommended projects reflect real-world needs and priorities, contributing to a more inclusive, functional, and connected regional network.

**76** comments

**likes & dislikes** **142**

### Pop-up Event Locations

- Morris K. Udall Park
- Joyner Green Valley Library
- FUGA Bicicleteada del Sur
- Wheeler Taft Abbett Library
- Oro Valley Community Center

The third round of public engagement took place between September and October 2025. This round centered on gathering input on the draft RATP document and its recommended projects. Community members could provide their comments online or through a series of pop-up events at five locations across the Tucson region.

The virtual component of outreach involved collecting comments on the draft RATP document. Online users were able to review different sections of the report, type out a comment, and categorize their comments based on the applicable section of report. 28 users posted their thoughts on the plan. Overall, the comments expressed desires for more safety measures for pedestrians and cyclists, additional geographic areas for improvement, and equitable investment across areas of Tucson. The PAG Facebook page promoted the effort as an outlet for input across eight different posts.

The Pima Association of Governments, Kimley-Horn, and Gordley Group interacted directly with community members at in-person pop-up events, sharing information about the draft RATP and collecting feedback on the draft RATP recommended projects. Materials included an exhibit board with a map of the draft project recommendations, 200 printed project flyers, and QR codes for community members to engage digitally with the project content after the pop-up event. Attendees at several events, especially those who utilized bike facilities to commute on a regular basis, expressed their appreciation for the proposed project improvements. Other community members expressed their excitement for the inclusion of communities outside of Tucson, such as Ajo, Marana, and Why, in the plan.

**total interactions** **351**

### Pop-up Event Locations

- Sahuarita Oktoberfest
- SAR Jim Click's Run 'n' Roll
- Ott Family YMCA
- El Rio Neighborhood Center
- Marana Fall Fest

# 06

# PATH TO PROGRESS

The successful implementation of the RATP recommendations require a coordinated and collaborative approach between PAG and its member agencies. As the MPO for the region, PAG plays a critical role in building consensus around regional planning efforts and ensuring alignment across jurisdictions. However, PAG does not have the authority or funding to take projects to construction. Because of this, it is essential that PAG's regional partners act as champions for active transportation and take ownership of advancing the projects and strategies identified in the RATP. Member agencies are encouraged to integrate RATP recommendations into their own planning and programming efforts, as well as in PAG's long range transportation plan, the Regional Mobility and Accessibility Plan (RMAP), including local transportation master plans, capital improvement programs, and other relevant initiatives.

To ensure continuity and alignment, RATP recommendations should also be reflected in PAG's broader planning documents, such as the Regional Mobility and Accessibility Plan (RMAP). Embedding active transportation priorities into these regional and local plans will help secure funding, guide project development, and support implementation over time. Ultimately, the success of the RATP depends on the collective commitment of PAG and its member agencies to prioritize active transportation and work together to bring these recommendations to life.

**PAG will continue to support its member agencies by:**

- Facilitating coordination and information sharing.
- Advocating for regional active transportation priorities in state and federal funding processes.
- Providing technical assistance and data resources.
- Monitoring progress towards goals and performance measures and updating the RATP as needed.

## RECOMMENDED PROJECT IMPLEMENTATION

Implementing the RATP recommendations involves a clear, step-by-step process, especially when multi-jurisdictional coordination is required. **Figure 47** illustrates the progression from initial scoping through design, approvals, construction, and ultimately, operations.

**Figure 47.** Recommended Project Implementation Process




**Scoping Study**
Most projects will require a standalone scoping study to collect additional data, identify potential fatal flaws, mitigate potential issues, and develop a more detailed cost estimate.

**Preliminary Design**
After confirming a project's scope, high-level design activities are typically conducted to further refine elements that are included or excluded from a project, further refine the cost estimate, and design mitigations for potential issues such as right-of-way constraints, environmental hazards, or conflicts between modes of travel.

**Final Design**
The final design process takes a project from conceptual design to construction-ready plans or a final implementation plan. This is the step where all potential project risks need to be addressed, and a final cost estimate is developed to program funds for construction.

**Approvals**
Depending on the project type, approvals may be required from local, regional, state, and federal agencies. These approvals can also cover a wide range of topics, including environmental approvals, funding approvals, right-of-way purchases, and planning and zoning approvals.

**Construction**
This phase is when implementation finally occurs, with new facilities being built, new infrastructure added, or new services added. During this phase, ongoing disruption mitigation will be performed as needed to minimize the impact on surrounding land uses.

**Operations**
This phase includes ongoing evaluation, maintenance, modernization, and service operations as needed depending on the project type.

**Grant Funding**
There are several points where the member agencies could apply for grant funding to advance in the project implementation process. After completing a scoping study, an agency may apply for funding to do preliminary design to address major issues and constraints as well as get a more accurate cost estimate. After preliminary design, the agency may apply for funds to take the project through the final design and approvals process, which is typically 10% - 15% of the overall construction cost of a project. Finally, after final design and approvals, the agency may apply for implementation funding to construct the project. Some grants may cover multiple steps in the implementation process.

**Public and Collaborator Engagement**
Each of the steps from the scoping study through construction have opportunities for further public and collaborator engagement. These engagement opportunities have the potential to substantially change the design, focus, or size of infrastructure projects.

## POTENTIAL FUNDING OPPORTUNITIES

Transportation funding is available through a range of federal, state, and regional sources. By aligning project recommendations with the priorities and criteria of these programs, the RATP demonstrates regional support for active transportation investments which can be beneficial when pursuing funding. Current potential funding sources include:

| | |
|---|---|
| **PAG Regional Transportation Alternatives Grants (RTAG)** | Through a competitive selection process, PAG awards federal funding for bicycle and pedestrian projects that help meet the goals of the Regional Transportation Authority. These federal formula funds from the Transportation Alternatives (TAP) Program and/or Surface Transportation Block Grant (STBG) are sub-allocated to PAG based on population. Information about the available funding is described in a detailed memo shared with PAG member agencies. |
| **Surface Transportation Block Grant (STBG)** | The STBG program provides funding that may be used by localities for projects to preserve and improve the conditions and performance on any Federal-aid highway. Eligible projects related to pedestrian safety include pedestrian and bicyclist projects, safety projects, recreational trails, safe routes to school projects, and projects within the pre-Fixing America's Surface Transportation (FAST) Act Title 23 definition of "transportation alternatives." |
| **Safe Streets and Roads for All (SS4A)** | The SS4A grant program has $5 billion in funds for a 5-year period, from 2022 to 2026. The program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. |
| **Reconnecting Communities Pilot (RCP)** | The RCP grant program provides funding for transportation projects that reconnect communities impacted by past infrastructure decisions, with priority given to underserved areas. Projects may include community-supported planning or capital construction. This funding is also referred to as "RCN," short for Reconnecting Communities and Neighborhoods. |
| **Safe Routes to School (SRTS)** | The SRTS program encourages more children, including those with disabilities, to walk or bike to school by making routes safer and more appealing. It aims to reduce traffic, fuel use, and air pollution near schools while promoting healthier lifestyles. Infrastructure grants range from $100,000 to $1 million. |
| **Active Transportation Infrastructure Investment Program (ATIIP)** | ATIIP is a competitive grant program that funds the construction of safe and connected active transportation facilities. These projects improve safety, enhance connectivity with public transit, strengthen infrastructure resilience, support environmental protection, and expand mobility options in disadvantaged communities. |
| **Recreational Trails Program (RTP)** | The RTP provides funds to the states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The Bipartisan Infrastructure Law (BIL) of 2021 reauthorized the RTP for Federal fiscal years 2022 through 2026 as a set-aside of funds under the STBG program. |
| **Better Utilizing Investments to Leverage Development (BUILD)** | The BUILD grant program supports innovative, multimodal, and multi-jurisdictional transportation projects that are often challenging to fund through traditional sources. Applications are evaluated based on long-term outcomes such as safety, economic competitiveness, infrastructure condition, quality of life, and environmental sustainability, along with factors like innovation, partnerships, readiness, and cost-effectiveness. |
| **Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT)** | The PROTECT grant program provides funding to ensure surface transportation resilience to natural hazards including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure. |
| **Carbon Reduction Program (CRP)** | The CRP provides funds for projects designed to reduce transportation emissions, defined as carbon dioxide emissions from on-road highway sources. CRP funds may be used for a variety of transportation alternative projects including, but not limited to, the construction and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation. |

## PUTTING THE RATP TO WORK

The RATP provides a framework for advancing regional active transportation priorities, but it is intended to evolve over time. As community needs shift, transportation conditions change, and new opportunities arise, the plan should be revisited to remain effective and responsive. To support continued progress, PAG and its member agencies are encouraged to consider the following actions:

### Revisit Goals and Objectives

As regional plans and policies are updated, the goals of the RATP should be reviewed to ensure they continue to align with broader planning efforts.

### Evaluate Emerging Projects

New project ideas and needs will surface over time. These should be assessed using the RATP's prioritization framework to determine how well they support regional goals.

### Review Funding Strategies

Periodic evaluation of funding programs and opportunities can help ensure resources are being used effectively to implement active transportation improvements.

### Update Data Inputs

The RATP relies on data-driven prioritization. Regular updates to key datasets such as crash statistics, usage patterns, and demographic trends will help maintain accuracy and relevance.

### Refresh the RATP

Although the plan has a long-term vision, a full update every 7 to 10 years will help ensure it continues to reflect community values, regional priorities, and implementation realities.

# APPENDIX A

## ACTIVE TRANSPORTATION TOOLBOX


PIMA ASSOCIATION OF GOVERNMENTS

# REGIONAL ACTIVE TRANSPORTATION PLAN

## ACTIVE TRANSPORTATION TOOLBOX


# ACTIVE TRANSPORTATION TOOLBOX

## TABLE OF CONTENTS


# INTRODUCTION

# Introduction

The Active Transportation Toolbox was developed as part of the PAG Regional Active Transportation Plan (RATP) through an interactive process with PAG staff or PAG member agencies. The Active Transportation Toolbox compiles active transportation treatments for the region and their appropriate contexts and considerations.

To guide the development of the Active Transportation Toolbox, an interactive working session was held with PAG staff and key stakeholders from member agencies. Stakeholders identified active transportation treatments for the region and their appropriate context, use, and considerations.

## THE GOALS OF THE ACTIVE TRANSPORTATION TOOLBOX ARE:

- Identify on-street and off-street active transportation treatments
- Align treatments with national best practices
- Develop guidelines for the contexts in which treatments may be used

## HOW TO USE THE ACTIVE TRANSPORTATION TOOLBOX

The Active Transportation Toolbox should be used as a resource by member jurisdictions to:

- Understand available active transportation treatments
- Identify the best context-appropriate treatment for the jurisdiction
- Reference existing local standards, national best practices, and regional treatment guidelines
- Promote consistent transitions in active transportation facilities across jurisdictional boundaries in the region

*The recommended application for each treatment are based on national best practices and may not be consistent with existing conditions.*



Introduction

## Toolbox Overview

The Active Transportation Toolbox identifies preferred treatments within the following treatment types:

### ON-STREET IMPROVEMENTS

Pedestrian and bicycle facilities along the roadway in the roadway footprint

### OFF-STREET IMPROVEMENTS

Pedestrian and bicycle facilities separated from the roadway with a curb or buffer

### CROSSING IMPROVEMENTS

Intersection active transportation treatments and midblock crossings

### TRAFFIC CALMING MEASURES

Roadway and intersection enhancements to reduce speeding and distracted driving

### QUICK-BUILD SOLUTIONS

Affordable, fast, and temporary active transportation treatments

The following information is included for each treatment type and documents key information for implementing the treatment in its appropriate context, including:

**Improvement Definition**
- Explanation of Potential Improvement

**User Group Impacted**
- Pedestrians, Those Using Personal Mobility Devices, Bicyclists, and Scooters

**Benefits and Considerations**
- Advantages and Factors for Implementing Potential Improvement

**Cost**
- Low, Medium, and High Cost

**Application**
- Physical Context, Speed and Volume, Functional Classification

**References to Local Standards and National Best Practices**
- Additional National Resources

**Regional Treatment Guidelines**
- Geographic Considerations, Markings, Signage

**Transit Integration**
- Coordination with Transit Facilities

**Amenity Options**
- Lighting, Shade, Wayfinding, Technology

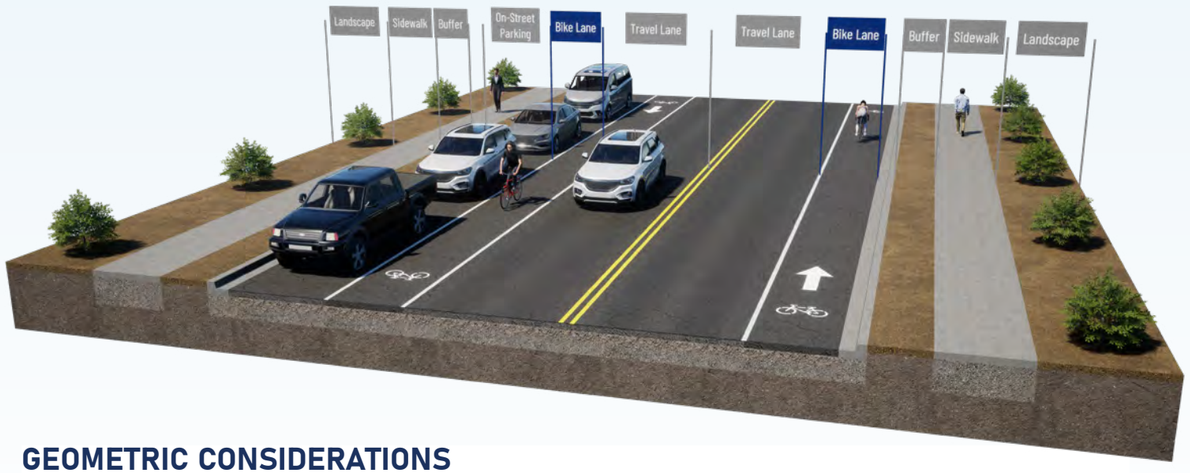

# A

# ON-STREET IMPROVEMENTS

# Standard Bike Lane

A standard bike lane is an exclusive space for bicyclists using pavement markings and signage located adjacent to motor vehicle travel lanes.

IMPACTED USERS:

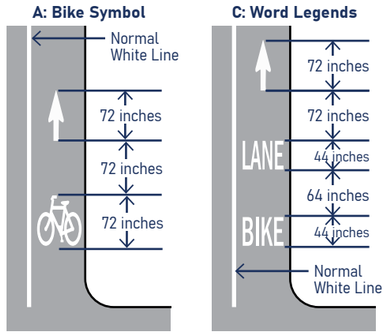



## GEOMETRIC CONSIDERATIONS

- Design bike lanes to separate road users and reduce the stress of passing motor vehicles.
- The desirable bike lane width adjacent to a curb face is 5–7 feet (AASHTO).
- The desirable bike lane width adjacent to a edge of pavement is 6–7 feet (AASHTO).
- The minimum recommended distance between a bike lane and adjacent on-street parking is 5 feet to protect bicyclists from suddenly opened car doors (AASHTO).
- Bike lanes with a width of 7 feet or greater should include a buffer or other form of separation to distinguish them from auxiliary travel lanes or vehicle parking areas.

## MARKINGS

Longitudinal pavement markings and bicycle lane symbol or word markings shall be used to define bicycle lanes (MUTCD 9E-1).




## SIGNAGE

An optional "Bike Lane" sign (MUTCD R3-17) may be located prior to the beginning of a marked bike lane to designate that portion of the street for use by bicyclists (NACTO).


An optional "No Parking Bike Lane" sign (MUTCD R7-9) may be used if parked vehicles frequently block the bike lane (NACTO).


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Increases bicyclist comfort and confidence on busy streets | ✓ |
| Creates separation between bicyclists and motor vehicles | ✓ |
| Increases predictability of bicyclist and motor vehicle positioning and interaction | ✓ |
| Increases total capacities of streets carrying bicycle and motor vehicle traffic | ✓ |
| Visually reminds motorists of space for bicyclists | ✓ |
| Most helpful on streets with < 3,000 motor vehicle average daily traffic | |
| Green pavement may be used to enhance visibility of a bike lane | |
| Gutter seams, drainage inlets, and utility covers should be flush with the ground and oriented to prevent conflict with bicycle tires | |
| May be best suited for more confident bicyclists, especially on higher speed roadways | |
| Bike lanes wider than 7 feet may be mistaken for vehicular travel lanes or parking lanes; consider buffered or separated bike lanes in such cases. | |

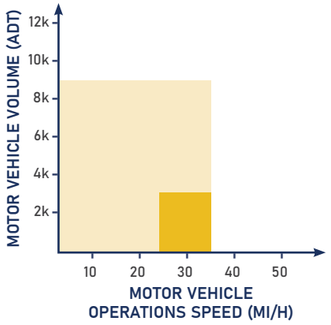
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Sometimes | Sometimes | Sometimes |

### Speed and Volume

PREFERRED | POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)
- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- 6 to 10-foot-wide paved facility adjacent to travel lanes.
- Striping and signing along roadway sections and at intersections to identify proper bicycle/vehicle interactions.
- Potential use of green pavement in special situations.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- FHWA Proven Safety Countermeasures
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

In the event of bus pullout locations:

- Bicycle traffic is directed straight, to the left of the bus pullout zone, while buses transition across the bicycle lane to the right.
- Conflict-zone markings (skip dash markings) should be used to position the bicycle lane to the left of the bus pullout zone.
- Bus pullout lane must be wide enough to ensure buses do not extend into the bicycle lane.

## AMENITY OPTIONS

- Wayfinding signage





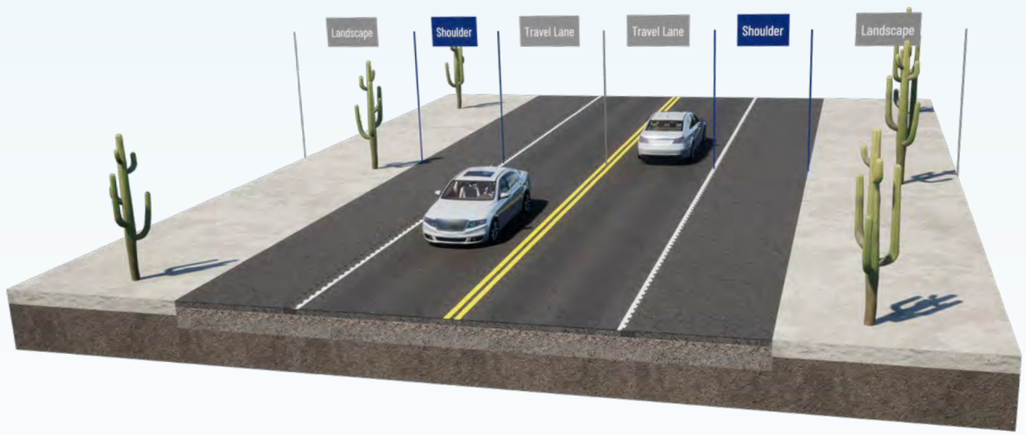
On-Street Improvements

# Paved Shoulder

A paved shoulder on the edge of the roadway serves as a space for bicyclists and pedestrians to travel where bike lanes and sidewalks are not provided.

IMPACTED USERS:

## Rural Paved Shoulder




## GEOMETRIC CONSIDERATIONS

| Roadway Classification | Volume | Speed (mph) | Minimum Width (feet) |
|---|---|---|---|
| Minor Collector | 1,100 - 6,300 | 35 | 5 |
| Major Collector | 1,100 - 6,300 | 45 | 6.5 |
| Minor Arterial | 3,000 - 14,000 | 55 | 7 |
| Principal Arterial | 7,000 - 27,000 | 65 | 8 |

Volumes per FHWA Highway Functional Classification Concepts, Criteria and Procedures 2023 Edition

**Per NCHRP Synthesis 490, 2016:**

- Rumble strips are an FHWA Proven Safety Countermeasure for reducing roadway departure crashes. If rumble strips are desired, provide gaps in the rumble strip pattern to allow access into and out of the paved shoulder area by bicyclists.

## MARKINGS

On paved shoulders designed for bicyclists, the edge should be clearly delineated. Options include:

- 4-inch white line
- 8-inch white line
- A narrow buffer space consisting of two 6-inch white lines separated by 18 inches

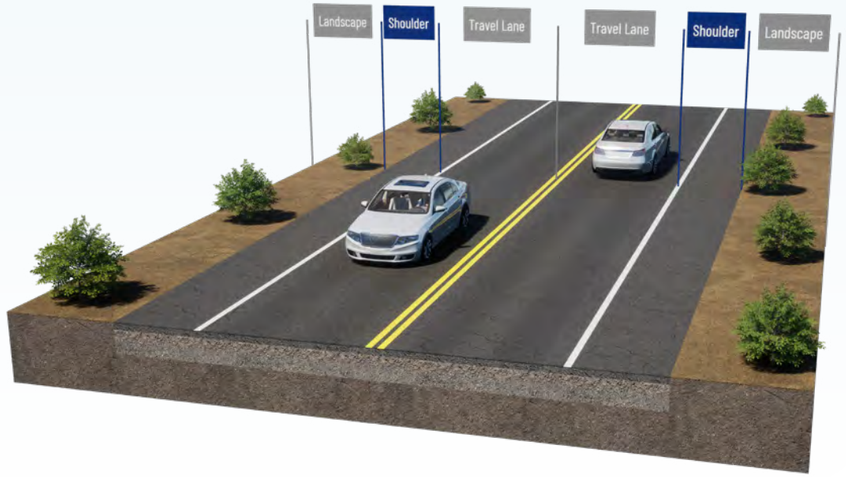
## SIGNAGE

Appropriate striping and signing along roadway sections and at intersections to identify property bicycle/vehicle interactions.

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides roadway space for all users (bicyclists, pedestrians, motor vehicles) | ✓ |
| Improved pedestrian experience when sidewalks are not provided | ✓ |
| Improved bicyclist experience on roadway with higher speed and volume | ✓ |
| Requires a wider roadway to provide shoulder space | |

## Urban Paved Shoulder

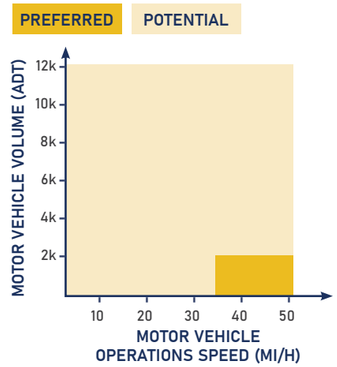



## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Rarely | Sometimes | Always |

### Speed and Volume




### Vehicle Speed


### Cost

| |
|---|
| $ |
| $$ |
| $$$ |

## LOCAL STANDARDS

- Pima County Roadway Design Manual Chapter 2.6 Bicycle, Pedestrian and Transit Facilities

## REGIONAL TREATMENT GUIDELINES

Preferred width

- Urban – 6 feet
- Rural Paved Road - 10 feet

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

In the event of bus pullout locations:

- Bicycle traffic is directed straight, to the left of the bus pullout zone, while buses transition across the bicycle lane to the right.
- Conflict-zone markings (skip dash markings) should be used to position the bicycle lane to the left of the bus pullout zone.
- Bus pullout lane must be wide enough to ensure buses do not extend into the bicycle lane.

## AMENITY OPTIONS

- None

# Shared Lane

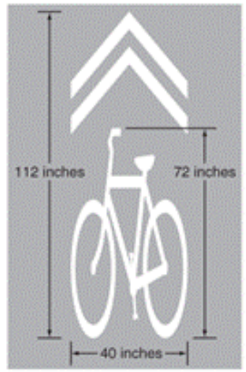
A shared lane has road markings used to indicate that bicyclists and motorists share the travel lane.

IMPACTED USERS:


## MARKINGS

Shared lane markings, otherwise known as 'sharrows', should be placed in the center of the travel lane to define the street as a shared lane.

*New MUTCD guidance is currently being developed in the Standard Highway Signs publication.*




*MUTCD Figure 9C-9*

## SIGNAGE

An optional "Bike Route" sign (MUTCD D11-1) may be located prior to the beginning of a shared lane to indicate that bicyclists and motorists share travel lane and guide cyclists on a lower stress route.


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Encourages bicyclists to position themselves safely in lanes too narrow for a motor vehicles and bicycle to travel side by side | ✓ |
| Alerts motor vehicle drivers of the potential presence of bicyclists | ✓ |
| Doesn't require additional right-of-way | ✓ |
| Reduces the incidence of bicyclists riding on the sidewalk | ✓ |
| Use only where speed differential between motor vehicles and bicyclists is very low | |

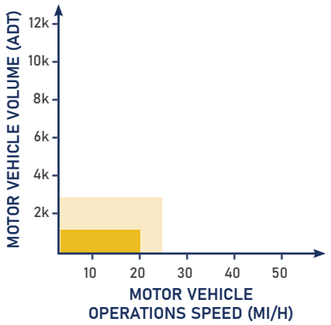
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Sometimes | Sometimes | Rarely |

### Speed and Volume

PREFERRED | POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- Frequent, visible placement of markings is essential.
- Shared lane markings should be placed in the center of the lane between wheel treads to minimize wear.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

Shared lanes should not be utilized along major transit routes.

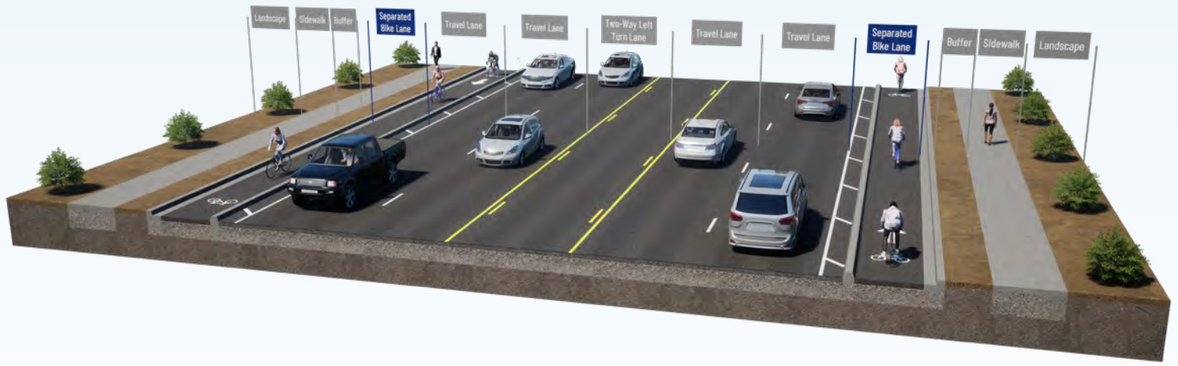
## AMENITY OPTIONS

- Wayfinding signage

# Separated Bike Lane

A separated bike lane is a bicycle facility adjacent to the roadway that uses a variety of methods to provide physical separation through the use of vertical objects between the vehicular and bicycle lanes.

IMPACTED USERS:

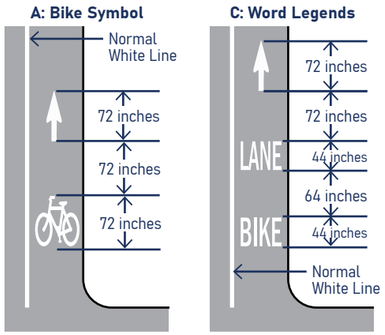



## GEOMETRIC CONSIDERATIONS

- The desirable separated bike lane width is 6–8 feet (AASHTO).
- The minimum separated bike lane width is 4 feet (AASHTO).
- The preferred width of the median or curb separating the bike lane from motor vehicle traffic is 6 feet; the minimum practical width is 2 feet (AASHTO).
- A variety of physical protection measures may be used such as tubular markers, parked cars, movable planters, raised curb, etc.

## MARKINGS

Longitudinal pavement markings and bicycle lane symbol or word markings shall be used to define bicycle lanes (MUTCD 9E-1).




## SIGNAGE

An optional "Bike Lane" sign (MUTCD R3-17) may be located prior to the beginning of a separated bike lane to designate that portion of the street for use by bicyclists (NACTO).


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Dedicates and protects space for bicyclists by improving perceived comfort and safety | ✓ |
| Eliminates risk of collisions with over-taking motor vehicles | ✓ |
| Reduces risk of "dooring" | ✓ |
| Low implementation cost when using existing pavement and drainage | ✓ |
| More attractive to a wide range of bicyclists at all skill levels | ✓ |
| Most helpful on streets with few conflicts such as driveways or cross-streets | |
| More feasible on streets with extra right-of-way | |
| Most helpful on streets with high motor vehicle volumes and speeds | |
| Most helpful on streets with high bicycle volumes | |

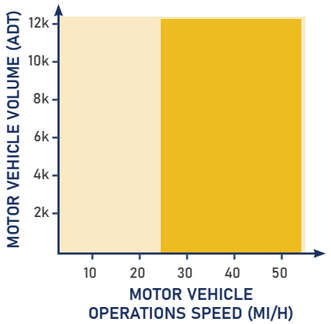
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Always | Sometimes | Sometimes |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- Separated bike lanes should be maintained to be free of potholes, broken glass, and other debris.
- Gutter seams, drainage inlets, and utility covers should be configured so as not to impede bicycle travel and to facilitate stormwater run-off.
- Sidewalk curbs and furnishings should be used to prevent pedestrian use of the cycle zone.
- Two-stage turn boxes should be provided to assist in making turns from the separated bike lane facility.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

- Consider wrapping the separated bike lane behind the transit stop zone to reduce conflicts between bicyclists and transit vehicles. Extra consideration may be needed to manage bicycle and pedestrian interactions.

## AMENITY OPTIONS

- Wayfinding signage
- Bike counters





On-Street Improvements

# Buffered Bike Lane

A buffered bike lane is a conventional bike lane paired with a designated space separating the bicycle lane from the adjacent motor vehicle travel lane.

IMPACTED USERS:


## GEOMETRIC CONSIDERATIONS

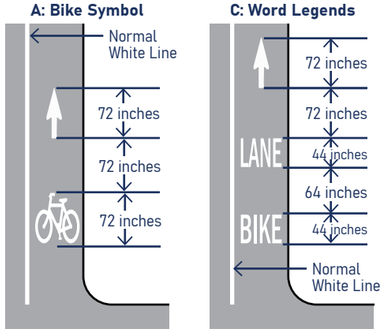
- Buffer should be a should be between 2 - 4 feet wide (AASHTO).
- If used, interior diagonal cross hatching should consist of 4" lines angled at 30 to 45 degrees and striped at intervals of 10 to 40 feet (NACTO).
- Where there is street parking and sufficient room exists, a buffer (3 ft. preferred) should be striped in between the parking lane and bike lane in addition to the buffer between the bike lane and the motor vehicle travel lane. Where space constraints make a double-buffered lane unfeasible, placement of the buffer may be determined based on parking utilization and turnover.

## MARKINGS

Where there is street parking and sufficient room exists, a buffer (3 ft. preferred) should be striped in between the parking lane and bike lane in addition to the buffer between the bike lane and the motor vehicle travel lane

Longitudinal pavement markings and bicycle lane symbol or word markings shall be used to define bicycle lanes (MUTCD 9E-1).

Per MUTCD, buffers greater than 3 feet wide shall have chevrons or diagonal markings; 2-3 foot buffers shall have chevrons or diagonal markings.







## SIGNAGE

An optional "Bike Lane" sign (MUTCD R3-17) may be located prior to the beginning of a buffered bike lane to designate that portion of the street for use by bicyclists (NACTO).


An optional "No Parking Bike Lane" sign (MUTCD R7-9/R7-9a) may be used if parked vehicles frequently block the buffered bike lane (NACTO).


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides greater separation between motor vehicles and bicyclists than a standard bike lane | ✓ |
| Provides space for bicyclists to pass another bicyclist without entering motor vehicle travel lane | ✓ |
| May be used anywhere a standard bicycle lane is considered if sufficient right-of-way exists | |
| May be used on streets with higher motor vehicle volumes and speeds | |

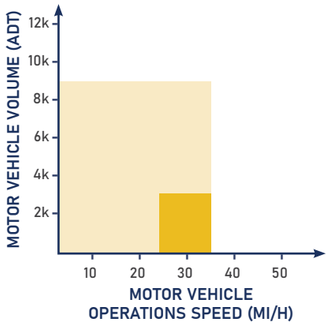
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Always | Always | Sometimes |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- Striping and signing along roadway sections and at intersections to identify proper bicycle/vehicle interactions.
- Potential use of green pavement in special situations.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

In the event of bus pullout locations:

- Bicycle traffic is directed straight, to the left of the bus pullout zone, while buses transition across the bicycle lane to the right.
- Conflict-zone markings (skip dash markings) should be used to position the bicycle lane to the left of the bus pullout zone.
- Bus pullout lane must be wide enough to ensure buses do not extend into the bicycle lane.

## AMENITY OPTIONS

- Wayfinding signage
- Bike counters



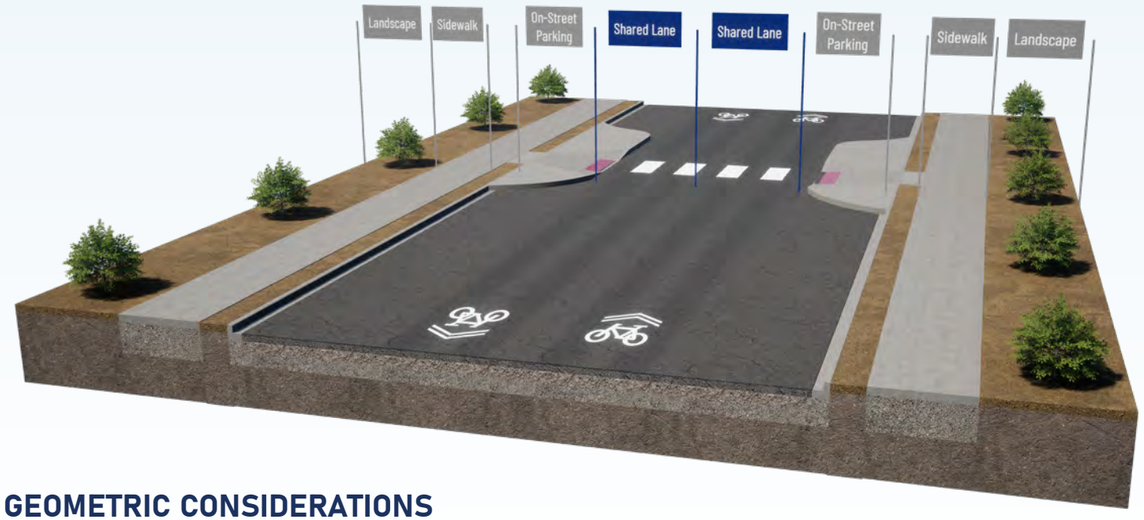


On-Street Improvements

# Bicycle Boulevard

A bicycle boulevard is a local street designated and designed to give bicycle travel priority. A bicycle boulevard uses signs, pavement markings, and traffic calming measures to discourage through trips by motor vehicles and slow traffic.

IMPACTED USERS:



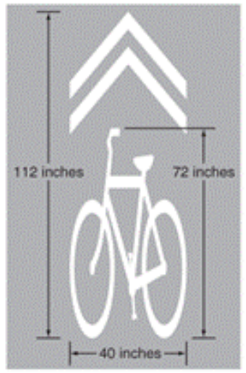

## GEOMETRIC CONSIDERATIONS

- Bicycle boulevards combine road markings, traffic calming measures, and crossing improvements across major roadways to enhance the comfort and efficiency of bicyclists traveling along the route.

## MARKINGS

Shared lane markings may be placed in the center of the travel lane to define the street as a shared lane.

*New MUTCD guidance is currently being developed in the Standard Highway Signs publication.*




*MUTCD Figure 9C-9*

## SIGNAGE

The City of Tucson Bicycle Boulevard Master Plan recommends modified street signs and wayfinding signs to increase visibility and familiarity with bicycle priority streets.



## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Reduces motor vehicle volumes and speeds | ✓ |
| Improves bicyclist comfort on a corridor | ✓ |
| Reduces crash volume and severity of motor vehicle with bicyclists | ✓ |
| Cost-effective use of existing local roadways to make connections to other bicycle facilities | ✓ |
| Requires continuous and connected right-of-way or access easements between intersections with major streets | |

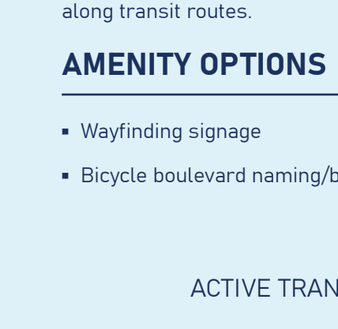
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Always | Sometimes | Sometimes |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021)
- City of Tucson Bicycle Boulevard Master Plan

## REGIONAL TREATMENT GUIDELINES

- Utilize roadway designs to slow motor vehicle speeds
- Create safe and convenient roadway crossing opportunities for bicyclists and pedestrians
- Utilize local rainwater harvesting practices that incorporate vegetation and public art into traffic calming measures to enhance the corridor

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- FHWA Proven Safety Countermeasures
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

Bicycle boulevards should not be utilized along transit routes.

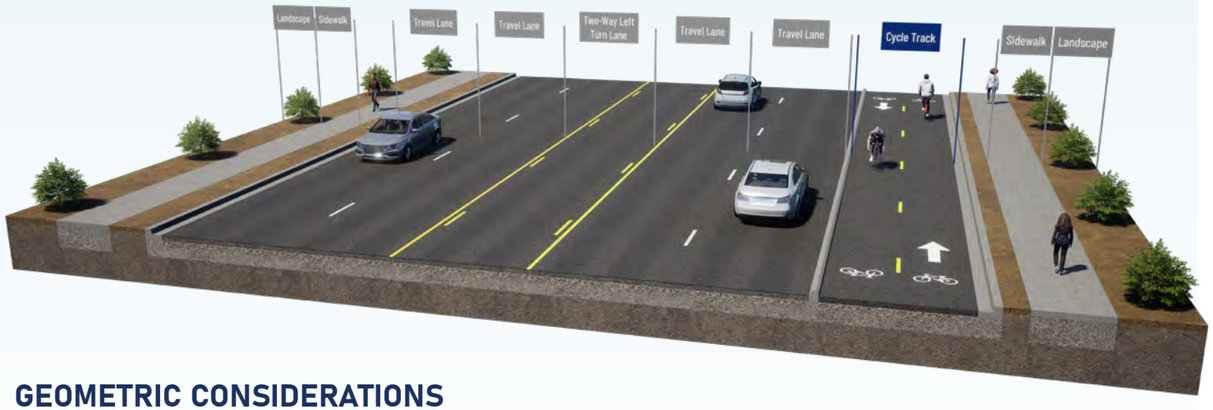
## AMENITY OPTIONS

- Wayfinding signage
- Bicycle boulevard naming/branding

# Cycle Track

A cycle track is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane allowing bicycle movement in both directions.

IMPACTED USERS:

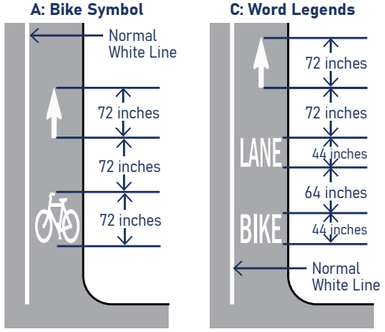



## GEOMETRIC CONSIDERATIONS

- Preferred travel surface width is 13 feet. Minimum width is 8 feet (NACTO).
- When protected by a parking lane, 3 feet is the preferred width for a parking buffer.

## MARKINGS

Longitudinal pavement markings and bicycle lane symbol or word markings shall be used to define bicycle lanes (MUTCD 9E-1).







## SIGNAGE

A "DO NOT ENTER" sign (MUTCD R5-1) with "EXCEPT BIKES" plaque (R3-7bP) may be posted along the facility.


If on a one-way street, a "ONE WAY" sign (MUTCD R6-1, R6-2) with "EXCEPT BIKES" plaque (R3-7bP) may be posted along the facility and at intersecting streets.


Intersection traffic controls along the street may be installed and oriented toward bicyclists.



## ✓ BENEFITS AND CONSIDERATIONS

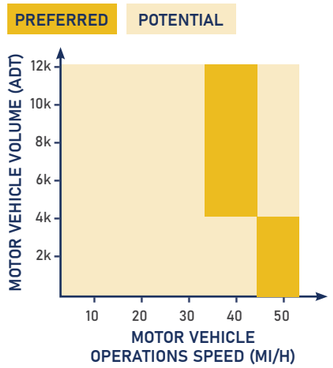
| | |
|---|---|
| Provides two-way bicycle traffic on one side of the road | ✓ |
| Dedicates and protects space for bicyclists by improving perceived comfort and safety | ✓ |
| Eliminates risk of collisions with over-taking vehicles | ✓ |
| Reduces risk of "dooring" | ✓ |
| Low implementation cost when using existing pavement and drainage | ✓ |
| More attractive to a wide range of bicyclists at all skill levels | ✓ |
| Provides enhanced protection for bicyclists on streets with high motor vehicle volumes and speeds | ✓ |
| Best used on streets with few conflicts such as driveways or cross-streets on one side of the street | |
| Best used on streets with extra right-of-way on one side | |
| Best used on streets with high bicycle volumes | |
| Utilize two-stage turn boxes at intersections for bicyclists turning left | |
| Physical separation may be achieved using parked cars, curb, planters, etc. | |
| Commonly used when limited ROW prevents the use of separated bike lanes | |

## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Sometimes | Sometimes | Rarely |

### Speed and Volume




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- A dashed line may be used to separate two-way bicycle traffic and to help differentiate between adjacent pedestrian space.
- Potential use of green pavement in special situations.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

- Consider wrapping the cycle track behind the transit stop zone to reduce conflicts with transit vehicles and passengers.
- A raised median, bus bulb, or curb extension may be configured in the cycle track buffer area to accommodate transit stops.

## AMENITY OPTIONS

- Wayfinding signage
- Bike counters



On-Street Improvements


# OFF-STREET IMPROVEMENTS

# Sidewalk

A sidewalk is the paved portion of a street right-of-way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.

IMPACTED USERS:


## GEOMETRIC CONSIDERATIONS

Design sidewalks to separate pedestrians from other road users.

- The minimum sidewalk width is 5 feet if set back from the curb (FHWA).
- The minimum sidewalk width is 6 feet if set back from the curb face (FHWA).

## MARKINGS

No markings are required for sidewalks.

## SIGNAGE

MUTCD W11-2 sign may be used to increase driver awareness of potential pedestrian crossings.

MUTCD S1-1, potentially paired with other signs (W16-9P, W16-2aP, W16-7P), may be used to increase driver awareness of school zone.


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides a dedicated space for pedestrians to safely travel | ✓ |
| Reduces "walking along roadway" crashes | ✓ |
| May not support a rural character when combined with curb and gutter | |
| Requires a moderate roadway right-of-way | |

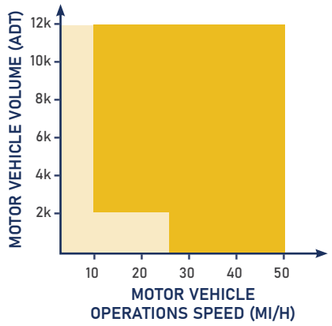
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Always | Always | Sometimes |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- Pima County Roadway Design Manual Chapter 2.6 Bicycle, Pedestrian and Transit Facilities
- City of Tucson Street Design Guide (2021)

## REGIONAL TREATMENT GUIDELINES

- The recommended sidewalk width is 5 feet but may be increased to accommodate special conditions.
- When the sidewalk is designed to be flush with the back of the raised curb, the standard width is 6 feet.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- FHWA Proven Safety Countermeasures
- MUTCD 11th Edition
- AASHTO
- ADA
- ADOT Traffic Safety Guidelines for School Areas
- PROWAG

## TRANSIT INTEGRATION

Sidewalks should connect pedestrians directly to transit stops.

## AMENITY OPTIONS

- A furnishing zone of 4-6 feet may be placed between the street and sidewalk to create a buffer between pedestrians and motor vehicles while providing space for mailboxes, signs, street lighting, and other utilities
- Landscaping
- Public art, shading, and seating are encouraged at various locations along the sidewalk



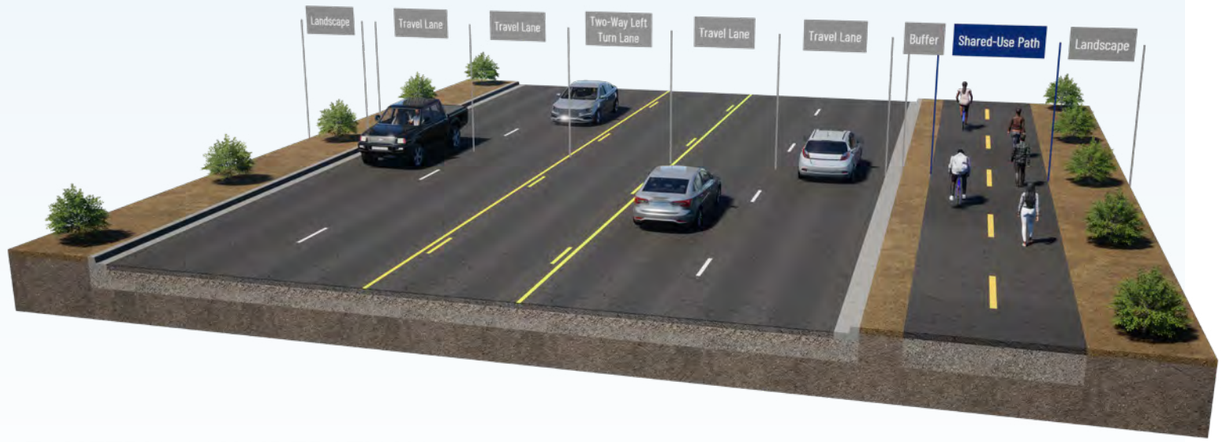


Off-Street Improvements

# Shared-Use Path

A shared pathway for bicycles and pedestrians that is physically separated from motorized vehicular traffic by an open space or barrier.

IMPACTED USERS:




## GEOMETRIC CONSIDERATIONS

- The desired shared-use path width is 12–14 feet (AASHTO).
- The minimum shared-use path width is 10 feet (AASHTO).
- A desired graded area of 3 feet with a maximum 1:6 slope should be maintained on both sides of the shared-use path (FHWA).
- A minimum graded area of 2 feet with a maximum 1:6 slope should be maintained on both sides of the shared-use path (FHWA).

## MARKINGS

In most circumstances, center line markings are not needed, but may be used in the following situations:

- When striping is required, use a 4-inch broken yellow center line stripe.
- Solid center lines may be provided on blind corners and on approaches to roadway crossings.

## SIGNAGE

Bikes Yield to Peds (MUTCD R9-6) signs may be used to clarify yielding rules on shared-use paths.


Bicycle and Pedestrian Crossing (MUTCD W11-15) signs may be used at all roadway crossings.

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides access for all users to areas primarily served by high-speed roads | ✓ |
| Used as a system of off-road transportation routes | ✓ |
| More attractive to a wide range of bicyclists at all skill levels | ✓ |
| Shared-use paths fall under ADA accessibility requirement | |
| Conflicts exist between bicyclists and pedestrians on the path traveling at different speeds | |
| May require a lot of right-of-way | |

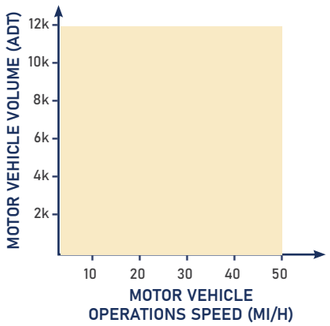
## APPLICATION

### Land Use

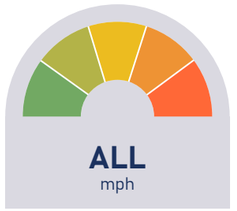
| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Sometimes | Sometimes | Always |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed




### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- Pima Regional Trail System Master Plan
- Pima County Roadway Design Manual Chapter 2.6 Bicycle, Pedestrian, and Transit Facilities
- City of Tucson Street Design Guide (2021) Chapter 3

## REGIONAL TREATMENT GUIDELINES

Per the Pima Regional Trail System Master Plan:

- 12-foot-wide paved shared-use path
- 4 feet unpaved on one side
- 2 feet soft/mowed on side opposite unpaved

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## AMENITY OPTIONS

- Refer to Crossing Improvements section for guidance on appropriate crossing facilities. A rectangular rapid flashing beacon (RRFB) may be considered at arterial roadway crossings to increase visibility, however a HAWK or Pedestrian Hybrid Beacon crossing is recommended which provides a significantly higher level of driver compliance.
- Public art, shading, and seating are encouraged at various locations along the shared-use path
- Bike counters



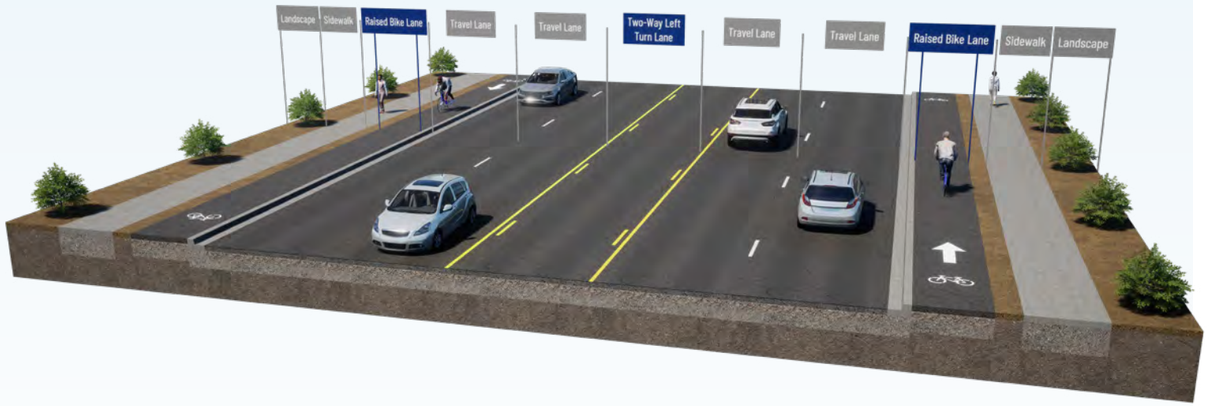


Off-Street Improvements

# Raised Bike Lane

A raised bike lane is a bicycle facility that is vertically separated from motor vehicle traffic.

IMPACTED USERS:

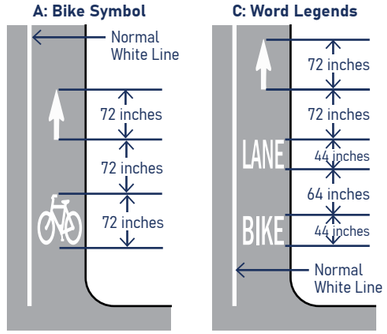



## GEOMETRIC CONSIDERATIONS

- Preferred travel surface width is 6.5 - 8 feet. Minimum width is 5 feet (AASHTO).
- Vertical separation between the roadway and the raised bike lane should be between 1 and 6 inches (AASHTO).
- Vertical separation between the raised bike lane and the sidewalk should be between zero and 5 inches (AASHTO).
- If used, a mountable curb should have a 4:1 slope edge without any seams or lips to interfere with bike tires to allow for safe entry/exit of the roadway (AASHTO).

## MARKINGS

Longitudinal pavement markings and bicycle lane symbol or word markings shall be used to define bicycle lanes (MUTCD 9E-1).




## SIGNAGE

An optional "Bike Lane" sign (MUTCD R3-17) may be located prior to the beginning of a marked bike lane to designate that portion of the street for use by bicyclists (NACTO).


An optional "No Parking Bike Lane" sign (MUTCD R7-9/R7-9a) may be used if parked vehicles frequently block the bike lane (NACTO).


## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Dedicates and protects space for bicyclists to improve perceived comfort and safety | ✓ |
| More attractive to a wide range of bicyclists at all skill levels | ✓ |
| Encourages bicyclists to ride in the bikeway rather than the sidewalk | ✓ |
| Can visually reduce the width of the street | ✓ |
| Minimizes maintenance costs due to limited motor vehicle wear | ✓ |
| With new roadway construction a raised bike lane can be less expensive to construct than a wide or buffered bike lane | ✓ |
| May be at the level of the adjacent sidewalk or set at an intermediate level between the roadway and sidewalk | |
| May be paired with a furnishing zone between the motor vehicle travel lane and the raised bike lane | |
| Best used on streets with few driveways and cross streets | |
| May be used on streets with many curves where motor vehicles may encroach into bike lane | |
| On streets with high motor vehicle volumes and speeds | |

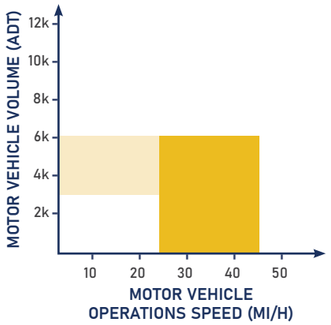
## APPLICATION

### Land Use

| URBAN | SUBURBAN | RURAL |
|---|---|---|
| Always | Sometimes | Rarely |

### Speed and Volume

PREFERRED POTENTIAL




### Vehicle Speed


### Cost

| $ | $$ | $$$ |
|---|---|---|

## LOCAL STANDARDS

- City of Tucson Street Design Guide (2021

## REGIONAL TREATMENT GUIDELINES

- If configured at a height flush with the sidewalk, green pavement, pavement markings, textured surfaces, landscaping, or other furnishings should be used to discourage pedestrian use of the cycle zone.

## NATIONAL RESOURCES

- NACTO Urban Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

## TRANSIT INTEGRATION

Consider wrapping the raised bike lane behind the transit stop zone to reduce conflicts with transit vehicles and passengers.

## AMENITY OPTIONS

- Wayfinding signage
- Bike counters





On-Street Improvements


# CROSSING IMPROVEMENTS

# Marked Crosswalk

IMPACTED USERS:

A marked crosswalk is a location dedicated for pedestrians to cross the street.

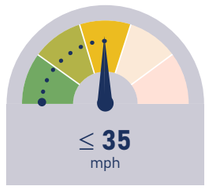

Moore Rd

## APPLICATION

**Land Use**

| | |
|---|---|
| URBAN | |
| Always | |
| SUBURBAN | |
| Always | |
| RURAL | |
| Always | |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Channelizes pedestrians to a single crossing location | ✓ |
| Advises motor vehicle drivers where to anticipate pedestrians crossing the road | ✓ |
| Intersection crossings should be kept as narrow as possible | |
| Accessible curb ramps are required by the ADA at all crosswalks | |
| Insufficient pedestrian protection on roadways of 4 lanes or greater with an ADT of 12,000 or greater | |
| Visibility concerns can be addressed with High-Visibility Crosswalks per FHWA Proven Safety Countermeasures | |

## LOCAL STANDARDS

- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)
- ARS School Zones

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- FHWA Proven Safety Countermeasures
- MUTCD 11th Edition
- AASHTO
- ADA
- FHWA Guide for Selecting Countermeasures at Uncontrolled Pedestrian Locations



# Raised Crosswalk

IMPACTED USERS:

A raised crosswalk is a ramped speed table spanning the entire width of the roadway, often placed at midblock crossing locations. The crosswalk is marked with paint and/or special paving materials.

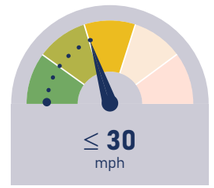

Treat Ave and 2nd St

## APPLICATION

**Land Use**

| | |
|---|---|
| URBAN | |
| Sometimes | |
| SUBURBAN | |
| Sometimes | |
| RURAL | |
| Rarely | |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Reinforces slow speeds for motor vehicles encouraging drivers to yield to pedestrians | ✓ |
| Allows pedestrians to cross the street at grade with the sidewalk | ✓ |
| Should be used in conjunction with crosswalk visibility enhancements | |
| Special attention should be given to drainage | |
| Typically installed on 2-lane or 3-lane roads with ADT under 9,000 | |
| Multiple raised crosswalks on one route may disrupt transit, maintenance, or emergency service vehicles | |
| May create challenges for street sweepers and pavement maintenance | |

## LOCAL STANDARDS

- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)
- ARS School Zones

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA
- FHWA Guide for Selecting Countermeasures at Uncontrolled Pedestrian Locations



Crossing Improvements - Intersection Treatments

# Pedestrian Refuge Island

A pedestrian refuge island is a space in the center of the road where a vulnerable road user can safely wait, separated from motor vehicle travel lanes, while crossing the street in two stages.

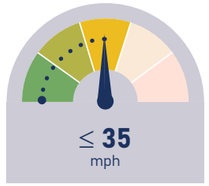

Moore Rd

## APPLICATION

**Land Use**

| | |
|---|---|
| URBAN | |
| Always | |
| SUBURBAN | |
| Always | |
| RURAL | |
| Sometimes | |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Reduction in pedestrian crashes | ✓ |
| Pedestrians may cross the street in two stages | ✓ |
| Preferred 8 feet wide for pedestrian comfort (minimum 6 feet wide) | |
| Should be illuminated or highlighted with street lights, signs, and/or reflectors to ensure they are visible to motorists | |
| Can be used in conjunction with other crossing improvements such as marked crosswalks, RRFBs, HAWKs, and raised crosswalks | |

## LOCAL STANDARDS

- ARS School Zones

## NATIONAL RESOURCES

- ITE Traffic Calming Measures
- AASHTO
- ADA
- FHWA Guide for Selecting Countermeasures at Uncontrolled Pedestrian Locations

# Protected Intersection

IMPACTED USERS:

A protected intersection is an intersection with the bikeway set back from the parallel motor vehicle traffic giving bicyclists a dedicated path through the intersection.

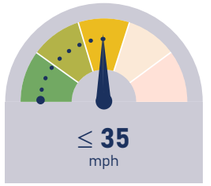

National Association of City of Transportation Officials

## APPLICATION

**Land Use**

| | |
|---|---|
| URBAN | |
| Sometimes | |
| SUBURBAN | |
| Sometimes | |
| RURAL | |
| Rarely | |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides separated space for bicyclists to cross the intersection | ✓ |
| Reduces the distance and time for a bicyclist to cross the intersection | ✓ |
| Reduces motor vehicle turn speeds | ✓ |
| Improves driver visibility of bicyclists | ✓ |
| Transitions from standard bike lanes should start far in advance of the intersection | |
| Standard separated bike lane widths should be used in the protected intersection | |
| Provide a queuing space for bicyclists | |
| May increase difficulties for visually impaired pedestrians | |
| May require special street sweeping practices | |

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA



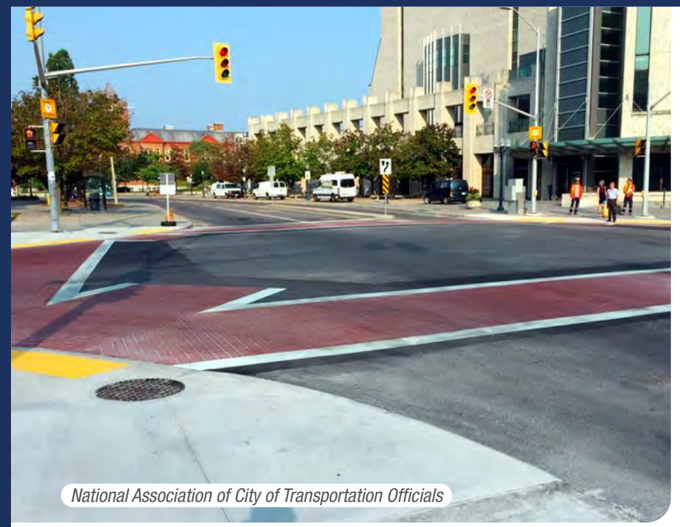


Crossing Improvements - Intersection Treatments

# Raised Intersection

IMPACTED USERS:

A raised intersection is an intersection that is elevated to the level of the sidewalk to ensure that drivers cross slowly.



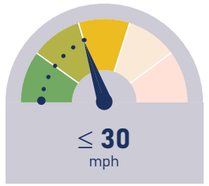
National Association of City of Transportation Officials

## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Reinforces slow speeds for motor vehicles encouraging drivers to yield to pedestrians | ✓ |
| Allows pedestrians to cross the street at grade with the sidewalk | ✓ |
| Often used with crosswalk visibility enhancements | |
| Special attention should be given to drainage | |
| Do not use if sight distance is limited or street is steep | |
| Multiple raised intersections on one route may disrupt bus or emergency service vehicles | |
| May create maintenance challenges for sweepers and pavement maintenance vehicles | |

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

# Bike Box

IMPACTED USERS:

A bike box is a designated area in advance of a crosswalk at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.

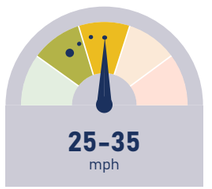
University and Park Ave

## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Rarely |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Increases visibility of bicyclists | ✓ |
| Reduces signal delays for bicyclists | ✓ |
| Facilitates bicyclist left turn positioning at intersections during red signal indication | ✓ |
| Helps prevent “right-hook” conflicts with turning motor vehicles | ✓ |
| Groups bicyclists together to quickly clear an intersection | ✓ |
| Utilize where there is a desire to better accommodate left turning bicycle traffic | |
| A “No Turn on Red” sign should be installed to prevent motor vehicles from entering the queuing area | |
| Green paving inside the queuing area should be used to increase visibility | |

## NATIONAL RESOURCES

- NACTO Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA



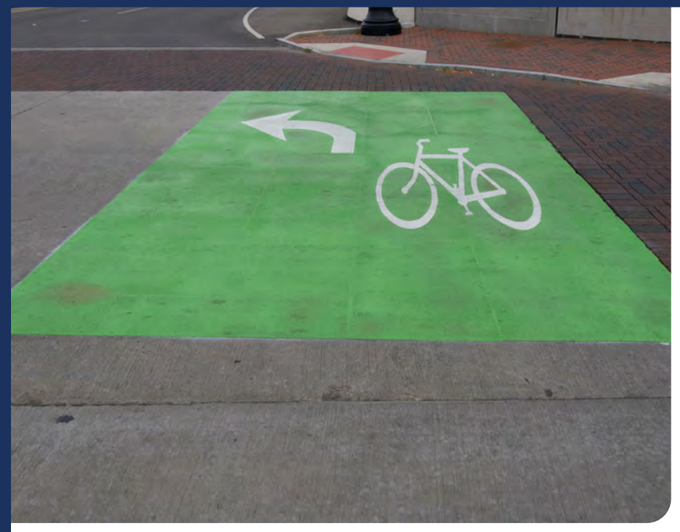


Crossing Improvements - Intersection Treatments

# Two-Stage Turn Box

IMPACTED USERS:

A Two-Stage Turn Box is a designated place for cyclists that have made a through movement at a signalized intersection to rotate their bikes 90-degrees and wait for the subsequent through movement, thereby formalizing a two-stage left-turn.

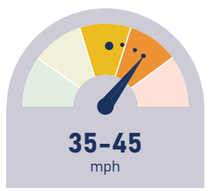


## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Improves bicyclist ability to safely and comfortably make left turns | ✓ |
| Provides a formal queuing space for bicyclists making a two-stage turn | ✓ |
| Reduces turning conflicts between bicyclists and motor vehicles | ✓ |
| Prevents conflicts arising from bicyclists queuing in a bike lane or crosswalk | ✓ |
| Separates turning bicyclists from through bicyclists | ✓ |
| The queuing box should be placed in a protected area, typically within an on-street parking lane or between the bicycle lane and the pedestrian crossing | |
| A “No Turn on Red” sign should be installed if right-turning motor vehicles enter the queuing area | |
| Green paving inside the queuing area should be used to increase visibility | |
| Good to pair with cycle tracks, raised bike lanes, and separated bike lanes | |

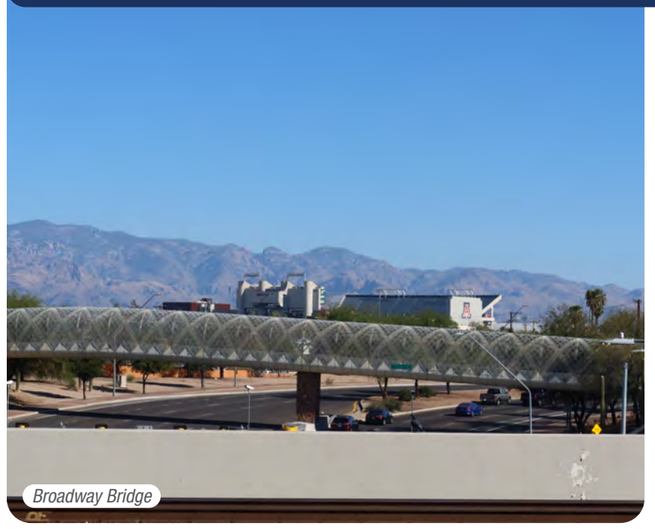
## NATIONAL RESOURCES

- NACTO Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA

# Overpass

IMPACTED USERS:

An overpass is a structure that allows for pedestrians and bicyclists to travel above the flow of motor vehicle traffic.

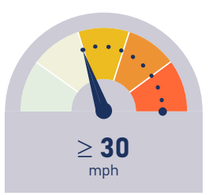



## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides complete separation of pedestrians/ bicyclists from motor vehicle traffic | ✓ |
| Provides crossings where no other facilities are available | ✓ |
| Most appropriate over busy, high-speed roadways | |
| Pedestrians will not use if there is a more direct route available | |
| Lighting, vandalism, and security are major concerns | |
| Needs to meet ADA standards so space for overpass may be challenging to achieve | |

## NATIONAL RESOURCES

- MUTCD 11th Edition
- AASHTO
- ADA





Crossing Improvements - Intersection Treatments

# Tunnel

IMPACTED USERS:

A tunnel is a structure that allows for pedestrians and bicyclists to travel below the flow of motor vehicle traffic.

Highland Ave

## ✔ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Provides complete separation of pedestrians/ bicyclists from motor vehicle traffic | ✔ |
| Provides crossings where no other facilities are available | ✔ |
| Pedestrians will not use if there is a more direct route available | |
| Lighting, vandalism, and security are major concerns | |
| Needs to meet ADA standards so space for tunnel may be challenging to achieve | |
| Separation of bicyclists and pedestrians may be necessary | |

## APPLICATION

**Land Use**

- URBAN
- Sometimes
- SUBURBAN
- Sometimes
- RURAL
- Rarely

**Vehicle Speed**

≥ 30 mph

**Cost**

- $
- $$
- $$$

## NATIONAL RESOURCES

- MUTCD 11th Edition
- AASHTO
- ADA





# PELICAN Crossing

IMPACTED USERS:

The PEdestrian LIght Control ActivatioN (PELICAN) is a pedestrian-actuated two-stage crossing that incorporates the median island as a pedestrian refuge between the two crossing stages. The PELICAN is used mid-block on major streets. The PELICAN uses standard Red-Yellow-Green signal for motorists that remains green unless activated by a pedestrian.


Campbell Ave and Adams St

## ✔ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Minimizes the potential for stops, delays, and crashes | ✔ |
| Not used for intersections | |
| Used mid-block on major streets | |

## APPLICATION

**Land Use**

- URBAN
- Sometimes
- SUBURBAN
- Sometimes
- RURAL
- Rarely

**Vehicle Speed**

≤ 45 mph

**Cost**

- $
- $$
- $$$

## NATIONAL RESOURCES

- FHWA Report
- MUTCD 11th Edition
- AASHTO
- ADA

# TOUCAN Signal

IMPACTED USERS:

The TwO groUps CAN cross (TOUCAN) system is used at locations of heavy bicycle and pedestrian crossing activity, like Bike Boulevards. Motorists on the street that is being crossed see a standard Red-Yellow-Green signal. Motorized traffic on the crossing street is not allowed to proceed through these signals, and are forced to turn right, decreasing the number of cars on the neighborhood street.

*5th Street and Euclid*

## ✓ BENEFITS AND CONSIDERATIONS

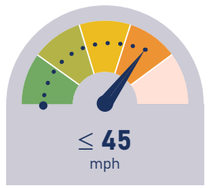
| | |
|---|---|
| Provides traffic calming for neighborhood streets | ✓ |
| Bicyclists see a bicycle signal face | ✓ |
| Pedestrians get a standard WALK indication | ✓ |
| Bicyclists and pedestrians have separate crossing areas | ✓ |

## APPLICATION

**Land Use**

- URBAN
- Sometimes
- SUBURBAN
- Rarely
- RURAL
- Rarely

**Vehicle Speed**




**Cost**

- $
- $$
- $$$

## LOCAL STANDARDS

- City of Tucson Bicycle Boulevard Master Plan

## NATIONAL RESOURCES

- NACTO Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA



# Pedestrian Hybrid Beacon

IMPACTED USERS:

A pedestrian hybrid beacon, otherwise known as a High intensity Activated crossWalK (HAWK), is a pedestrian traffic control device designed to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections.


*Lambert Ln and Calle Mira Mesa*

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| May be used at mid-block locations or intersections | ✓ |
| Associated with very high driver compliance | ✓ |
| Stop lines and marked crosswalks are required | |
| FHWA Proven Safety Countermeasure | |
| The BikeHAWK is an adaptation for bicycle users | |

## APPLICATION

**Land Use**

- URBAN
- Sometimes
- SUBURBAN
- Sometimes
- RURAL
- Sometimes

**Vehicle Speed**


**Cost**

- $
- $$
- $$$

## LOCAL STANDARDS

- City of Tucson Bicycle Boulevard Master Plan
- ADOT Traffic Safety Guidelines for School Areas
- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)
- ARS School Zones

## NATIONAL RESOURCES

- FHWA Proven Safety Countermeasures
- NACTO Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA
- FHWA Guide for Selecting Countermeasures at Uncontrolled Pedestrian Locations
- Journal of Traffic Control Device Research



Crossing Improvements - Signals and Beacons

# Rectangular Rapid Flashing Beacon (RRFB)

IMPACTED USERS:

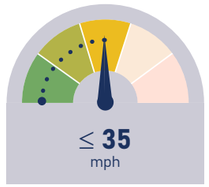
An RRFB is a pedestrian-activated yellow flashing beacon used at marked crosswalks to enhance the conspicuity of vulnerable users crossing the road.


## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Always |
| SUBURBAN |
| Always |
| RURAL |
| Sometimes |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Increases visibility of pedestrians at a marked crosswalk | ✓ |
| FHWA Proven Safety Countermeasure | |
| A beacon should be placed on each side of the marked crosswalk | |
| Over-use of RRFB treatment may diminish their effectiveness and provide a false sense of security to users | |
| Consider alternative facilities for locations with high bicyclist volumes | |
| Total travel lanes impact the appropriateness of an RRFB and may need to be supplemented by another facility, such as a Pedestrian Refuge Island | |

## LOCAL STANDARDS

- ARS School Zones

## NATIONAL RESOURCES

- FHWA Proven Safety Countermeasures
- NACTO Bikeway Design Guide
- MUTCD 11th Edition
- AASHTO
- ADA
- FHWA Guide for Selecting Countermeasures at Uncontrolled Pedestrian Locations
- FHWA STEP Program



# Leading Pedestrian Interval

IMPACTED USERS:

Leading pedestrian interval is signal timing that gives pedestrians the opportunity to enter the crosswalk at a signalized intersection 3-7 seconds before vehicles in the adjacent travel lane are given a green indication.

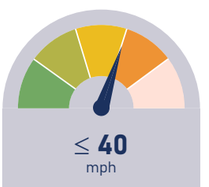
Stone Avenue and Alameda St

## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Always |
| SUBURBAN |
| Always |
| RURAL |
| Always |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## ✓ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Increases visibility of crossing pedestrians | ✓ |
| Reduces conflicts between pedestrians and vehicles | ✓ |
| Increases likelihood of motorists yielding to pedestrians | ✓ |
| Enhanced safety for pedestrians who may be slower to enter the intersection | ✓ |
| FHWA Proven Safety Countermeasure | |
| Should be used at intersections with high turning volumes | |

## NATIONAL RESOURCES

- FHWA Proven Safety Countermeasures
- FHWA's Handbook for Designing Roadways for the Aging Population
- MUTCD 11th Edition
- AASHTO
- ADA



Crossing Improvements - Signals and Beacons


# TRAFFIC CALMING MEASURES

# Curb Extension

A curb extension is a sidewalk or curb that extends into a parking or travel lane to make the street narrower.

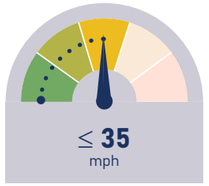
7th St and 5th Ave

## APPLICATION

**Land Use**

| URBAN |
|---|
| Always |
| SUBURBAN |
| Sometimes |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

$

**$$**

$$$

## ✔ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Increases visibility of pedestrians | ✔ |
| Reduces speed of turning motor vehicles | ✔ |
| Encourages pedestrians to cross at designated locations | ✔ |
| Prevents motor vehicles from parking at corners | ✔ |
| Increases pedestrians ability to see approaching traffic by putting them out further into the street | 🔍 |
| Midblock extensions can provide an opportunity for a midblock pedestrian crossing | 🔍 |
| Can be used to place landscaping and street furniture along the roadway | 🔍 |
| Other active facilities, including bike lanes, lighting, and ADA facilities, required extra consideration when implementing Curb Extensions | 🔍 |

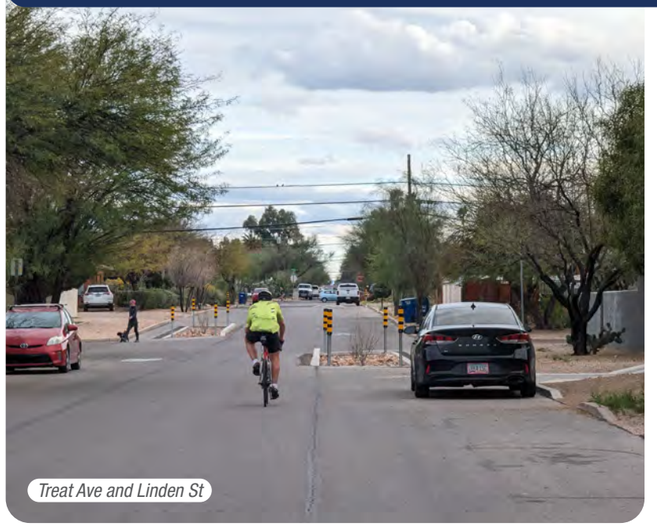
## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- FHWA Traffic Calming ePrimer
- AASHTO
- ADA



# Chicane

A chicane is a series of alternating curves or lane shifts that are located in apposition to force a motorist to steer back and forth out of a straight travel path.

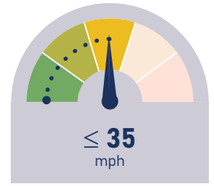

Treat Ave and Linden St

## APPLICATION

**Land Use**

| URBAN |
|---|
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Sometimes |

**Vehicle Speed**




**Cost**

$

**$$**

$$$

## ✔ BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Slows motor vehicle speeds through forced turns | ✔ |
| Adds more potential green space to a street | ✔ |
| Increases the ability of pedestrians to see approaching traffic | ✔ |
| Slows traffic by visually narrowing the street | ✔ |
| May affect street sweeping | 🔍 |
| May reduce on-street parking | 🔍 |
| May include a space to the right for bicycles to bypass the chicane | 🔍 |
| May be appropriate if traffic volume is relatively low | 🔍 |
| May reduce space for bicyclists to operate | 🔍 |
| Appropriate lighting and visibility enhancements must be incorporated | 🔍 |

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- FHWA Traffic Calming ePrimer
- AASHTO
- ADA



Traffic Calming Measures

# Traffic Circle

A traffic circle is a raised island, placed within an unsignalized intersection, around which traffic circulates.


Treat Ave and 1st St

## ✔ BENEFITS AND CONSIDERATIONS

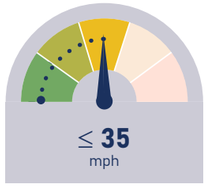
| | |
|---|---|
| Creates horizontal deflection to slow motor vehicles | ✔ |
| Reduces the number of conflict points at intersections | ✔ |
| Reduces crash severity for all users | ✔ |
| May increase sideswipe crashes and fixed-object crashes | |
| Appropriate at intersections of local streets | |
| Can be used with all-way STOP control, all-way YIELD control, or two-way STOP control | |

## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## LOCAL STANDARDS

- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)

## NATIONAL RESOURCES

- NACTO Urban Street Design Guide
- FHWA Traffic Calming e Primer
- AASHTO
- ADA



# Speed Hump

A speed hump is an elongated mound in the roadway pavement surface extending across the travel way at a right angle to the traffic flow.


7th St and Forgeus Ave

## ✔ BENEFITS AND CONSIDERATIONS

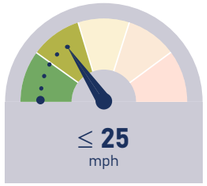
| |
|---|
| Do not place near intersections |
| Appropriate for local streets with low ADT |
| Not appropriate for primary emergency vehicle or transit routes |
| Increases discomfort for bicyclists along the route |
| May cause issues with drainage |
| Should be accompanied with a sign warning drivers (MUTCD W17-1) |

## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Always |
| RURAL |
| Sometimes |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## NATIONAL RESOURCES

- FHWA Traffic Calming ePrimer
- AASHTO
- ADA

# Speed Cushion

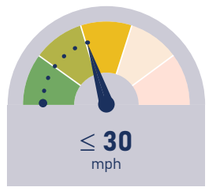
A speed cushion is two or more raised areas placed laterally across a roadway.


## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Always |
| RURAL |
| Rarely |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| Allows emergency and transit vehicles to pass through unaffected | ✓ |
| Generally appropriate for local streets with low ADT | |
| Do not place near intersections | |

## NATIONAL RESOURCES

- FHWA Traffic Calming ePrimer
- AASHTO
- ADA

# Speed Table

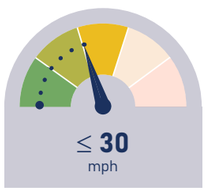
A speed table is a raised area placed across the roadway with a flat top long enough to accommodate the entire wheel base of most passenger cars. This helps reduce vehicular speeds.


## APPLICATION

**Land Use**

| |
|---|
| URBAN |
| Sometimes |
| SUBURBAN |
| Sometimes |
| RURAL |
| Sometimes |

**Vehicle Speed**




**Cost**

| |
|---|
| $ |
| $$ |
| $$$ |

## BENEFITS AND CONSIDERATIONS

| | |
|---|---|
| May be designed as a raised crosswalk if it coincides with a midblock crossing | ✓ |
| Should be accompanied with a sign warning drivers (MUTCD W17-1) | |
| Slopes should not exceed 1:10 or be less steep than 1:25 | |
| Do not place near intersections | |
| Not appropriate for primary emergency vehicle routes | |

## LOCAL STANDARDS

- Pima County/City of Tucson Signing and Pavement Marking Manual (2020)

## NATIONAL RESOURCES

- FHWA Traffic Calming ePrimer
- AASHTO
- ADA





Traffic Calming Measures


# QUICK-BUILD SOLUTIONS

# Quick-Build Solutions

According to Smart Growth America, quick-build demonstration projects are temporary installations to test new street design improvements that improve safety and accessibility. However, these treatments can be used more permanently if they are regularly maintained and the public continues to show support.

## BENEFITS

- May improve safety overnight on dangerous corridors or intersections. Cheaply tests specific designs, interventions, and materials
- Gathers valuable feedback on designs
- Encourages the use of other transportation modes or different travel patterns
- Cheaply tests specific designs, interventions, and materials

## MATERIALS

### Low Investment

#### TRAFFIC CONES OR TYPE I/II BARRICADES

Potential Uses:

- Traffic Circles
- Curb Extensions
- Median Islands
- Separated Bike Lanes

#### FREESTANDING DELINEATORS

Potential Uses:

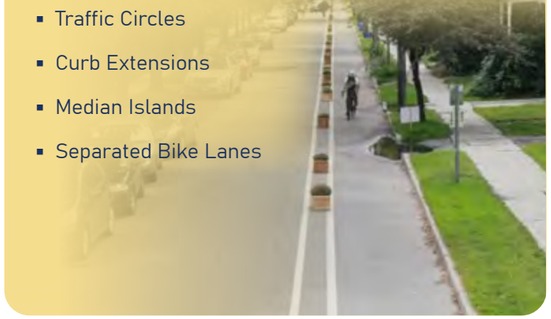
- Traffic Circles
- Curb Extensions
- Median Islands
- Separated Bike Lanes

### Medium Investment

#### PLANTERS

Potential Uses:

- Traffic Circles
- Curb Extensions
- Median Islands
- Separated Bike Lanes



#### FLEXIBLE DELINEATOR POSTS

Potential Uses:

- Traffic Circles
- Curb Extensions
- Median Islands
- Separated Bike Lanes

#### K-71 DELINEATOR POSTS

Potential Uses:

- Traffic Circles
- Curb Extensions
- Median Islands
- Separated Bike Lanes


#### PLASTIC BARRIERS

Potential Uses:

- Separated Bike Lanes

# ACTIVE TRANSPORTATION TOOLBOX

PIMA ASSOCIATION OF GOVERNMENTS

# REGIONAL ACTIVE TRANSPORTATION PLAN

# APPENDIX B

## RECOMMENDED PROJECT DETAILS


| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Continental Rd. Active Transportation Improvements | Continental Rd | Green Valley Performing Arts and Learning Center | Nogales Hwy | Far South | Install shared-use path on west side of Continental Rd. from Abrego Dr. to Nogales Hwy., install shared-use path bridge at bridge east of Abrego Dr. | Shared-Use Path | Pima County; Sahuarita | 7.56 | $ 19,200,000 |
| 2 | La Cañada Dr. Shared-Use Path | La Cañada Dr. | Sahuarita Rd. | Continental Rd. | Far South | Upgrade sidewalk on east side of La Cañada Dr. with shared-use path from Sahuarita Rd. to Continental Rd. Shared-use path bridge needed at Duval Rd., south of Nopal, south of 555 N. La Cañada, south of Apero Dr., and north of Vista Hermosa Dr. Install pedestrian refuge island with marked crosswalk, lighting, and reflectors on La Cañada between Via Alamos and San Ignacio. | Shared-Use Path | Pima County; Sahuarita | 7.31 | $ 12,000,000 |
| 3 | Esperanza Blvd. Separated Bike Lanes | Esperanza Blvd. | La Cañada Dr. | Abrego Dr. | Far South | Upgrade existing bike lanes to separated bike lanes on Esperanza Blvd. from La Cañada Dr. to Abrego Dr. Potential for access management applied to both sides of Esperanza Blvd. | Separated Bike Lane | Pima County | 0.39 | $ 1,200,000 |
| 4 | Duval Mine Rd./Nogales Hwy. Separated Bike Lanes | Duval Mine Rd./Nogales Hwy. | La Cañada Dr. | Sahuarita Rd. | Far South | Upgrade existing bike lanes to separated bike lanes on Duval Mine Rd./Nogales Hwy. from La Cañada Dr. to Sahuarita Rd. | Separated Bike Lane | Sahuarita | 4.99 | $ 15,000,000 |
| 5 | Abrego Dr. Shared-Use Path | Abrego Dr. | Nogales Hwy. | Paseo de Golf | Far South | Install shared-used path on the east side of Abrego Dr. from north of Paseo de Golf to Duval Mine Rd./Nogales Hwy. | Shared-Use Path | Pima County; Sahuarita | 1.26 | $ 1,400,000 |
| 6 | Sahuarita Rd. Active Transportation Improvements | Sahuarita Rd. | La Cañada Dr. | Nogales Hwy. | Far South | Install shared-use path on south side of Sahuarita Rd. from La Cañada Dr. to southbound ramps. Realign vehicle lanes slightly north from southbound ramps to northbound ramps and install shared-use path on the south side of the roadway. Continue shared-use path to Rancho Sahuarita Blvd. Install separated bike lanes on Sahuarita Blvd. from Rancho Sahuarita Rd. to Nogales Hwy. | Multiple | Sahuarita | 1.93 | $ 5,400,000 |
| 8 | Sahuarita Rd. Separated Bike Lanes | Sahuarita Rd. | Nogales Hwy. | Sahuarita Acres Rd. | Far South | Install separated bike lanes on Sahuarita Rd. from Nogales Hwy. to Sahuarita Acres Rd. | Separated Bike Lane | Sahuarita | 1.94 | $ 5,800,000 |
| 10 | Pima Mine Rd. Shoulder Widening | Pima Mine Rd. | I-19 | Nogales Hwy. | Far South | Widen shoulder on both sides of Pima Mine Rd. to 7'. Extend shared-use path on the north side of Pima Mine Rd. from Rancho Sahuarita Blvd. to Nogales Hwy. Improve crossing at Pima Mine Rd. and Nogales Hwy. | Multiple | Sahuarita | 1.48 | $ 1,600,000 |
| 11 | Nogales Highway Shoulder Widening | Nogales Hwy. | Pima Mine Rd. | 400' South of Pima Mine Rd. | Far South | Widen shoulder to 7' on both sides of Nogales Highway from Pima Mine Rd. to 400' south of Pima Mine Rd. | Paved Shoulder | Sahuarita | 0.08 | $ 100,000 |
| 18 | Valencia Rd. Separated Bike Lanes | Valencia Rd. | Casino Del Sol | Midvale Park Rd. | Southwest | Install separated bike lanes on Valencia Rd. from Casino Del Sol to Midvale Park Rd. | Separated Bike Lane | Pima County; Tucson; San Xavier Indian Reservation | 5.21 | $ 15,600,000 |
| 19 | Cardinal Ave. Active Transportation Improvements | Cardinal Ave. | Irvington Rd. | Los Reales Rd. | Southwest | Install sidewalk and 6' paved shoulder on the west side and install shared-use path on the east side of Cardinal Ave. | Multiple | Pima County | 2.77 | $ 5,800,000 |
| 21 | Valencia Rd. Active Transportation Improvements | Valencia Rd. | Midvale Park Rd. | 12th Ave. | Southwest | Upgrade sidewalk/bike lane on north side of Valencia with shared-use path and buffer. Widen and add buffer to sidewalk on south side of Valencia. | Multiple | Tucson | 1.24 | $ 2,100,000 |
| 22 | Valencia Rd. Active Transportation Improvements | Valencia Rd. | 12th Ave. | Nogales Hwy. | South | Upgrade sidewalk/bike lane on north side of Valencia with shared-use path and buffer from 12th Ave. to Fiesta Ave. Widen sidewalks and add buffer on both sides of Valencia from Fiesta Ave. to Nogales Hwy. | Multiple | Tucson | 0.95 | $ 1,100,000 |
| 23 | Nogales Highway Shared-Use Path | Nogales Hwy. | Valencia Rd. | Aerospace Pkwy | South | Install shared-use path on both sides of Nogales Hwy. from Valencia Rd. to Aerospace Pkwy. | Shared-Use Path | Pima County; Tucson | 3.02 | $ 6,600,000 |
| 24 | Valencia Rd. Shared-Use Path | Valencia Rd. | Nogales Hwy. | Tucson Blvd. | South | Upgrade sidewalk/bike lanes with shared-use paths on both sides of Valencia Rd. from Nogales Hwy. to Tucson Blvd. | Shared-Use Path | Tucson | 1.58 | $ 3,500,000 |
| 28 | Valencia Rd. Active Transportation Improvements | Valencia Rd. | Tucson Blvd. | Palo Verde Rd. | South | Upgrade sidewalk/bike lane on south side of Valencia with shared-use path from Tucson Blvd. to Palo Verde Rd. Remove entire westbound bicycle lane and widen sidewalk on north side from Tucson Blvd. to HAWK at Hemisphere Ln. | Multiple | Tucson | 0.99 | $ 2,200,000 |
| 35 | Midvale Park Trail Connectivity Enhancements | Midvale Park Path | Irvington Rd. | Valencia Rd. | Southwest | Add shared-use path on north side of Drexel Rd. from Midvale Park Dr. east to path. Add paved connection on Bufkin Dr. from Midvale Park to path. Add wayfinding at Midvale Park Rd./Bufkin Dr. and Midvale Park Rd./Drexel Rd. Install shared-use path connection from Midvale Park Rd. to The Loop along Newcastle Ct. Finish trail connection at Bagpipe Dr. Add wayfinding signage for The Loop at Midvale Park/Newcastle and River Run/Bagpipe intersections. | Shared-Use Path | Tucson | 0.76 | $ 800,000 |
| 36 | Drexel Rd. Shared-Use Path | Drexel Rd. | Cardinal Ave. | Midvale Park Rd. | Southwest | Add shared-use path to the south side of Drexel Rd. from Cardinal Ave. to Midvale Park Rd. | Shared-Use Path | Pima County; Tucson | 1.75 | $ 1,900,000 |
| 42 | Campbell Ave. Shared-Use Path | Campbell Ave. | Irvington Rd. | Valencia Rd. | South | Add shared-use path on both sides of Campbell Ave. from Irvington Rd. to Valencia Rd. Add raised crosswalk near Calle Gran Desierto Dr. | Multiple | Tucson | 2.02 | $ 4,500,000 |
| 46 | Palo Verde Rd. Shared-Use Path | Palo Verde Rd. | Irvington Rd. | Valencia Rd. | South | Add shared-use path to the north side of Irvington Rd. from The Loop (just west of Outlet Center Dr.) to Palo Verde Rd. Add shared-use path on both sides of Palo Verde Rd. from The Loop to south of Mossman Rd. Add pedestrian hybrid beacon south of Mossman Rd. Add shared-use path on east side of Palo Verde Rd. from south of Mossman Rd. to Valencia Rd. | Multiple | Pima County; Tucson | 1.90 | $ 3,800,000 |
| 49 | Mission Rd. Wash Shared-Use Path | Mission Rd. Wash | Irvington Rd. | Drexel Rd. | Southwest | Install shared-use path along wash east of Mission Rd. from Irvington Rd. to Drexel Rd. Add marked crosswalks at Drexel Rd. and Irvington Rd. | Multiple | Tucson | 0.82 | $ 900,000 |
| 50 | Irvington Rd. Shared-Use Path | Irvington Rd. | Ajo Way | 12th Ave. | Southwest | Widen shoulder to continue buffered bike lanes on Sunset Blvd. from Ajo Way to Irvington Rd. Add marked crosswalks on north and east legs. Shared-use path on both sides of Irvington Rd. from Sunset Blvd. to 12th Ave. with connection to The Loop. Add marked crossing at Winston Reynolds-Manzanita Park with shared-use path connection to the park. Reduce median width to accommodate needed buffer for shared-use path facilities. | Shared-Use Path | Pima County; Tucson | 6.65 | $ 14,000,000 |
| 53 | 12th Ave. Complete Street | 12th Ave. | Irvington Rd. | Valencia Rd. | South | Upgrade sidewalk to shared-use path on west side of 12th Ave. from Irvington Rd. to Valencia Rd. with connection to Mission Manor Park. Widen sidewalk on east side of 12th Ave. from Irvington Rd. to Valencia Rd. Add buffered bike lane to east side of 12th Ave. from Drexel Rd. to Valencia Rd. | Multiple | Tucson | 2.02 | $ 3,500,000 |
| 55 | Irvington Rd. Shared-Use Path | Irvington Rd. | 12th Ave. | Campbell Ave. | South | Add shared-use path to both sides of Irvington Rd. from 12th Ave. to Campbell Ave. Add pedestrian hybrid beacon crossing at 1st Ave. | Shared-Use Path | Tucson | 2.00 | $ 4,900,000 |
| 77 | Ajo Way Shared-Use Path | Ajo Way | Camino Verde | 12th Ave. | Southwest | Add shared-use path on the north side of Ajo Hwy. from Camino Verde to Sunset Blvd. Add shared-use path to both sides of Ajo Way from Sunset Blvd. to Kostka Ave. Add shared-use path to the north side of Ajo Way from Kostka Ave. to 12th Ave. Add pedestrian refuge island, marked crosswalk, lighting, and reflectors on west leg of Ajo Hwy./Camino Verde intersection. Add pedestrian hybrid beacon at Ajo Way/Kostka Ave. Add marked crosswalks to all legs of Ajo Way and Kinney Rd. | Multiple | ADOT | 7.76 | $ 15,300,000 |
| 79 | Irvington Pl. Shared-Use Path Connection | Irvington Pl | Mission Rd. | The Loop | Southwest | Add shared-use path along both sides of Irvington Pl. from Mission Rd. to The Loop with wayfinding signage at Mission Rd./Irvington Pl. Add shared-use path along Mission Rd. Wash from The Loop to Irvington Rd. | Shared-Use Path | Tucson | 0.84 | $ 1,800,000 |
| 83 | Ajo Way Active Transportation Improvements | Ajo Way | 12th Ave. | 6th Ave. | South | Add shared use path to the north side of Ajo Way and widen sidewalk and add a buffer to the south side of Ajo Way from 12th Ave. to 6th Ave. | Multiple | Tucson | 0.55 | $ 900,000 |
| 84 | 6th Ave. Active Transportation Improvements | 6th Ave. | Ajo Way | Irvington Rd. | South | Replace bike lanes with buffer for sidewalk on 6th Ave. from Ajo Way to Irvington Rd. Add additional wayfinding for bike boulevards on Pennsylvania Dr. and 8th Ave. Upgrade bike boulevards to standard as needed. | Multiple | Tucson | 2.33 | $ 1,100,000 |

| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 85 | Park Ave. Active Transportation Improvements | Park Ave. | I-10 Westbound Ramps | Irvington Rd. | South | Upgrade sidewalk on the east side of Park Ave. with shared-use path from existing shared-use path to I-10 westbound ramps. upgrade sidewalk on the west side of Park Ave. with shared-use path from I-10 westbound ramps to Irvington. Upgrade crossing on the north leg of Park Ave./I-10 westbound ramps intersection. Widen sidewalk and improve buffer on the east side Park Ave. from Ajo Way to Irvington Rd. | Multiple | Tucson | 1.54 | $ 2,300,000 |
| 89 | Palo Verde Rd. Shared-Use Path Extension | Palo Verde Rd. | Irvington Rd. | Ajo Way | Urban Core | Install shared-use path on east side of Palo Verde Rd. from Irvington Rd. to Ajo Way. | Shared-Use Path | Pima County | 1.02 | $ 1,100,000 |
| 93 | Palo Verde Shared-Use Path | Palo Verde Rd. | Ajo Way | 36th St | Urban Core | Extend shared-use path to on the west side of Palo Verde Rd. from 36th St. to Ajo Way. Add marked crosswalk on Palo Varde Rd. at 44th St. and Veterans St. Add marked crosswalks and crossing improvements at Ajo Way/Palo Verde Rd. intersection. | Multiple | Pima County | 0.75 | $ 900,000 |
| 97 | 6th Ave. Shared-Use Path | 6th Ave. | 36th St | 44th St | South | Upgrade sidewalk on the east side of 6th Ave. with shared-use path from 36th St. to 44th St. Extend existing shared-use path from El Paso & Southwestern Greenway on the south side of 36th St. from 6th Ave. to Park Ave. | Shared-Use Path | Tucson | 1.28 | $ 1,400,000 |
| 112 | 29th St. Bicycle Boulevard Upgrades and Extension | 29th St | Pantano Rd. | Harrison Rd. | East | Extension of existing bicycle boulevard on 29th St. from Pantano Road to Camino Seco, install shared lane markings 6' sidewalk on both sides of 29th St. from Pantano Rd. to Harrison Rd. | Bicycle Boulevard | Tucson | 1.44 | $ 1,600,000 |
| 114 | 29th St. Bicycle Boulevard Upgrades | 29th St | Harrison Rd. | Old Spanish Trl | East | Widen sidewalks to 6' on 29th St. from Harrison Rd. to Old Spanish Trl. | Bicycle Boulevard | Tucson | 0.62 | $ 700,000 |
| 119 | Houghton Rd. Shared-Use Path Extension | Houghton Rd. | Golf Links Rd. | Via Alta Mira | East | Install shared-use path on east side of Houghton Rd. from Golf Links Rd. to Via Alta Mia. | Shared-Use Path | Tucson | 0.71 | $ 800,000 |
| 121 | 29th St. Active Transportation Improvements | 29th St | Mission Rd. | 6th Ave. | Southwest | Upgrade the sidewalk on the south side of 29th St. with a shared-use path and widen sidewalk on north side of 29th St. | Multiple | Tucson | 1.64 | $ 2,700,000 |
| 122 | Mission Rd. Active Transportation Improvements | Mission Rd. | Silverlake Rd. | Ajo Way | Southwest | Upgrade sidewalk on the west side of Mission Rd. with shared-use path from Silverlake Rd. to Ajo Way. Upgrade marked crosswalk at Veterans Pl. to pedestrian hybrid beacon. Widen sidewalk on the east side of Mission Rd. from Silverlake Rd. to Veterans Pl. | Multiple | Tucson | 1.61 | $ 3,100,000 |
| 123 | Mission Rd. Active Transportation Improvements | Mission Rd. | Congress St | 29th St | Southwest | Upgrade sidewalk on the west side of Mission Rd. with shared-use path from Starr Pass Blvd. to 29th St. upgrade sidewalk and bike lane with shared-use path on the west side of Grande Ave. from Congress St. to Mission Rd. upgrade sidewalk and bike lane on the north side of Cushing St. with shared-use path from Spruce St. to The Loop (east of Linda Ave.). Add marked crosswalk on Grande Ave. at Spruce St. Add wayfinding signage for shared-use path connections. | Shared-Use Path | Tucson | 2.03 | $ 2,200,000 |
| 128 | Starr Pass Blvd. Active Transportation Improvements | Starr Pass Blvd. | Mission Rd. | 8th Ave. | Southwest | Add marked crosswalk on the east leg of Starr Pass Blvd./Mission Rd. intersection. Upgrade facilities on both sides of Starr Pass Blvd. to shared-use paths from Santa Cruz Ln to pedestrian hybrid beacon west of Osborne Ave. | Multiple | Tucson | 1.10 | $ 1,100,000 |
| 129 | 18th St. Bicycle Boulevard Upgrades | 18th St. | I-10 Frontage Rd. | 6th Ave. | Urban Core | Install 6' sidewalk and shared-lane markings on both sides of 18th St. from I-10 Frontage Rd. to 6th Ave., install bike box at 18th St/6th Ave. intersection. | Bicycle Boulevard | Tucson | 0.61 | $ 700,000 |
| 130 | 8th Ave. Bicycle Boulevard Upgrades | 8th Ave. | 36th St | 18th St | Urban Core | Install and upgrade 6' sidewalks and shared lane markings on both sides of 8th Ave. from 36th St. to 18th St., install marked crosswalk at The Loop and 8th Ave. Install traffic circles at 19th St., 21st St., and 20th St. | Bicycle Boulevard | Tucson | 1.28 | $ 1,600,000 |
| 137 | Palo Verde Ave./Layton Pl. Bicycle Boulevard Upgrades and Shared-Use Path Connection | Palo Verde Ave. | 22nd Ave. | Aviation Pkwy | Urban Core | Install and upgrade to 6' sidewalks and shared lane markings on both sides of Palo Verde Ave. from 22nd St. to dead end (South of Hemlock Stravenue), pave trail connecting Palo Verde Ave. to Layton Pl, Install 6' sidewalks and shared lane markings on Layton Pl. from dead end/new trail connection to Aviation Pkwy access trail. Install traffic circle at Palo Verde Ave. and Sylvane St. and at Palo Verde Ave. and 28th St. | Bicycle Boulevard | Pima County; Tucson | 1.02 | $ 1,200,000 |
| 141 | 22nd St. Shared-Use Path | 22nd St | Kolb Rd. | Old Spanish Trl | East | Install shared-use path on north side and widen sidewalk to 6' on south side of 22nd St. from Kolb Rd. to Old Spanish Trl. Install pedestrian hybrid beacon west of Brush Canyon Dr. | Multiple | Tucson | 3.19 | $ 5,800,000 |
| 142 | Pantano Rd. Loop Enhancements | Pantano Rd. | Golf Links Rd. | Broadway Blvd. | East | Widen sidewalk to 6' on both sides of Pantano Rd. from Broadway Blvd. to Golf Links Rd., install wayfinding signage for The Loop at The Loop parking lot and at Broadway Blvd., add paved trail connection to Pantano Rd. at Sarnoff Rd., install pedestrian hybrid beacon at Sarnoff Rd., widen paved trail connection at 29th St. to 12', install pedestrian hybrid beacon at 29th St., add wayfinding signage and widen trail connection to 12' just north of Golf Links Rd., install paved trail connection on Kenyon Dr., pave existing trail connection, install paved trail connection on Pantano Pkwy, install pedestrian hybrid beacon at Pantano Pkwy. | Multiple | Tucson | 3.03 | $ 5,300,000 |
| 148 | Old Spanish Trl Shared-Use Path Upgrades | Old Spanish Trl | Houghton Rd. | Broadway Blvd. | East | Install or upgrade shared-use path on east side and install 6' sidewalk on west side of Old Spanish Trl from Houghton Rd. to Broadway Blvd., install pedestrian hybrid beacon at Desert Vista Dr., install marked crosswalk at Gollob Rd., install two-stage turn box at 22nd St. | Shared-Use Path | Tucson | 3.04 | $ 5,600,000 |
| 160 | 8th Ave. Bicycle Boulevard Upgrades | 8th Ave. | 18th St | Broadway Blvd. | Urban Core | Widen or install sidewalk to 6' on both sides of 8th Ave. from 18th St. to Cushing St. and add shared lane markings, install buffered bike lane on Church Ave. from Cushing St. to Broadway Blvd. | Multiple | Tucson | 0.63 | $ 400,000 |
| 167 | Congress St. Active Transportation Improvements | Congress St. | Silverbell Rd. | Stone Ave. | Urban Core | Install shared-use path on south side and widen sidewalk to 6' on north side of Congress St. from Silverbell Rd. to The Loop, install shared-use path on south side of Cushing St. from I-10 Frontage Rd. to Stone Ave., extend cycle track on east side of Stone Ave. from Ochoa St. to Cushing St. | Multiple | Tucson | 1.61 | $ 1,400,000 |
| 171 | Congress St. Separated Bike Lanes | Congress St. | Stone Ave. | 6th Ave. | Urban Core | Remove on-street parking on the north side of Congress St. and add a single westbound separated bike lane. | Separated Bike Lane | Tucson | 0.16 | $ 200,000 |
| 172 | 6th Ave. Cycle Track | 6th Ave. | Congress St | Broadway Blvd. | Urban Core | Remove on-street parking on the east side of 6th Ave. and add a cycle track. | Cycle Track | Tucson | 0.06 | $ 100,000 |
| 174 | Alvernon Way Active Transportation Improvements | Alvernon Way | Broadway Blvd. | 22nd St | Urban Core | Upgrade sidewalk on the north side of Broadway Blvd. with shared-use path from Camino Del Norte Dr. to Alvernon Way. Upgrade crossing on west leg of Broadway Blvd./Alvernon Way intersection. Upgrade shared-use path and buffer and remove bike lane on the west side of Alvernon Way from Broadway Blvd. to 22nd St. Widen sidewalk and buffer and install separated bike lane on the east side of Alvernon Way from Broadway Blvd. to 22nd St. Add pedestrian hybrid beacon on Alvernon Way at Paseo Dorado. | Multiple | Tucson | 1.12 | $ 2,300,000 |
| 178 | Broadway Blvd. Shared-Use Path | Broadway Blvd. | Kolb Rd. | Camino Seco | East | Install shared-use path on north side and widen sidewalk to 6' on south side of Broadway Blvd. from Kolb Rd. to Old Spanish Trl, widen sidewalk to 6' on both sides of Broadway Blvd. from Old Spanish Trl and Camino Seco, implement access management, install pedestrian hybrid beacon at Maguire Ave. | Multiple | Tucson | 1.99 | $ 3,700,000 |
| 186 | Vicksburg St/5th St. Bicycle Boulevard Upgrades | Vicksburg St | Sarnoff Dr. | Houghton Rd. | East | Install shared lane markings and 6' sidewalk on both sides of Vicksburg St/5th St. from Sarnoff Dr. to Harrison Rd., Harrison Rd. to Bonanza Ave., Bonanza Ave. from 5th St. to Lorian St., Lorian St. from Bonanza Ave. to Constitution Dr., Constitution Dr. from Lorian Dr. to 5th St., 5th St. from Constitution Dr. to Houghton Rd., install pedestrian hybrid beacon at Houghton Rd./5th St. and at Vicksburg St/Camino Seco, install traffic circle at 7th St/Dawn Ave., install traffic circle at Gollob Rd./7th St. | Multiple | Tucson | 2.98 | $ 4,500,000 |
| 197 | Granada Ave. Active Transportation Improvements | Granda Ave. | Saint Mary's Rd. | Congress St | Urban Core | Upgrade sidewalk and bike lane on west side of Granada Ave. with a shared-use path from Saint Mary's Rd. to Congress St. Widen sidewalk and buffer on east side of Granada Ave. from Saint Mary's to Congress St. | Multiple | Tucson | 0.45 | $ 800,000 |

| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 204 | Stone Ave. Bicycle Connectivity Enhancements | Toole Ave. | Church Ave. | 6th Ave. | Urban Core | Upgrade sidewalk on north side of Franklin St. with a cycle track from Church Ave. to Stone Ave. Improve crossing of north and east legs of Stone Ave./Franklin St. intersection. Continue cycle track on the north side of Toole Ave. from Stone Ave. to 6th Ave. | Multiple | Tucson | 0.83 | $ 2,100,000 |
| 206 | Silverbell Rd. Active Transportation Improvements | Silverbell Rd. | Saint Mary's Rd. | Congress St | Southwest | Extend buffered bike lanes from marked crosswalk at Safeway north to Saint Mary's Rd. Widen sidewalk on east side of Silverbell Rd. from Saint Mary's Rd. to Congress St. | Multiple | Tucson | 0.76 | $ 400,000 |
| 211 | El Camino Del Norte Bicycle Boulevard | El Camino Del Norte | Broadway Blvd. | 5th St | Urban Core | Install 6' sidewalks on both sides of El Camino Del Norte and shared lane markings on El Camino Del Norte from Boardway Blvd. to 5th St., install traffic circle at Calle Fernando, install marked crosswalk east of Dodge Blvd. on 5th St., install PBH east of El Camino Del Norte on Broadway Blvd. | Bicycle Boulevard | Tucson | 0.50 | $ 1,100,000 |
| 214 | Saint Mary's Rd. Active Transportation Improvements | Saint Mary's Rd. | Silverbell Rd. | Granada Ave. | Southwest | Upgrade facilities on the north side with a shared-use path and widen sidewalk with buffer on the south of Saint Mary's Rd. from Silverbell Rd. to Granada Ave. | Multiple | Tucson | 1.26 | $ 2,100,000 |
| 219 | Silverbell Rd. Active Transportation Improvements | Silverbell Rd. | Speedway Blvd. | Saint Mary's Rd. | Southwest | Upgrade facilities on the west side with a shared-use path and widen sidewalk with buffer on the east side of Silverbell Rd. from Speedway Blvd. to Saint Mary's Rd. | Multiple | Tucson | 0.56 | $ 900,000 |
| 222 | Speedway Blvd. Active Transportation Improvements | Speedway Blvd. | Silverbell Rd. | Euclid Ave. | Southwest | Widen sidewalk on north side and upgrade sidewalk on south side of Speedway Blvd. with a shared-use path from Silverbell to Rio Dr. Add shared use path connection from Rio Dr. marked crossing to new Ontario Dr. bike boulevard. Widen sidewalks on both sides of Speedway Blvd. from Rio Dr. to Riverside Dr. Add pedestrian hybrid beacon at Speedway Blvd./Riverside Dr. Add shared-use path to north side of Speedway Blvd. from Riverside Dr. to Main Ave. upgrade sidewalk and bike lane on north side of Speedway Blvd. with shared-use path from Main Ave. to Euclid Ave. Widen sidewalk and add buffer on the south side of Speedway Blvd. from Main Ave. to Euclid Ave. Improve crossing at 4th Ave. | Multiple | Tucson | 2.80 | $ 4,200,000 |
| 223 | Stone Ave. Active Transportation Improvements | St.one Ave. | Drachman St | 6th St | Urban Core | Upgrade 9th and 10th Ave.nue from Speedway Blvd. to 6th St. to bicycle boulevards. Add marked crosswalk on 6th St. at 9th Ave. Add wayfinding for bike boulevard on 9th/10th Ave. upgrade sidewalk and bike lane on west side of Stone Ave. with a shared-use path from Drachman St. to 6th St. Widen sidewalk and add buffer on east side of Stone from Drachman St. to 6th St. Improve crossing on west leg of Speedway Blvd./Stone Ave. intersection. | Multiple | Tucson | 1.40 | $ 1,300,000 |
| 228 | Speedway Blvd. Active Transportation Improvements | Speedway Blvd. | Euclid Ave. | Campbell Ave. | Urban Core | Upgrade sidewalk and bike facilities on the east side of Euclid Ave. with cycle track from Helen St. to 1st St. Add wayfinding signage. Create a bicycle boulevard on 1st St. from Euclid Ave. to Park Ave. Add a pedestrian hybrid beacon to Euclid Ave. at 1st St. Add bicycle boulevard on Helen St. from Euclid Ave. to Warren Ave. to connect existing shared-use path on Warren Ave. Extend shared-use path on Mabel St. from Warren Ave. to Campbell Ave. Widen sidewalk and add buffer to both sides of Speedway Blvd. from Euclid Ave. to Campbell Ave. | Multiple | Tucson | 2.18 | $ 2,400,000 |
| 231 | Speedway Blvd. Active Transportation Connectivity Improvements | Speedway Blvd. | Campbell Ave. | Alvernon Way | Urban Core | Widen sidewalk and add buffer in place of existing bike lanes on Speedway Blvd. from Campbell Ave. to Alvernon Way. Add bicycle boulevard on Plumer Ave. from Drachman St. to Speedway Blvd., on Drachman St/Fairmount St. from Campbell Ave. to Alvernon Way, on Palo Verde Blvd., Bellevue St., and Howard Blvd. between Fairmount St. and Speedway Blvd., on Camino Miramonte from Speedway Blvd. to 3rd St., and on Wilson Ave. from Speedway Blvd. to 3rd St. to connect to existing bicycle boulevards. Add wayfinding signage. Add pedestrian hybrid beacon on Country Club Rd. at Fairmount St. | Multiple | Tucson | 5.39 | $ 2,800,000 |
| 234 | Palo Verde Blvd./Dodge Blvd. Bicycle Boulevard Upgrades | Palo Verde Blvd. | Grant Rd. | 5th St | Urban Core | Install 6' sidewalk on both sides of Dodge Blvd. from 5th St. to Speedway Blvd., add shared lane markings along the corridor. Install 6' sidewalk on both sides of Palo Verde Ave. from Grant Rd. to Fort Lowell Rd., add shared lane markings along the corridor, install sidewalk and shared lane markings on Bellevue St. from Palo Verde Ave. to Dodge Blvd., install sidewalk and shared lane markings on Dodge Blvd. from Bellevue St. to Speedway Blvd. | Bicycle Boulevard | Tucson | 1.74 | $ 2,100,000 |
| 236 | Speedway Blvd. Active Transportation Connectivity Improvements | Speedway Blvd. | Wilmot Rd. | Houghton Rd. | Urban Core | Upgrade sidewalk and bike lane on the south side of Speedway Blvd. with a shared-use path from Wilmot Rd. to Houghton Rd. Widen sidewalk and add buffer on the north side of Speedway Blvd. from Wilmot Rd. to Camino Seco. Upgrade sidewalk on the east side of Wilmot Rd. with shared-use path from Fairmount St. to Rosewood St. Improve crossing across Wilmot Rd. at Fairmount St. Install pedestrian hybrid beacon at Button Willow Rd. | Multiple | Tucson | 5.60 | $ 8,200,000 |
| 238 | Pantano Rd. Sidewalk Enhancements | Pantano Rd. | Broadway Blvd. | Speedway Blvd. | East | Widen sidewalk to 6' on both sides of Pantano Rd. from Broadway Blvd. to Speedway Blvd., Upgrade 5th St. bike boulevard from Pantano Rd. to new trail to add shared lane markings and widen sidewalk to 6' on both sides of 5th St., install traffic circle at Kent Dr. and 5th St. | Multiple | Tucson | 1.45 | $ 1,700,000 |
| 240 | New Trail West of Sarnoff Dr. | West of Sarnoff Dr. | Broadway Blvd. | Speedway Blvd. | East | Install shared-use path in drainage corridor west of Sarnoff Dr., install paved trail connection north of Gettysburg Pl. on Sarnoff Dr., install paved trail connection to 5th St., install paved connection to north of Balfour Dr. on Sarnoff Dr., install paved connection to Kent Dr. and Sarnoff Rd. west of Joseph W Magee Middle School. | Shared-Use Path | Tucson | 1.36 | $ 1,500,000 |
| 241 | Speedway Blvd. Active Transportation Connectivity Improvements | Speedway Blvd. | Alvernon Way | Wilmot Rd. | Urban Core | Add pedestrian hybrid beacon on Fairmount St. at Alvernon Way, Swan Rd., and Craycroft St. and on Speedway Blvd. at Sahuara Ave. Widen sidewalks and add buffers to both sides of Speedway Blvd. from Alvernon Way to Wilmot Rd. Add bicycle boulevard on Fairmount St. from Alvernon Way to Wilmot Rd. | Multiple | Tucson | 6.32 | $ 4,000,000 |
| 249 | Houghton Rd. Shared-Use Path Extension | Houghton Rd. | 5th St | Tanque Verde Rd. | East | Extend shared-use path on the east side of Houghton Rd. from 5th St. to Tanque Verde Rd. | Shared-Use Path | Pima County; Tucson | 1.57 | $ 1,700,000 |
| 259 | Craycroft Rd. Active Transportation Connectivity Enhancements | Craycroft Rd. | Grant Rd. | Speedway Blvd. | Urban Core | Upgrade bike lanes with widened sidewalk and buffer on both sides of Craycroft Rd. from Grant Rd. to Speedway Blvd. Add wayfinding signage for new bicycle boulevard on Beverly St. from Grant Rd. to Speedway Blvd. Add pedestrian hybrid beacon with pedestrian refuge island on Grant Rd. at Wyatt Dr. | Multiple | Tucson | 2.11 | $ 1,700,000 |
| 266 | Stone Ave. Active Transportation Connectivity Improvements | St.one Ave. | Grant Rd. | Drachman St | Urban Core | Upgrade sidewalk and bike lanes on the north side of Drachman St. with shared-use path from 10th Ave. to Stone Ave. Add wayfinding signage at Stone Ave./Drachman St. intersection for new bicycle boulevard on existing bike route on 9th Ave. Widen sidewalk and add buffer on both sides of Stone Ave. from Grant to Drachman St. Add pedestrian hybrid beacon on Stone Ave. at Lester St. | Multiple | Tucson | 0.93 | $ 1,600,000 |
| 267 | Grant Rd. Active Transportation Connectivity Improvements | Grant Rd. | Oracle Rd. | Stone Ave. | Urban Core | Upgrade bike lanes with widened sidewalk and buffer on both sides of Grant Rd. from Oracle Rd. to Stone Ave. Add wayfinding signage for new bicycle boulevards on existing bike route on Kelson St. and Ventura St/Seneca St. Add pedestrian hybrid beacon on Stone Ave. at Rillito St. Add bike boulevard on Rillito St. from 9th Ave. to 6th Ave. | Multiple | Tucson | 1.14 | $ 900,000 |
| 269 | Silverbell Rd. Active Transportation Improvements | Silverbell Rd. | Grant Rd. | Speedway Blvd. | Southwest | Add buffered bike lanes and widen sidewalks on both sides of Silverbell Rd. from Grant Rd. to Speedway Blvd. | Multiple | Tucson | 1.17 | $ 1,500,000 |

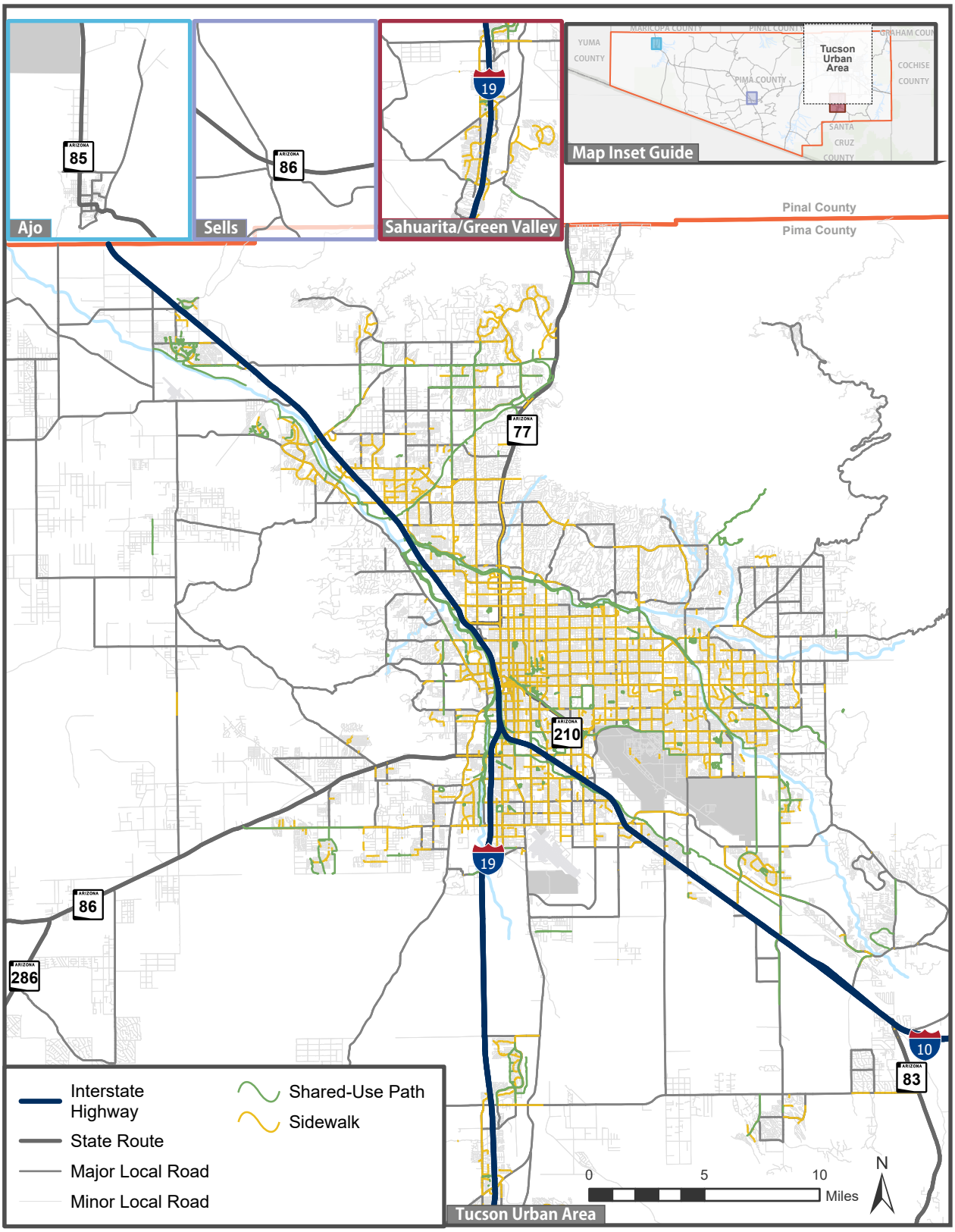
| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 270 | Grant Rd. Active Transportation Connectivity Improvements | Grant Rd. | Silverbell Rd. | Oracle Rd. | Urban Core | Upgrade sidewalk and bike lane on the north side of Grant Rd. with shared-use path from Silverbell Rd. to 15th Ave. Add pedestrian hybrid beacon on Grant Rd. at The Loop and QT. Add wayfinding signage for new bike boulevards on existing bike routes on Kelso St. and Rillito St. Add bike boulevard on Rillito St. from 15th Ave. to 9th Ave. Add pedestrian hybrid beacon on Oracle Rd. at Rillito St. Widen sidewalks and add buffers on both sides of Grant Rd. from 15th Ave. to Oracle Rd. | Multiple | Tucson | 0.77 | $ 4,000,000 |
| 276 | Country Club Rd. Active Transportation Connectivity Improvements | Country Club Rd. | Grant Rd. | Speedway Blvd. | Urban Core | Reduce vehicle lane widths and widen sidewalks and add buffer on both sides of Country Club Rd. from Grant Rd. to Speedway Blvd. Add a raised crosswalk across Country Club Rd. at Adams St. Add wayfinding signage at Drachman St. and Waverly St. for bicycle boulevard on Treat Ave. | Multiple | Tucson | 1.24 | $ 1,200,000 |
| 277 | Grant Rd. Active Transportation Connectivity Improvements | Grant Rd. | Country Club | Swan Rd. | Urban Core | Upgrade bike lanes with widened sidewalk and buffer on both sides of Grant Rd. from Country Club Rd. to Swan Rd. Add wayfinding signage for existing bicycle boulevard on Flower St. and new bicycle boulevard on Seneca St. Add pedestrian hybrid beacon on Alvernon Way at Justin Ln/Seneca St. Add bicycle boulevard on Bell Ave. from Seneca St. to Linden St. and on Linden St. from Bell Ave. to Swan Rd. and on San Carlos Pl. from Flower St. to Swan Rd. | Multiple | Tucson | 4.83 | $ 2,800,000 |
| 281 | Grant Rd. Active Transportation Connectivity Improvements | Grant Rd. | Swan Rd. | Craycroft Rd. | Urban Core | Upgrade sidewalk on the east side of Swan Rd. with shared-use path from San Carlos Pl. to Linden St. Add wayfinding signage for bicycle boulevard on Seneca St. Add pedestrian hybrid beacon on Swan Rd. at San Carlos Pl. and at Linden St. upgrade sidewalk on the north side of Grant Rd. with shared-use path from Swan Rd. to Craycroft Rd. Widen sidewalk and buffer on the south side of Grant Rd. from Swan Rd. to Craycroft Rd. | Multiple | Tucson | 1.58 | $ 3,300,000 |
| 287 | Grady Ave./Camino Pio Decimo Bicycle Boulevard Upgrades | Grady Ave./Camino Pio Decimo | Speedway Blvd. | Tanque Verde Rd. | East | Widen sidewalk to 6' and install shared lane markings on Grady Rd. from Speedway to Pima St., Pima St. from Grady Rd. to Camino Pio Decimo, Camino Pio Decimo from Pima St. to Tanque Verde Rd., install pedestrian hybrid beacon on Speedway Blvd. at Grady Rd. | Bicycle Boulevard | Tucson | 1.28 | $ 1,900,000 |
| 290 | Udall Park Shared-Use Path | Tanque Verde Rd. | Sabino Canyon Rd. | Camino Pio Decimo | East | Install shared-use path on the south side of Tanque Verde Rd. from Sabino Canyon Rd. to Camino Pio Decimo. | Shared-Use Path | Tucson | 0.62 | $ 700,000 |
| 294 | Tanque Verde Active Transportation Improvements | Tanque Verde Rd. | Camino Pio Decimo | Catalina Hwy. | North | Install bicycle boulevard on Dos Hombres from Tanque Verde Rd. to Desert Arbors St. and on Desert Arbors St. with shared lane markings and 6' sidewalk on both sides, install trail between Desert Arbors St. and Camino Perdido from west of Ave. Empalme connecting to Tanque Verde Rd. west of the Tanque Verde Creek bridge, install path entrances west of Tanque Verde Rd. and east underneath the bridge, install 6' sidewalk and separated bike lane on both sides of Tanque Verde from the Tanque Verde Creek bridge to Catalina Hwy. | Multiple | Tucson | 2.18 | $ 6,600,000 |
| 300 | SR 86 Shared-Use Path | SR 86 | Sahuaro St | Ball Rd. | Far West | Install a shared-use path on the west side of SR 86 from SR 85 to Ball Rd. Install marked crosswalk at SR 85 and SR 86. Install a shared-use path on the west side of SR 85 from SR 86 to Sahuaro St. | Shared-Use Path | ADOT | 0.82 | $ 900,000 |
| 301 | Fort Lowell Rd. Active Transportation Improvements | Fort Lowell Rd. | Oracle Rd. | Stone Ave. | Urban Core | Add sidewalks and buffer to both sides of Fort Lowell Rd. from Oracle Rd. to Stone Ave. Add wayfinding signage for new bicycle boulevards on existing bike routes on Blacklidge Dr. and Balboa Ave. | Multiple | Tucson | 0.35 | $ 400,000 |
| 302 | Stone Ave. Active Transportation Connectivity Improvements | St.one Ave. | River Rd. | Grant Rd. | Urban Core | Upgrade sidewalk and bike lane on the west side of Stone Ave. with a shared-use path from River Rd. to Blacklidge Dr. Widen sidewalk and buffer on the east side of Stone Ave. from River Rd. to Blacklidge Dr. Add wayfinding signage for new bicycle boulevard on existing bike route on Castro Ave. Widen sidewalk and add buffer on both sides of Stone Ave. from Blacklidge Dr. to Grant Rd. Install raised crosswalk on the south leg of Stone Ave./Yavapai Rd. intersection. upgrade the sidewalk and bike lane on the north side of Wetmore Rd. with a shared-use path from Oracle Rd. to Stone Ave. Widen sidewalk and buffer on the south side of Wetmore Rd. from Oracle Rd. to Stone Ave. Improve sidewalk connection from Wetmore Rd. to Tucson Mall. Add pedestrian hybrid beacon on Stone Ave. at Pastime Rd. | Multiple | Tucson | 1.12 | $ 6,400,000 |
| 309 | Palo Verde Ave. Bicycle Boulevard Upgrades | Palo Verde Ave. | Grant Rd. | Fort Lowell Rd. | Urban Core | Install 6' sidewalk on both sides of Palo Verde Ave. from Grant Rd. to Fort Lowell Rd., add shared lane markings along the corridor. | Bicycle Boulevard | Tucson | 1.00 | $ 1,100,000 |
| 319 | Prince Rd. Active Transportation Connectivity Improvements | Prince Rd. | Stone Ave. | Country Club Rd. | Urban Core | Widen sidewalks and buffers on both sides of Prince Rd. from Stone Ave. to Campbell Ave. Add wayfinding signage for new bicycle boulevards on existing bike routes on Yavapai Rd., Pastime Rd., and Graybill Dr./Greenlee Rd., as well as at Tucson Blvd., Cactus Blvd., and Country Club Rd. Add pedestrian hybrid beacon on Prince Rd. at Los Altos Ave. Extend and improve bicycle boulevard on Greenlee Rd. Add shared-use path from Greenlee Rd. to Campbell Ave. Add pedestrian hybrid beacon on Campbell Ave. at Greenlee Rd. Install shared-use path on the east side of Campbell Ave. from Greenlee Rd. to Prince Rd. Upgrade crossings on south and east leg of Prince/Campbell intersection. Install shared-use path on the north side of Prince Rd. from Campbell Ave. to Country Club Rd./Loop entrance at Rillito River. Upgrade crossings on north and east leg of Prince/Country Club intersection. Add shared-use path connection on Cactus Blvd. from Prince Rd. to shared-use path connection north of Star Park Dr. and on Tucson Blvd. from Prince Rd. to shared-use path connection north of Roger Rd. | Multiple | Tucson | 4.32 | $ 5,100,000 |
| 322 | Sabino Canyon Rd. Shared-Use Path | Sabino Canyon Rd. | Tanque Verde Rd. | River Rd. | North | Install shared-use path on both sides of Sabino Canyon Rd. from Tanque Verde Rd. to River Rd., install shared-use path and buffer on both side of bridge over Rillito River. | Shared-Use Path | Pima County | 1.52 | $ 10,800,000 |
| 323 | Craycroft Rd. Active Transportation Improvements | Craycroft Rd. | Grant Rd. | River Rd. | North | Install and widen sidewalk to 6' and install separated bike lanes on both sides of Craycroft Rd. from Grant Rd. to northern Loop connection, install sidewalk bridge over Rillito River, install shared-use path on west side of Craycroft Rd. from northern Loop connection to River Rd., install pedestrian hybrid beacon at northern loop connection on Craycroft Rd. | Multiple | Tucson | 1.57 | $ 9,000,000 |
| 324 | Dodge Blvd. Active Transportation Improvements | Dodge Blvd. | Alvernon Way | Fort Lowell Rd. | North | Install raised crosswalk on Dodge Blvd. at The Loop. upgrade both bike lanes and sidewalk on Dodge Blvd. with shared-use path on the east side of Dodge Blvd. from The Loop crossing to Fort Lowell Rd. upgrade buffered bike lane and sidewalk on the south side of Fort Lowell Rd. with shared-use path from Palo Verde Ave. to Dodge Blvd. | Multiple | Pima County; Tucson | 0.73 | $ 800,000 |
| 325 | River Rd. Shared-Use Path | River Rd. | Swan Rd. | Sabino Canyon Rd. | North | Install shared-use path on north side of River Rd. from Swan Rd. to Sabino Canyon Rd., install shared-use path bridge east of Flagstaff Pl. Widen/install 6' sidewalk on south side of River Rd. from Swan Rd. to Calle Rosario. Install shared-use path on the south side of River Rd. from Calle Rosario to Sabino Canyon Rd. and install a marked crosswalk with lighting on River Rd. at Calle Rosario. | Multiple | Pima County | 3.53 | $ 8,600,000 |
| 327 | Catalina Hwy. Shared-Use Path | Catalina Hwy. | Tanque Verde Rd. | Houghton Rd. | North | Install shared-use path on both sides of Catalina Hwy. from Tanque Verde Rd. to Houghton Rd., install pedestrian hybrid beacon north of Casitas Catalina. | Shared-Use Path | Pima County; Tucson | 2.14 | $ 5,200,000 |
| 328 | Houghton Rd. Shoulder Improvements | Houghton Rd. | Tanque Verde Rd. | Snyder Rd. | North | Install 6.5 ft paved shoulder on Houghton Rd. from Tanque Verde Rd. to Snyder Rd. | Paved Shoulder | Pima County; Tucson | 3.03 | $ 2,800,000 |
| 330 | Sabino Canyon Rd. Shared-Use Path | Sabino Canyon Rd. | River Rd. | Kolb Rd. | North | Install shared-use path on east side of Sabino Canyon Rd. from River Rd. to Sabino Canyon Rd., install marked crosswalk at Old Sabino Canyon Rd. | Shared-Use Path | Pima County | 0.61 | $ 700,000 |

| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 331 | River Road Loop Connection | River Rd. | Oracle Rd. | Swan Rd. | North | Install pedestrian hybrid beacon at George Mehl Family Foothills Park, install paved trail connection in park to connect to The Loop, pave existing trail on Alvernon Way from The Loop to Dodge Blvd. Install wayfinding signage on Campbell Ave at Loop entrance, install wayfinding signage in St. Phillips Plaza, install wayfinding signage at existing trail connection, install wayfinding signage at Loop entrance near Catalina Foothills Estates, upgrade existing sidewalk at Brandi Fenton Memorial Park to shared-use path from The Loop to River Rd. Install wayfinding signage and install paved trail connection from The Loop to River Rd. at the Post Office, install wayfinding signage at The Loop entrance at Rillito Regional Park, install wayfinding signage at The Loop entrance on Stone Ave., install wayfinding signage at The Loop connection and Campbell Rd. Install wayfinding signage at Loop connections on Stone Ave. and 1st Ave., Install paved shared-use path on drainage path from The Loop to River Rd. and 1st Ave., install 6' sidewalk on south side of River Rd. from Stone Ave. to new shared-use path. | Shared-Use Path | Pima County; Tucson | 3.44 | $ 4,300,000 |
| 336 | Wetmore Rd. Active Transportation Improvements | Wetmore Rd. | Flowing Wells Rd. | Oracle Rd. | Urban Core | Upgrade the sidewalk and bike lane on the north side of Wetmore Rd. with a shared-use path from Flowing Wells Rd. to Oracle Rd. Widen sidewalk and buffer on the south side of Wetmore Rd. from Flowing Wells Rd. to Oracle Rd. | Multiple | Pima County; Tucson | 1.24 | $ 2,100,000 |
| 337 | Wetmore Rd. Active Transportation Improvements | Wetmore Rd. | Stone Ave. | 1st Ave. | Urban Core | Upgrade sidewalk and bike lane on the west side of 1st Ave. with shared-use path from The Loop (north) to Wetmore Rd. Widen the sidewalk and buffer on the east side of 1st Ave. from The Loop to Wetmore Rd. upgrade the sidewalk and bike lane on the north side of Wetmore Rd. with a shared-use path from Stone Ave. to 1st Ave. Widen sidewalk and buffer on the south side of Wetmore Rd. from Stone Ave. to 1st Ave. | Multiple | Tucson | 0.70 | $ 1,100,000 |
| 339 | Mountain Ave. Loop Connection | Mountain Ave. | Fort Lowell Rd. | River Rd. | North | Install separated bike lane and 6' sidewalk on both sides of Mountain Ave. from Fort Lowell Rd. to Limberlost Dr., pave new shared-use path on east side of Limberlost Dr., connect to The Loop bridge. | Shared-Use Path | Tucson | 1.39 | $ 5,500,000 |
| 341 | Silverbell Rd. Shared-Use Path Connectivity Enhancements | Silverbell Rd. | Goret Rd. | The Loop | West | Add shared-use path to the east side of Silverbell Rd. from Burlwood Way to Grant Rd. Install shared-use path on the south side of Goret Rd. in place of the existing sidewalk and bike lane from Silverbell Rd. to The Loop. Add wayfinding signage at Silverbell Rd./Goret Rd. intersection. Add a marked crosswalk at El Camino Del Cerro and The Loop. | Multiple | Tucson | 1.53 | $ 1,700,000 |
| 344 | Pomona Ave. Reconstruction | Pomona Ave. | Ruthrauff Rd. | The Loop | Northwest | Reconstruct roadway and install bike lane and sidewalk on Pomona Ave. from Ruthrauff Rd. to The Loop (south), install pedestrian bridge over Rillito River to connect northern and southern portions of The Loop. | Multiple | Pima County; Tucson | 0.68 | $ 8,100,000 |
| 347 | Sabino Canyon Rd. Shared-Use Path | Sabino Canyon Rd. | Kolb Rd. | Rudasill Rd. | North | Install shared-use path on both sides of Sabino Canyon Rd. from Kolb Rd. to Rudasill Rd., install marked crosswalk north of Ocotillo Dr. and Sunrise Dr. | Shared-Use Path | Pima County | 2.78 | $ 6,100,000 |
| 353 | The Loop Wayfinding Signage Enhancements | The Loop | Orange Grove Rd. | Oracle Rd. | Northwest | Install wayfinding signage and pave loop connections at the community park, Flowing Wells Rd., and trail on Edgewater Dr., install pedestrian hybrid beacon at Ocean Ave, install paved trail along utility corridor leading to community, install pedestrian hybrid beacon across Oracle Rd. and add a trail connection to neighborhood. Install wayfinding signage at La Cholla Rd., install signage and pave trail to medical offices, install signage and pave trail at 5320 N La Cholla Blvd. parking lot, install signage and pave trail to River Rd. just south of Waterleaf Dr., install signage and pave trail to The Loop parking lot, install signage at Flowing Wells Rd., install pedestrian hybrid beacon at River Fringe Rd. Install wayfinding signage at La Cholla Blvd., Circle K parking lot, east of Camino De la Tierra, install pedestrian hybrid beacon on Camino De La Tierra, install signage and pavement improvements east of Camino De la Tierra, install shared-use path on west side of River Rd. from Orange Grove Rd. to The Loop parking lot. | Multiple | Pima County; Tucson | 0.92 | $ 3,000,000 |
| 356 | Swan Rd. Shared-Use Path | Swan Rd. | River Rd. | Skyline Dr. | North | Install shared-use path on the west side and install or widen sidewalk to 6' on the east side of Swan Rd. from River Rd. to Skyline Dr. | Shared-Use Path | Pima County | 3.00 | $ 5,000,000 |
| 357 | Ina Rd. Shared-Use Path | Ina Rd. | Oracle Rd. | Sabino Canyon Rd. | North | Install shared-use path on the north side and 6' sidewalk on south side of Ina Rd./Skyline Dr./Sunrise Dr. from Oracle Rd. to Craycroft Rd. Install shared-use path on both sides of Sunrise Dr. from Craycroft Rd. to Sabino Canyon Rd. Install shared-use path on the north side and 6' sidewalk on the south side of Skyline Dr. from Sunrise Dr./Skyline Dr. to Swan Rd. Improve crossings on Skyline Dr. at Campbell Ave. and on Sunrise Dr. at Campo Abierto with wayfinding signage at Sunrise Dr./Skyline Dr. intersection. Install pedestrian hybrid beacon on Sunrise Dr. at Camino Arenosa. Install marked crosswalk on Sunrise Dr. at Via Umbrosa. | Multiple | Pima County | 11.68 | $ 22,200,000 |
| 367 | La Cholla Blvd. Shared-Use Path | La Cholla Blvd. | River Rd. | Ina Rd. | Northwest | Install shared-use path on both sides of La Cholla Blvd. from River Rd. to Ina Rd. | Shared-Use Path | Pima County | 2.21 | $ 4,900,000 |
| 369 | 1st Ave. Active Transportation Improvements | 1st Ave. | South of River Rd. | Ina Rd. | North | Install shared-use path on the west side and widen sidewalk to 6' on east side of 1st Ave. from Rillito Park to Ina Rd. | Multiple | Pima County | 3.04 | $ 5,100,000 |
| 376 | Ina Rd. Shared-Use Path | Ina Rd. | Wade Rd. | Oracle Rd. | West | Add shared-use path to both sides of Ina Rd. from Wade Rd. to Oracle Rd. Install shared-use path bridge connecting The Loop. Upgrade bike lanes and sidewalks on I-10 overpass and bridge over wash (east of Meredith Blvd.) to shared-use paths. | Shared-Use Path | Pima County; Marana | 8.00 | $ 31,400,000 |
| 377 | Silverbell Rd. Shared-Use Path | Silverbell Rd. | Twin Peaks Rd. | El Camino Del Cerro | West | Add shared-use path to the east side of Silverbell Rd. from El Camino Del Cerro to Ina Rd. Add/upgrade a shared-use path to the east side and widen sidewalk, buffer, and shoulder on west side of Silverbell Rd. from Ina Rd. to Twin Peaks Rd. Add shared-use path on south side of Mamie Kai Dr. from Silverbell Rd. to The Loop through Crossroads District Park. Add shared-use path connection from Silverbell to The Loop west of Coachline Blvd. | Shared-Use Path | Pima County; Marana | 9.22 | $ 14,900,000 |
| 382 | Thornydale Rd. Shared-Use Path | Thornydale Rd. | Orange Grove Rd. | Tangerine Rd. | Northwest | Install shared-use path on east side of Thornydale Rd. from Orange Grove to Overton Rd., install shared-use path bridge over The Loop, pave connection to The Loop. Pave trail on west side of Thornydale Rd. from Cortaro Farms Rd. to Overton Rd., and install marked crosswalk at trail entrance. Install paved shoulder on both sides of Thornydale Rd. from Pecos Way to Tangerine Rd., install shared-use path on the east side of Thornydale Rd. from Overton Rd. to Pecos Way. Add shared-use path connections on the south side of Hardy Dr. from Thornydale Dr. to the Tortolita Middle School Access and into Arthur Pack Regional Park near Freer Dr. Add pedestrian hybrid beacons at Argo St., Sumter St., and Arthur Pack Regional Park. Improve the crossing at Hardy Dr./Thornydale Dr. | Shared-Use Path | Pima County; Tucson | 7.67 | $ 17,200,000 |
| 400 | Paseo Del Norte Active Transportation Improvements | Paseo Del Norte | Ina Rd. | Magee Rd. | Northwest | Install 6' sidewalk and buffered bike lanes on both sides of Paseo Del Norte from Ina Rd. to Magee Rd. | Multiple | Pima County | 1.00 | $ 1,300,000 |
| 404 | Cortaro Farms Rd. Active Transportation Improvements | Cortaro Farms Rd. | Silverbell Rd. | Shannon Rd. | Northwest | Install 8' separated bike lane and widen sidewalk to 6' on south side and install shared-use path on the north side of Cortaro Farms Rd. from I-10 to Shannon Rd. Upgrade existing sidewalk with shared-use path to the north side of Cortaro Rd. from Silverbell Rd. to I-10 Frontage Rd. Widen sidewalk and buffer on south side of Cortaro Rd. from Silverbell Rd. to I-10 Frontage Rd. Upgrade crossings at Cortaro/I-10 interchange. | Multiple | Pima County; Marana | 4.41 | $ 12,600,000 |
| 408 | Northern Ave. Active Transportation Improvements | Northern Ave. | Magee Rd. | Hardy Rd. | Northwest | Install separated bike lane and 6' sidewalk on Northern Ave. from Magee Rd. to Hardy Rd. | Multiple | Oro Valley | 1.01 | $ 4,100,000 |

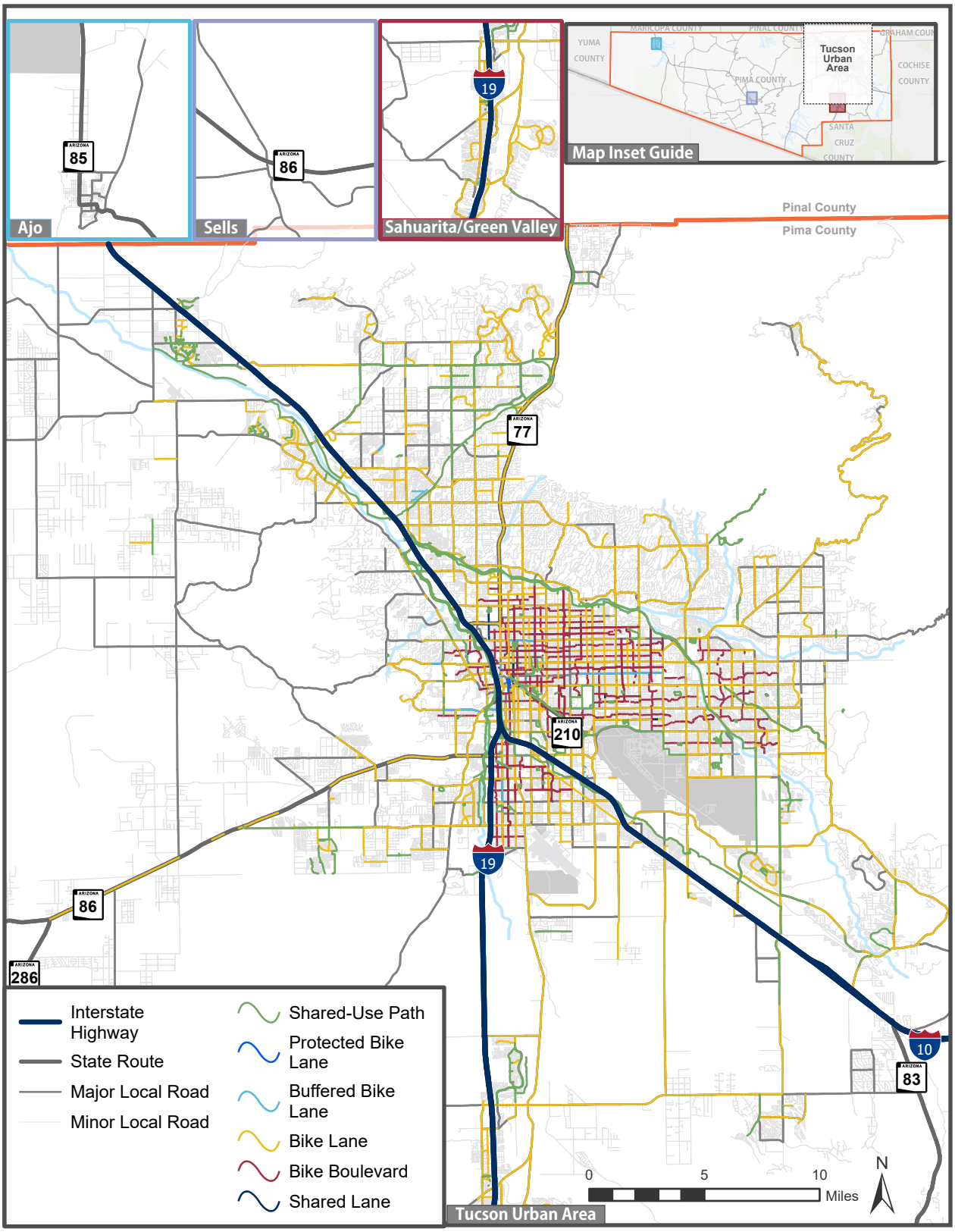
| Segment ID | Name | Road | From | To | Geographic Area | Description | Type | Lead Agency | Improvement Length | Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 409 | Overton Rd. Active Transportation Improvements | Overton Rd. | Thornydale Rd. | Oracle Rd. | Northwest | Install a 8' separated bike lane and 6' sidewalk on north side and install shared-use path on south side of Overton Rd. from Thornydale Rd. to La Cañada Dr. Install separated bike lane and 6' sidewalk on north side and install shared-use path on south side of Hardy Rd. from La Cañada Dr. to Oracle Rd. | Multiple | Pima County | 4.77 | $ 15,000,000 |
| 413 | Taladro St. Active Transportation Improvements | Taladro St | Rocalla Ave. | Elota Ave. | Far West | Widen sidewalks and add a buffer on both sides of Taladro St. from Lomita Ave. to Pajaro St. Add shared-use path on Plaza St. from Pajaro St. to Taladro St. | Multiple | ADOT; Pima County | 0.53 | $ 200,000 |
| 415 | Shannon Rd. Shared-Use Path | Shannon Rd. | Cortaro Farms Rd. | Big Star Trl | Northwest | Install shared-use path on the west side of Shannon Rd. from Cortaro Farms Rd. to Big Star Trl. | Shared-Use Path | Pima County | 4.47 | $ 4,900,000 |
| 421 | Yermo Ave. Active Transportation Improvements | Yermo Ave. | North St | Rocalla Ave. | Far West | Add a shared-use path on the east side of Yermo Ave. from Malacate St. to Pajaro St. Add a pedestrian hybrid beacon across Yermo Ave. at Pajaro St. intersection. upgrade the sidewalk on the north side of Solana Ave. with a shared-use path. Add shared-use path to the east side of 2nd Ave. from North St. to Sahuaro St. Add pedestrian hybrid beacon across 2nd Ave. at 4th St. and marked crossing at North St. | Multiple | ADOT | 1.30 | $ 2,400,000 |
| 429 | Oracle Rd. Shared-Use Path | Oracle Rd. | Hardy Rd. | 1st Ave. | Northwest | Install shared-use path on the east side of Oracle Rd. from Hardy Rd. to 1st Ave., install pedestrian hybrid beacon at Horizon Cir, install pedestrian hybrid beacon at Rock Ridge Apartment complex. Extend shared-use path on south side of 1st Ave. from Canyon Del Oro River Park bridge to Oracle Rd., install shared-use path bridge at Canyon Del Oro River Park bridge. | Shared-Use Path | ADOT; Oro Valley | 2.88 | $ 15,500,000 |
| 430 | Sandario Rd. Shoulder Widening | Sandario Rd. | Avra Valley Rd. | Rudasill Rd. | West | Add paved shoulder of at least 6.5' to both sides of Sandario Rd. from Avra Valley Rd. to Rudasill Rd. | Paved Shoulder | Pima County; Marana | 6.15 | $ 5,600,000 |
| 431 | Avra Valley Rd. Shoulder Widening | Avra Valley Rd. | Sandario Rd. | I-10 | West | Add paved shoulder of at least 7' to both sides of Avra Valley Rd. from Sandario Rd. to I-10. | Paved Shoulder | Pima County; Marana | 5.19 | $ 5,100,000 |
| 501 | Pasqua Yaqui Tribe Priority Project 1 | Camino De Oeste | Valencia Rd. | Calle Torim | Southwest | Fill sidewalk gaps on west side and install shared-use path on the east side of Camino De Oeste from Valencia Rd. to Calle Torim. Add marked crosswalks at Jeffery Rd. | Multiple | Pima County; Pasqua Yaqui Tribe | 1.49 | $ 2,500,000 |
| 502 | Pasqua Yaqui Tribe Priority Project 2 | Ignacio M Baumea | Los Reales Rd. | Calle Torim | Southwest | Install/upgrade to shared-use path on the west side of Ignacio M Baumea from Los Reales Rd. to Calle Torim. Add marked crosswalk at Calle Tetakusim and Los Reales Rd. | Multiple | Pima County; Pasqua Yaqui Tribe | 0.50 | $ 600,000 |

# APPENDIX C
## ATLAS OF MAPS

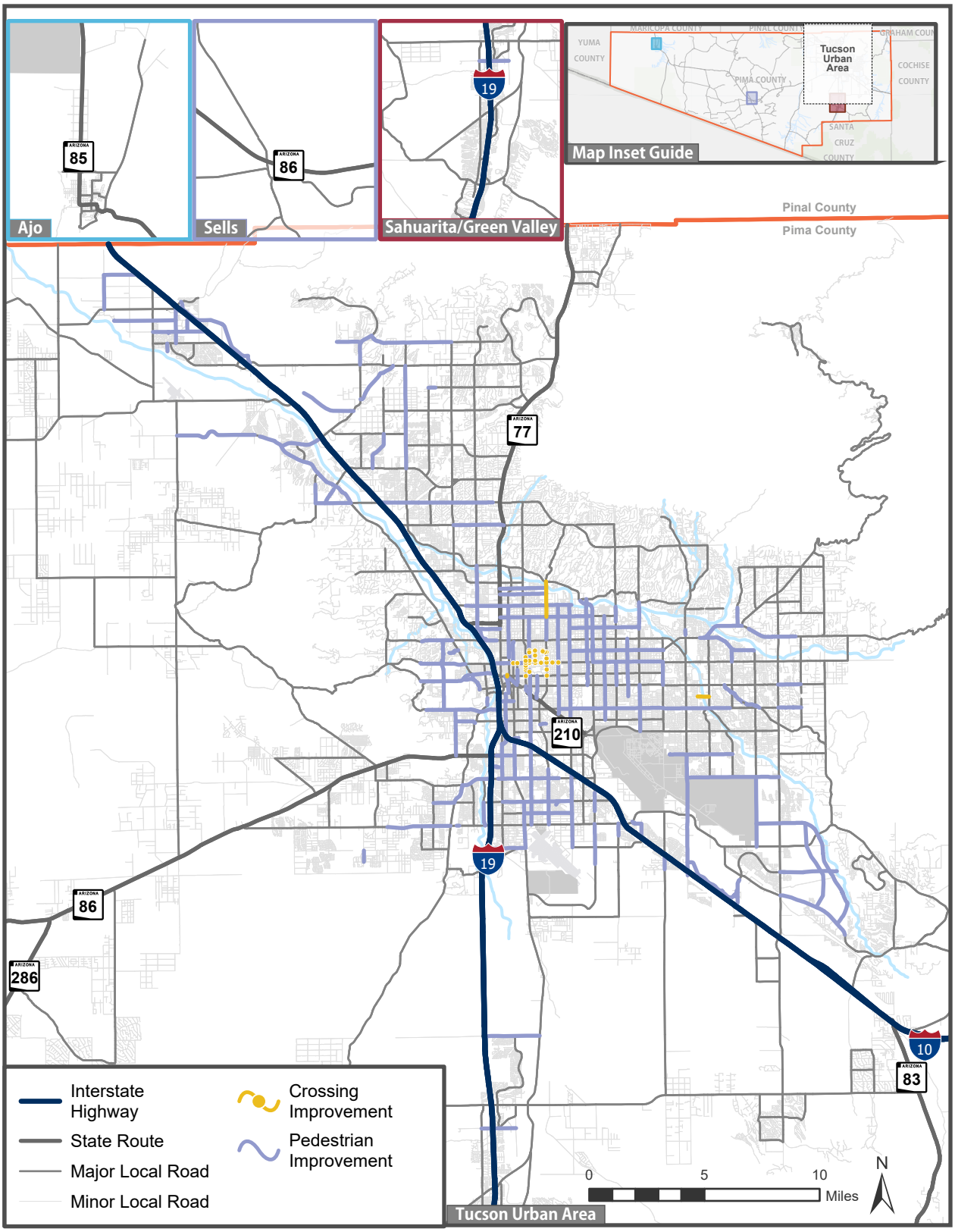

## Existing Pedestrian Facilities



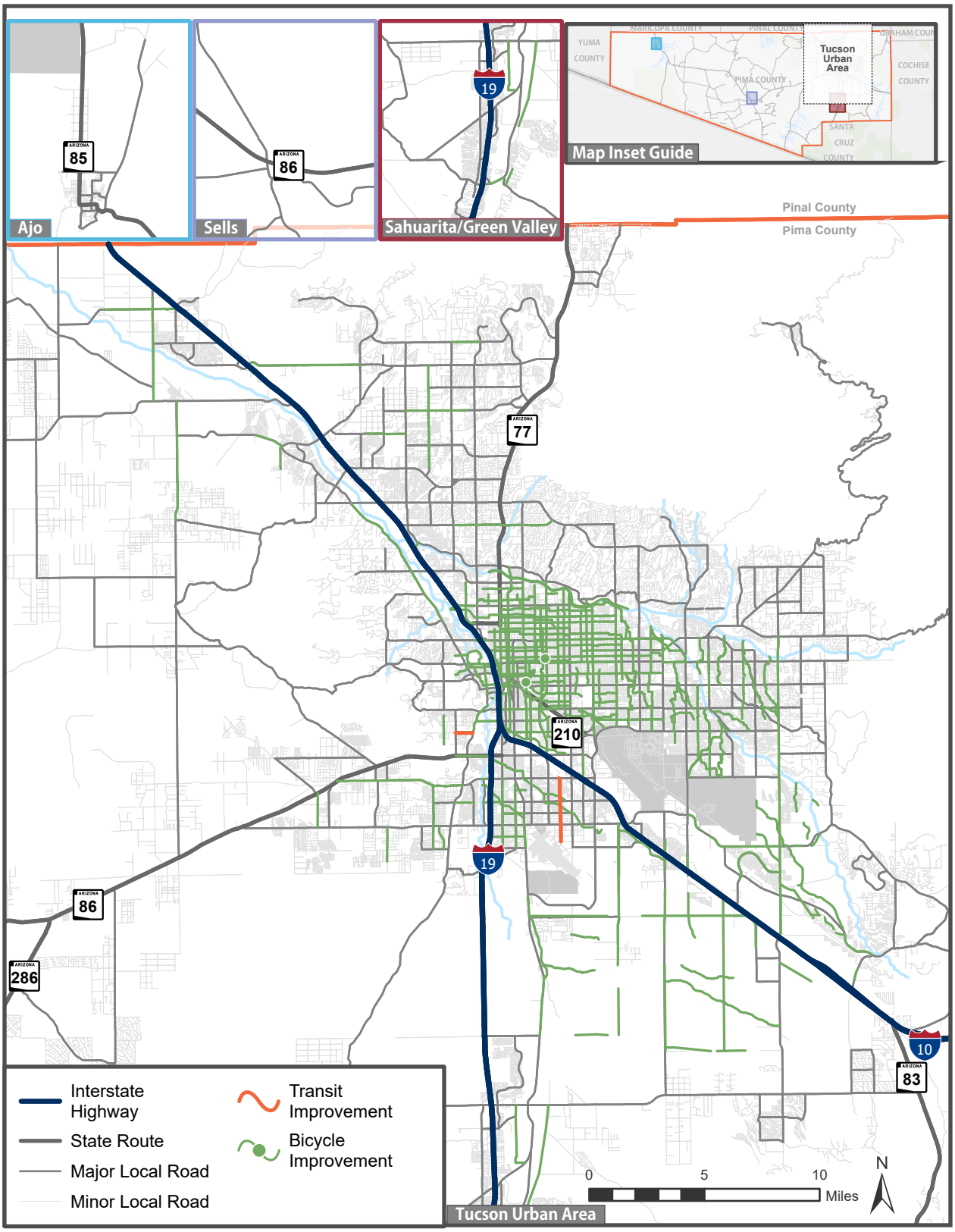
## Existing Bicyclist Facilities



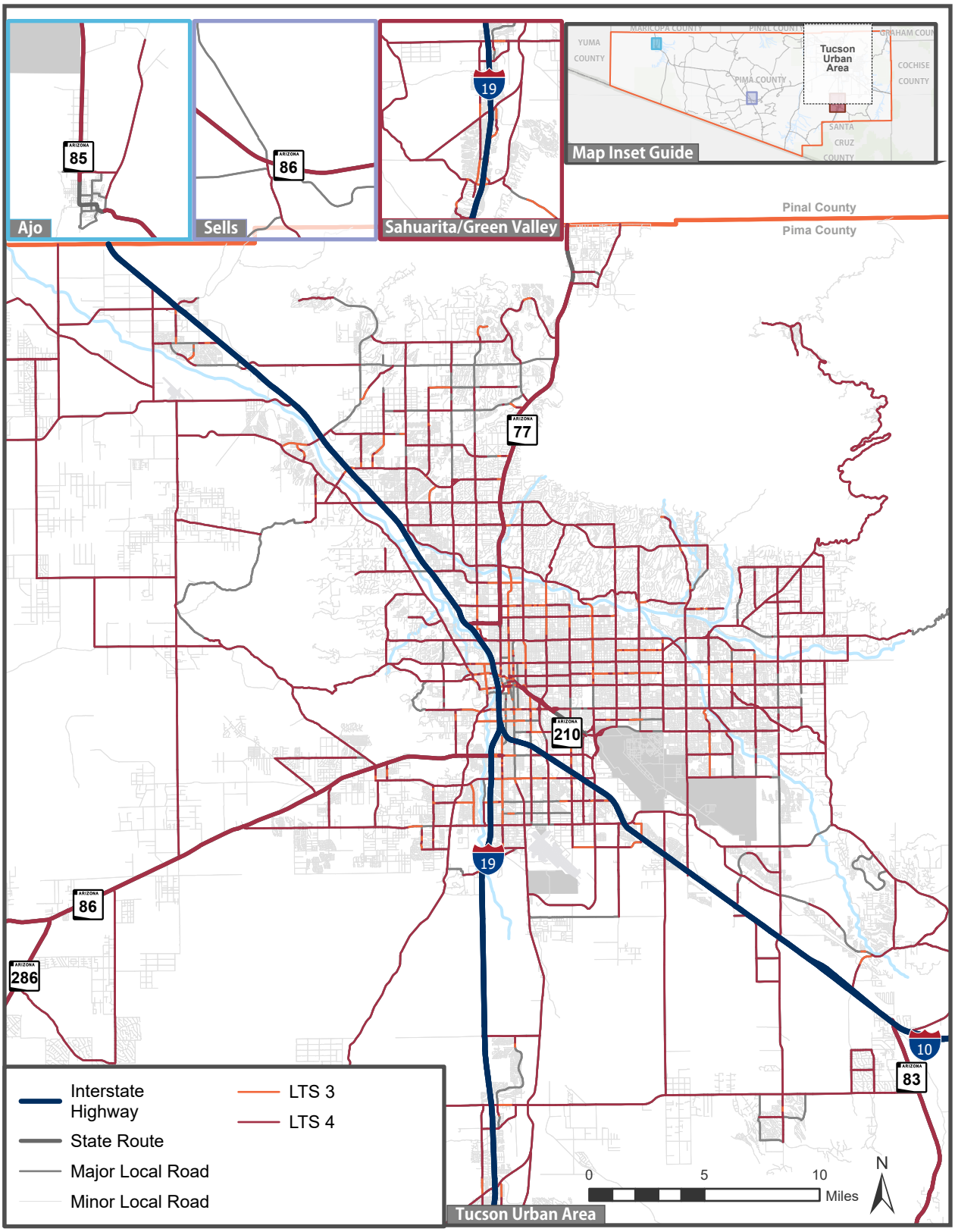
## Previously Recommended Pedestrian and Crossing Improvements



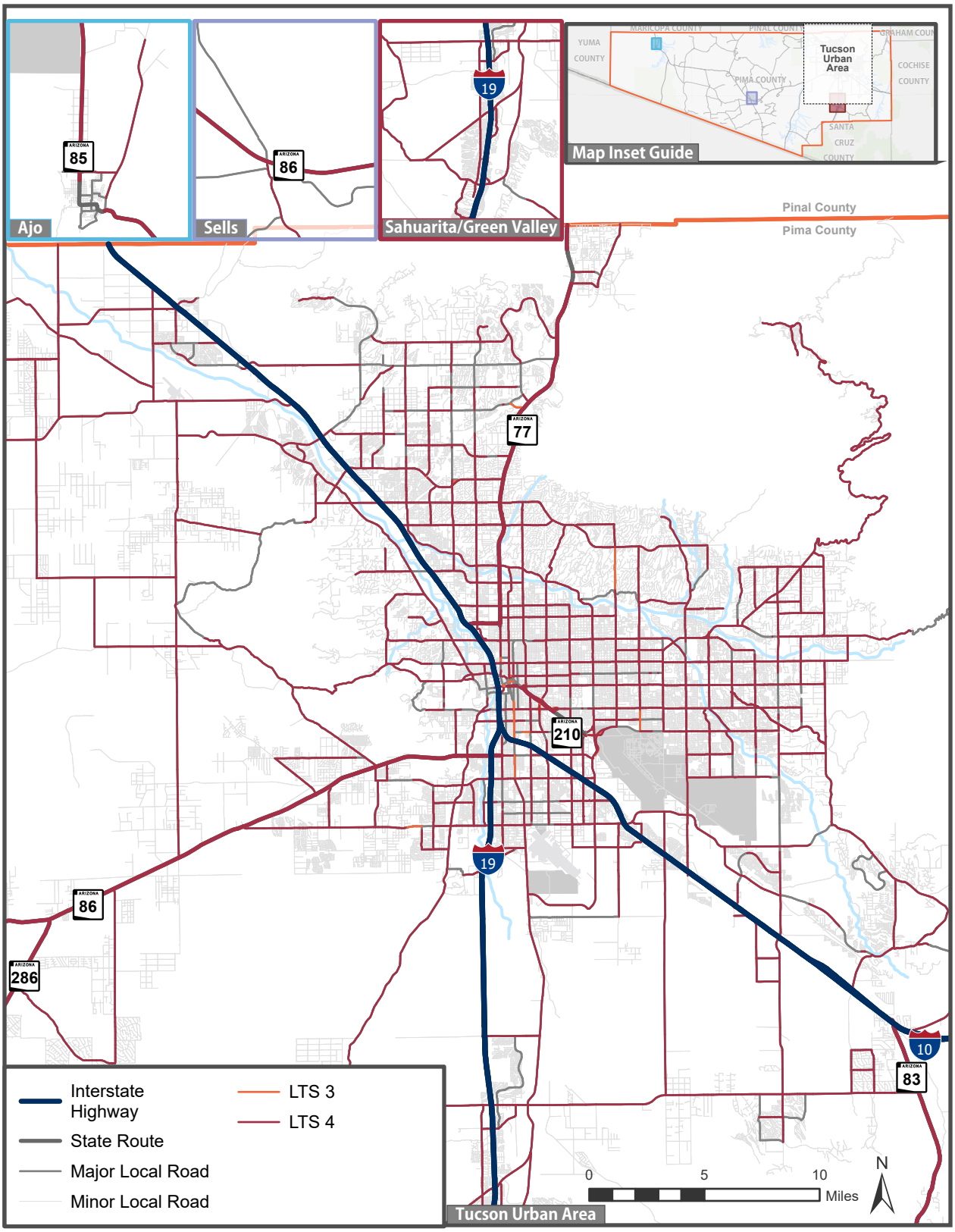
## Previously Recommended Bicyclist and Transit Improvements



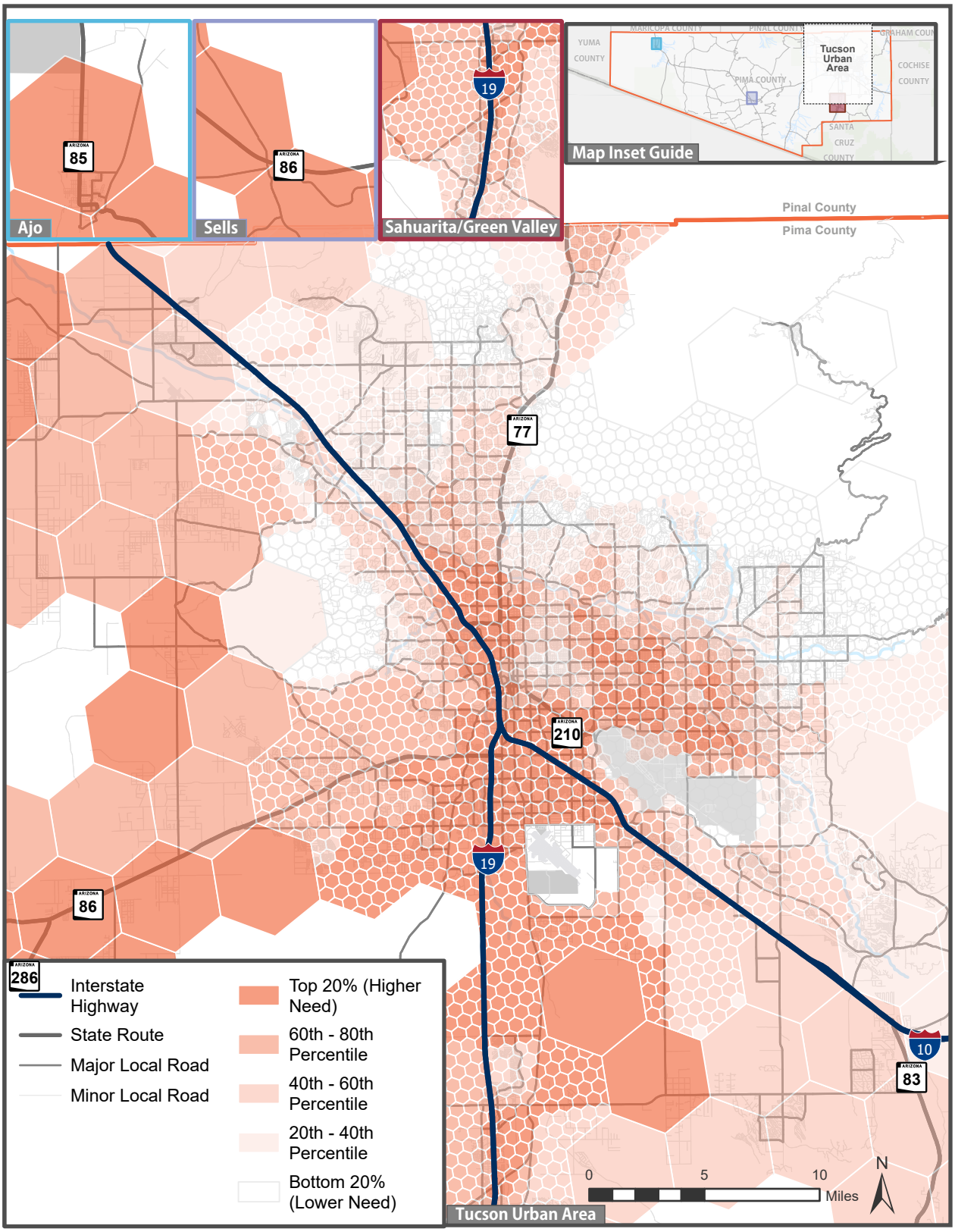
## Poor Pedestrian Level of Traffic Stress



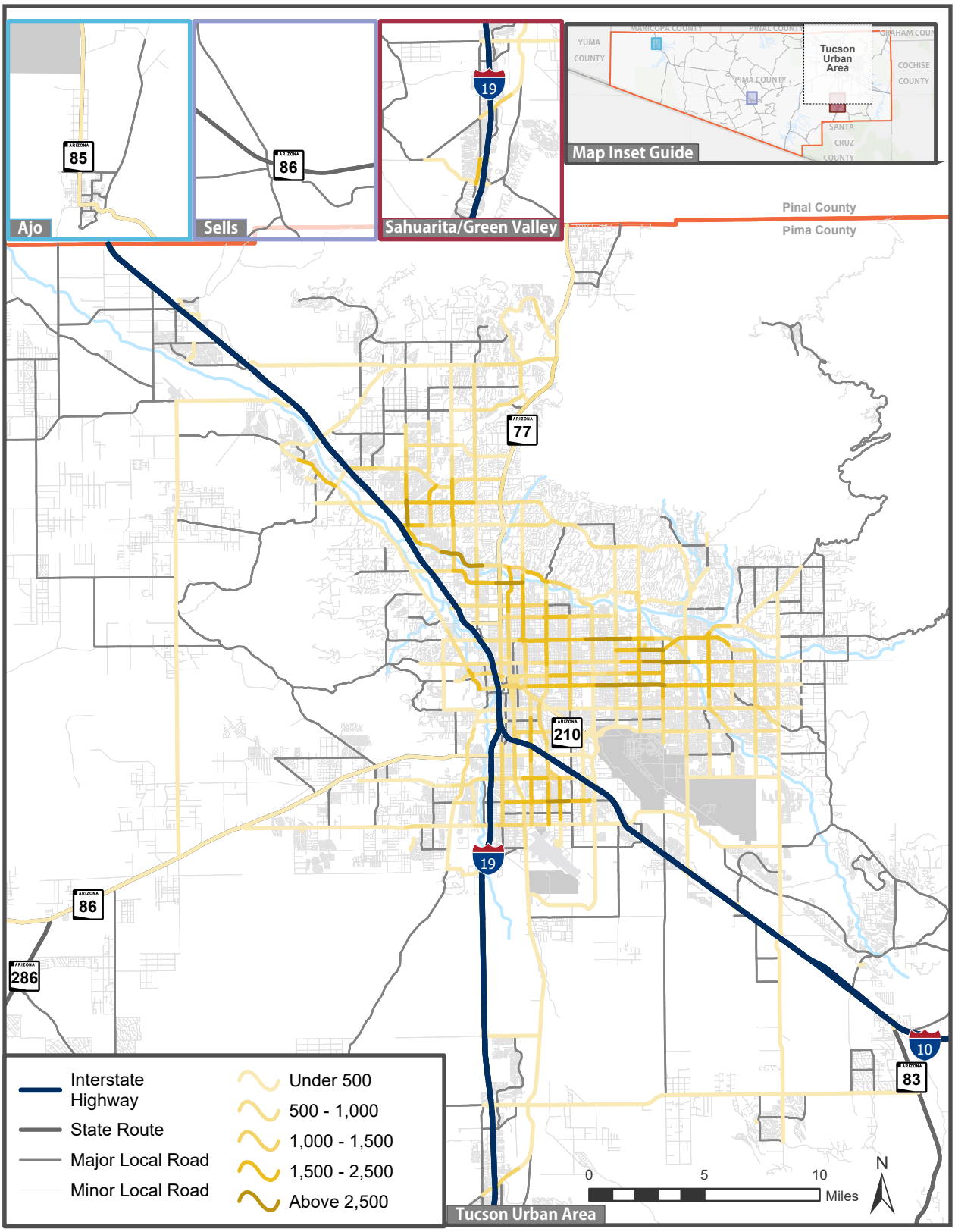
## Poor Bicyclist Level of Traffic Stress



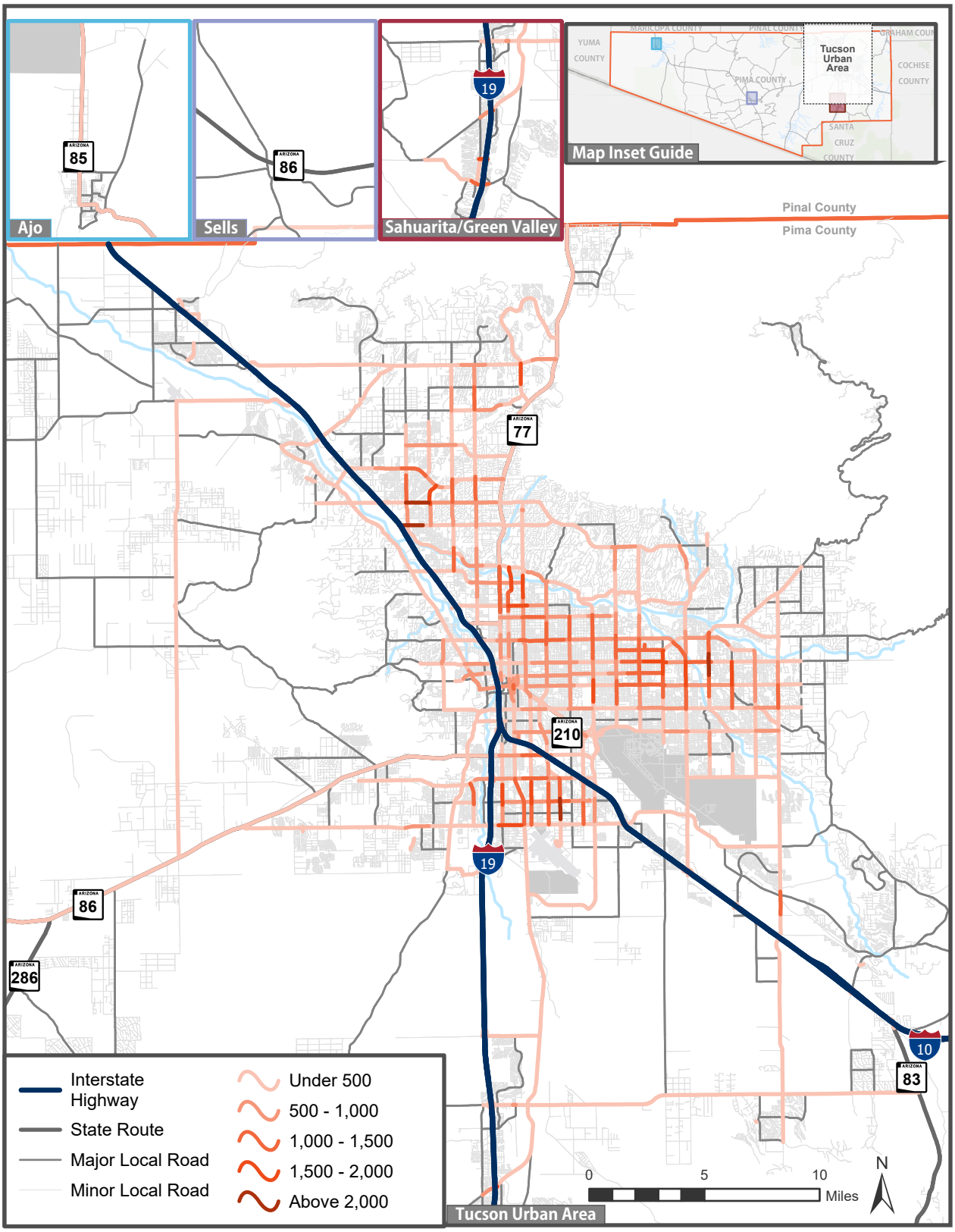
## Equity and Public Health Score



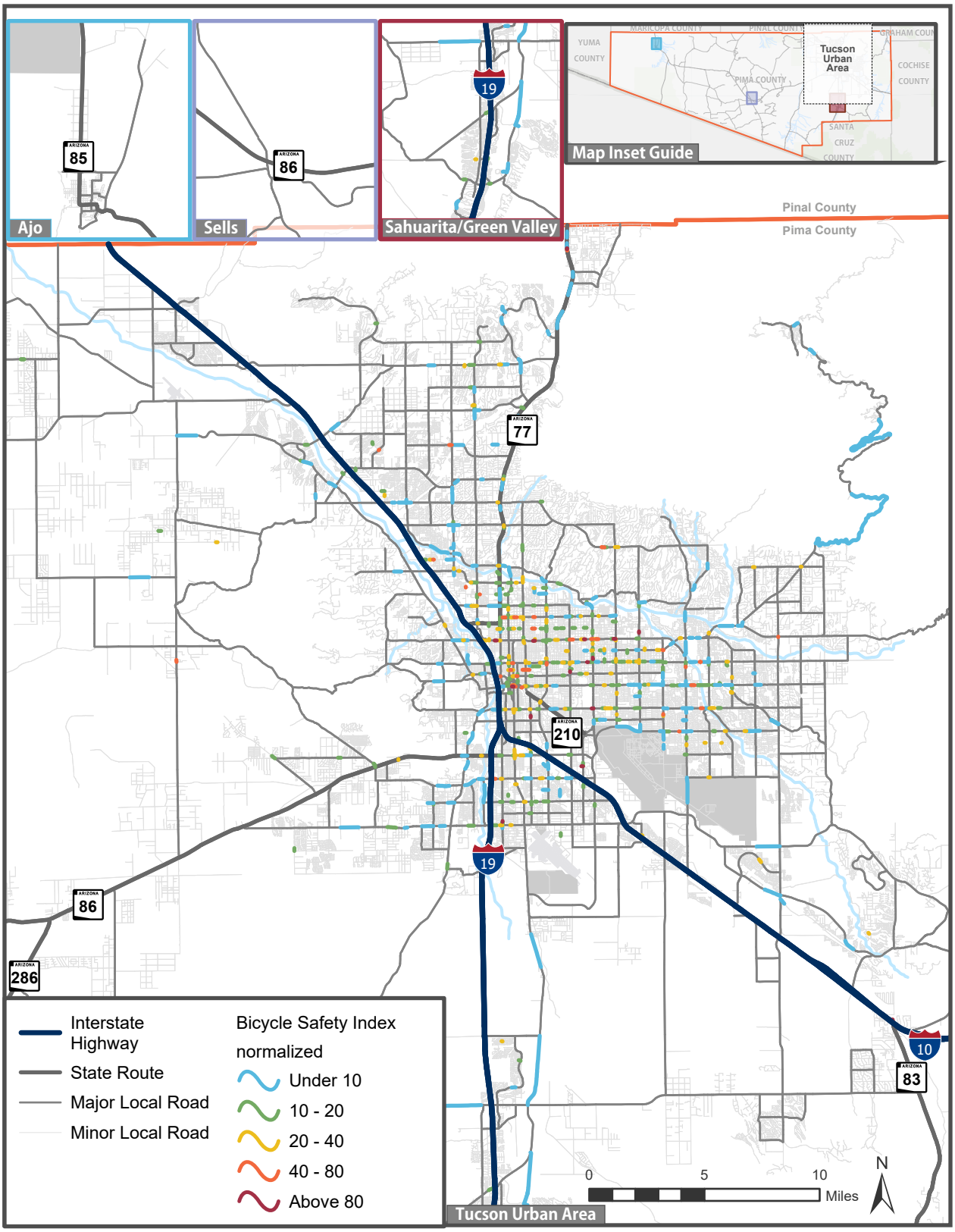
## Traveler Alignment



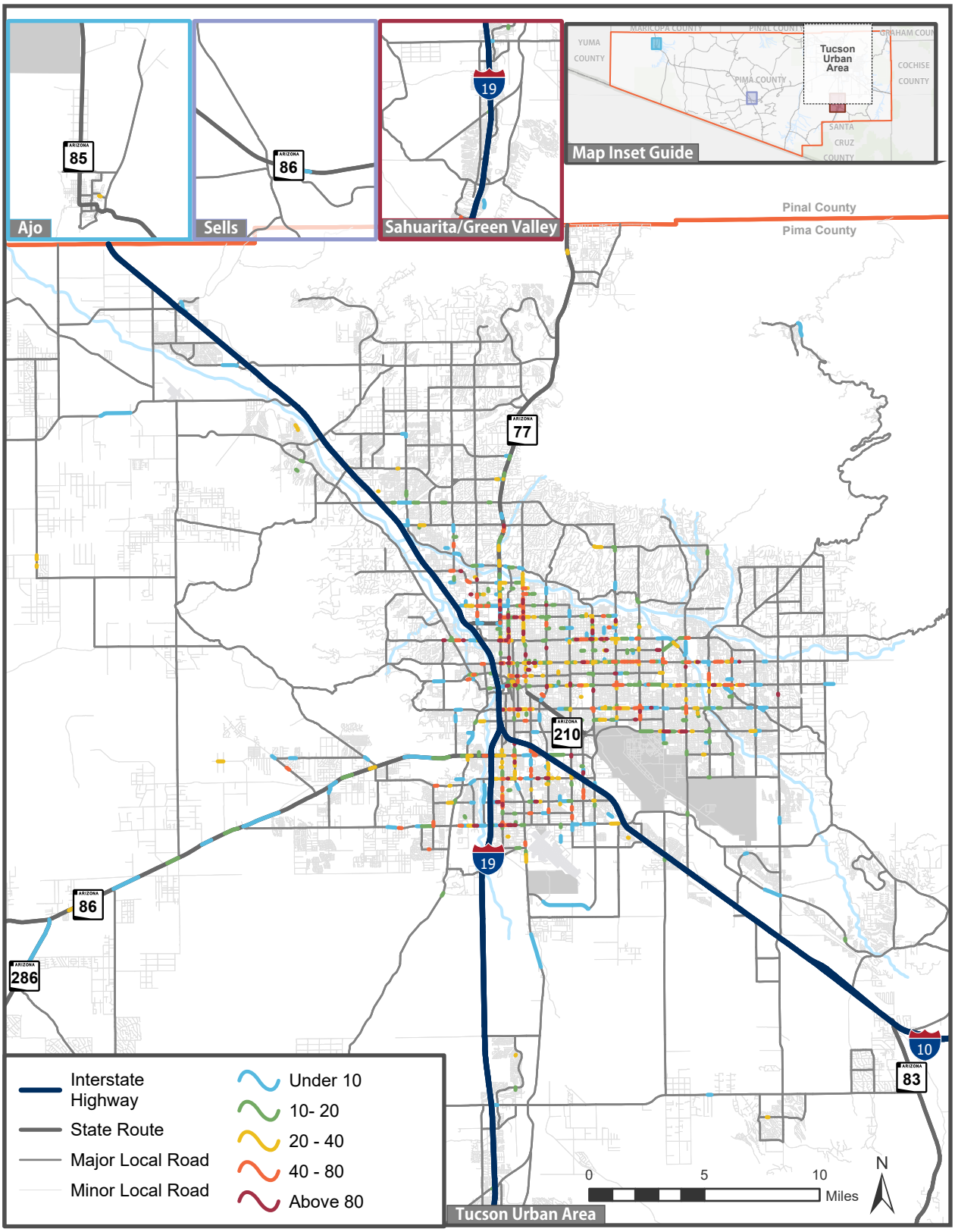
## Crossing Demand



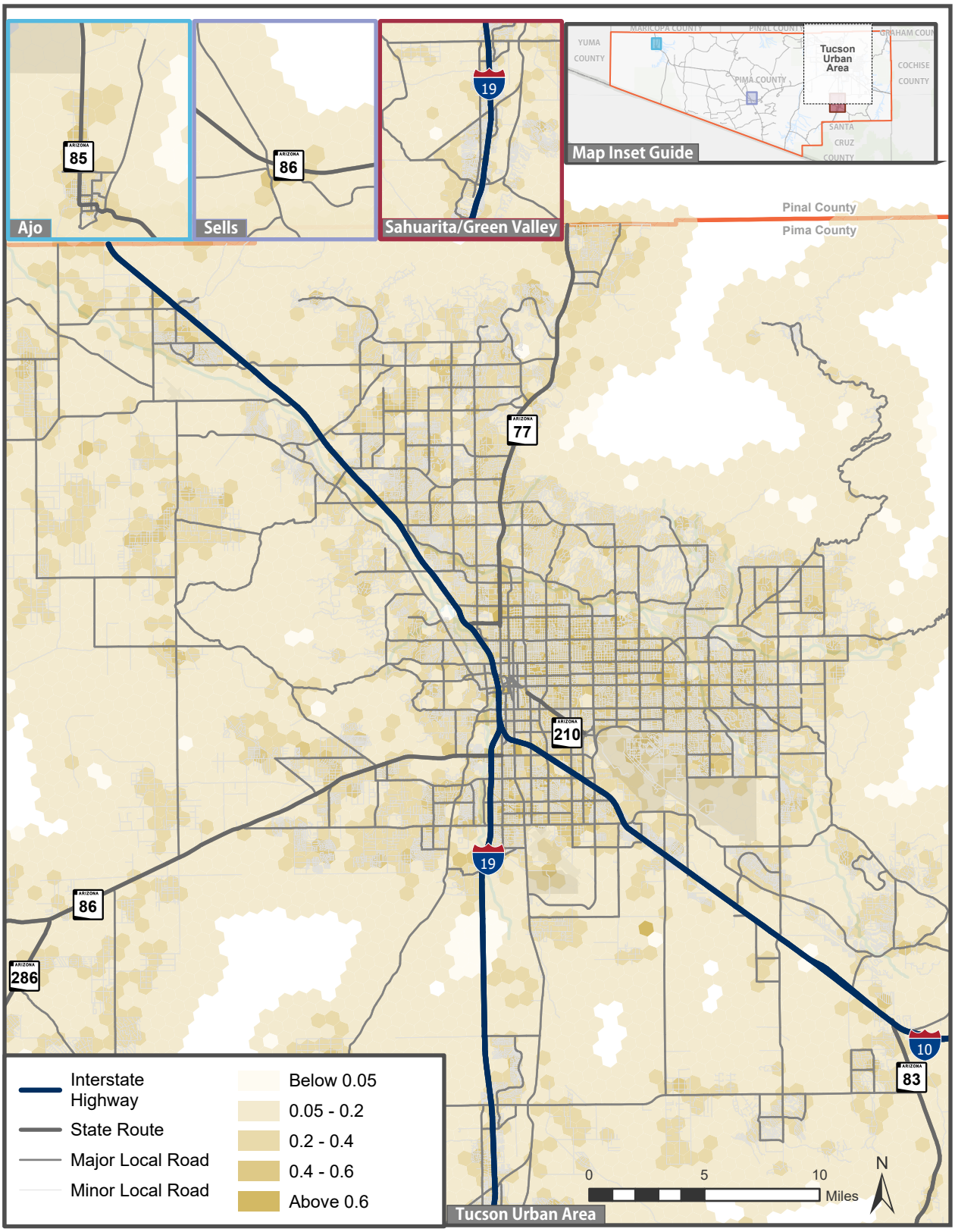
## Pedestrian Safety Index



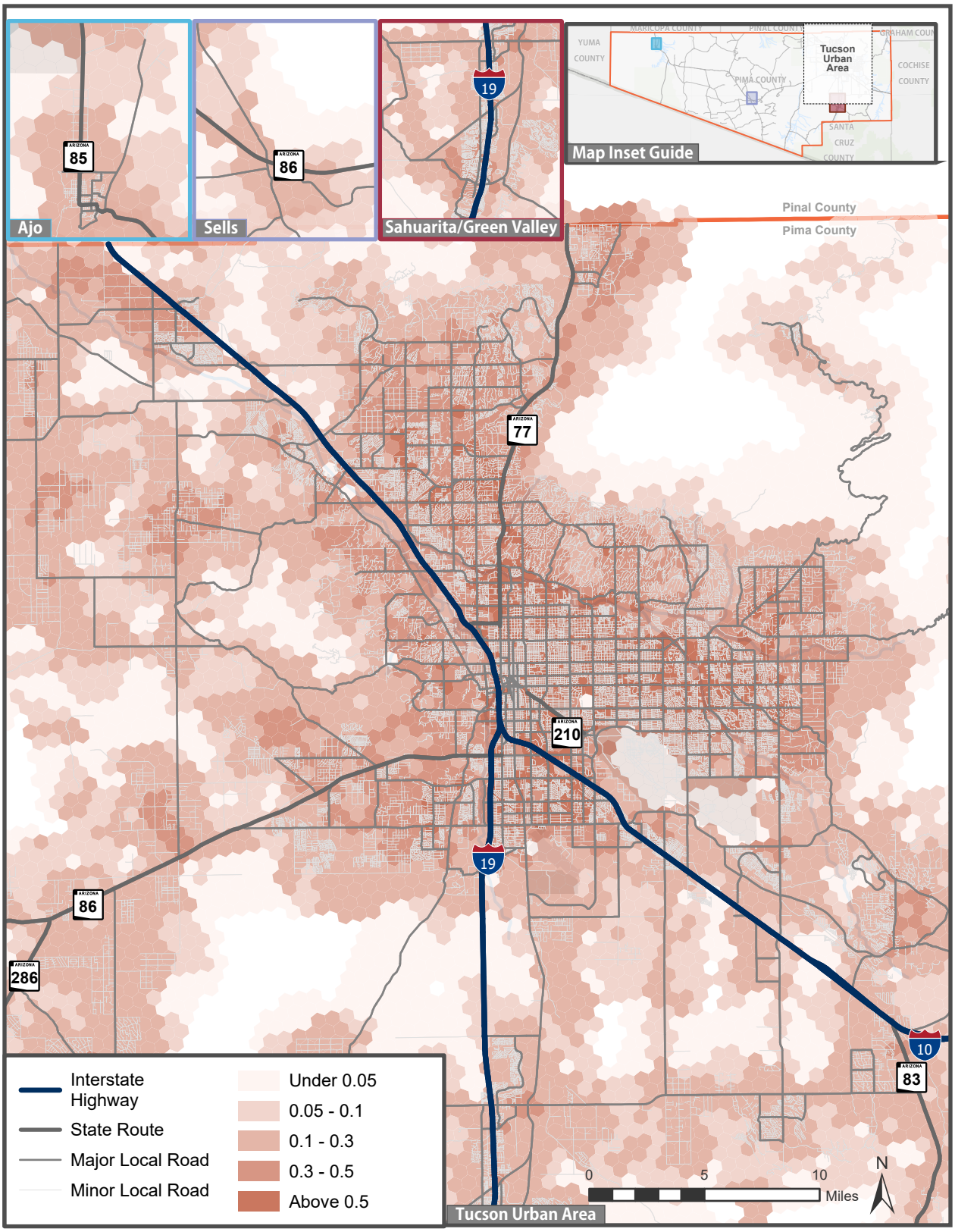
## Bicycle Safety Index



## Pedestrian Connectivity



## Bicycle Connectivity



# APPENDIX D

## PUBLIC ENGAGEMENT SUMMARY


PIMA ASSOCIATION OF GOVERNMENTS

# REGIONAL ACTIVE TRANSPORTATION PLAN

## PUBLIC ENGAGEMENT SUMMARY REPORT

OCTOBER 2025

# Table of Contents

# Public Engagement Round 1

Round 1 of public engagement for the RATP was used to inform the priority network alternatives evaluation criteria. The engagement opportunity was live from July to October of 2024. Input was gathered in a variety of formats to receive feedback on the existing conditions of the region's active transportation network, including identifying barriers, gaps, and where existing infrastructure is working well.

## Virtual Engagement

To gather feedback virtually, Public Coordinate was used to share an interactive map and a companion electronic survey had been developed. Respondents could drop pins on the map to identify locations where there are needs and challenges regarding barriers, bikes, pedestrians, crossings, safety, or important destinations. The virtual survey and mapping opportunity was advertised via social media, email announcements through PAG, on the PAG website, and through member agency electronic newsletters and email announcements.

## In-Person Engagement

To conduct in-person engagement, community wide pop-up events were held to provide attendees with project information and help raise awareness of active transportation issues in the region. Parallel events were held throughout the region to reach a wide and diverse audience. A summary of community pop-up events is shown below.

Attendees were informed of the RATP and its proposed goals. The project team guided attendees to the virtual web map and survey to identify areas with existing active transportation issues and provide input on the Plan goals.

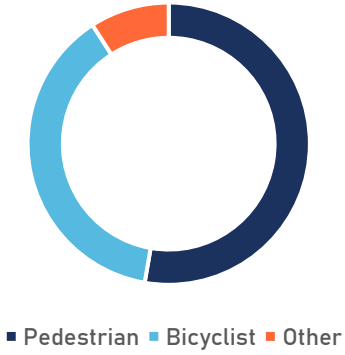
| | |
|---|---|
| Reid Park Summer Road Race | July 25, 2024 |
| Meet Me at Maynards | August 14, 2024 |
| Sahuarita Breeze in the Trees | August 17, 2024 |
| FUGA Bicicleteada del Sur | August 30, 2024 |

## Results

**115** survey responses

**277** web map comments

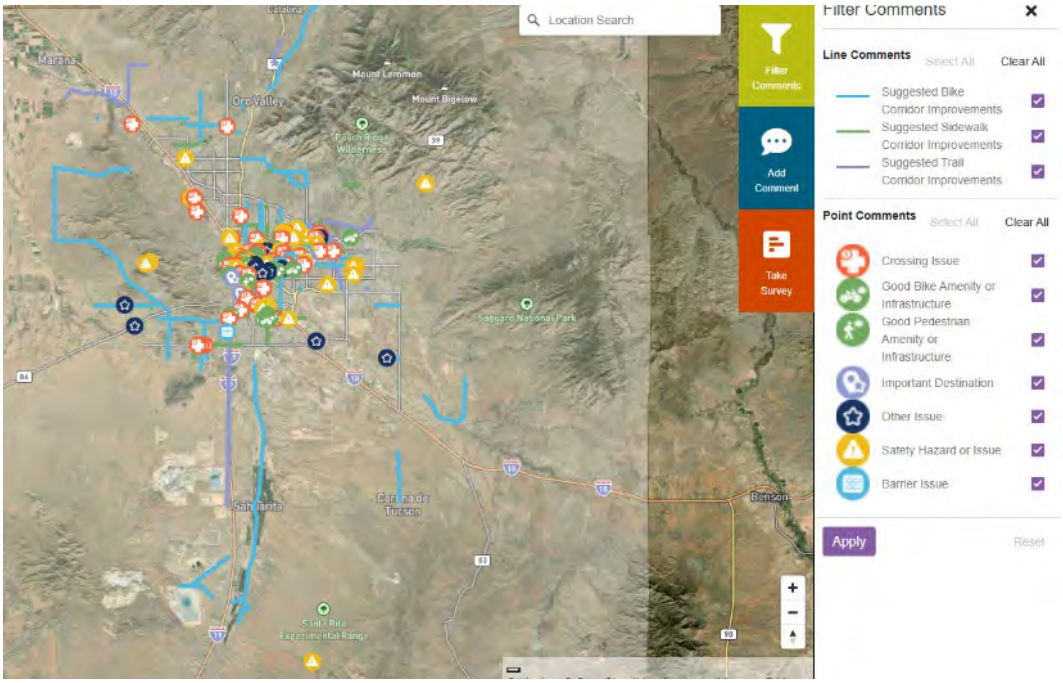
**78%** of respondents typically use the active transportation network for recreation




On the public web map, respondents were asked to identify locations with infrastructure needs, examples of effective active transportation infrastructure, or prime candidates for corridor improvements. These identified locations informed both safety considerations and the network prioritization process. By assigning higher scores to areas with a larger concentration of public input points, the prioritization process ensured that segments with strong community interest received appropriate attention and was used during the network alternatives process. Responses are summarized below and shown in Figure 1.

- **8** Barrier Issue
- **53** Crossing Issue
- **15** Other Issue
- **46** Safety Hazard or Issue
- **44** Suggested Sidewalk Corridor Improvements
- **15** Good Bike Amenity or Infrastructure
- **10** Good Pedestrian Amenity or Infrastructure
- **4** Important Destination
- **71** Suggested Bike Corridor Improvements
- **11** Suggested Trail Corridor Improvements

*Figure 1. Public Coordinate Comments*



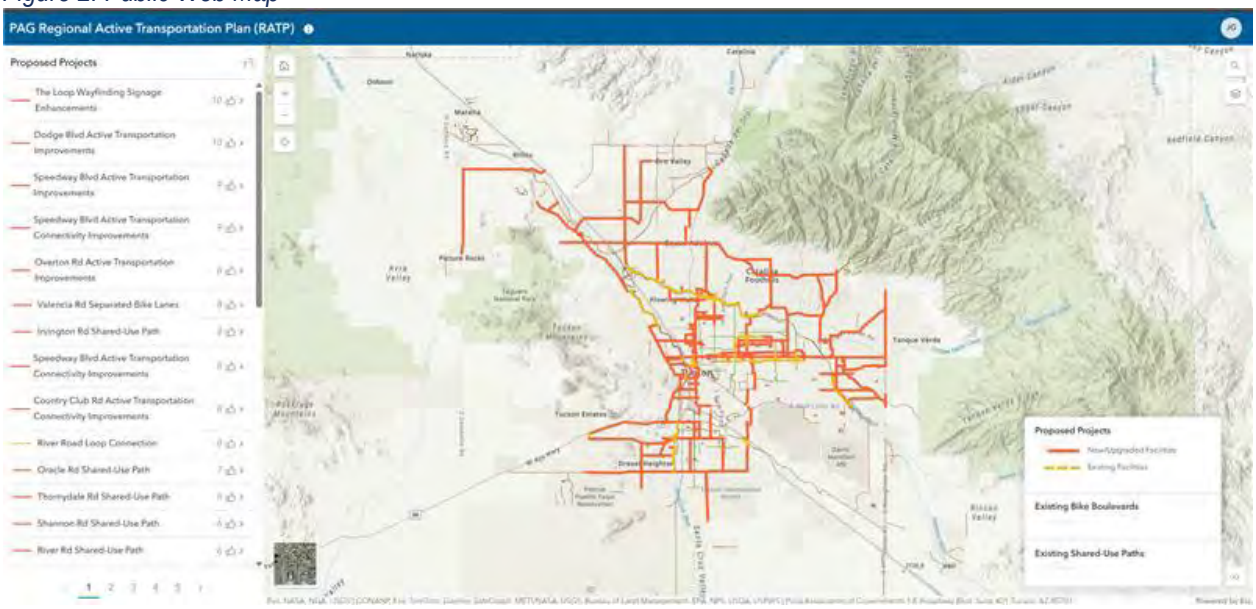
# Public Engagement Round 2

The second round of public engagement for the RATP presented the draft projects on the preferred high-priority network for feedback. Like round 1, both in-person and virtual engagement opportunities were utilized. The engagement window was open from July to August of 2025.

## Virtual Engagement

Similar to round 1, virtual mapping tools were leveraged to display the potential projects on the preferred high-priority network. ArcGIS Experience Builder was used as the virtual map to display the preferred network segments and projects. Projects were displayed by proposed improvements and existing linework. Respondents were able to view each project's details and provide comments or like and dislike projects. Figure 2 shows the public web map.

*Figure 2. Public Web Map*



## In-Person Events

To spread the word about the public engagement opportunity and gather feedback, a series of pop-ups were held at key active transportation activity centers around the region. The project team aimed to spread the word about the draft RATP projects and share the project flyer, guiding people to the virtual map. Community pop-up events include:

| | |
|---|---|
| Morris K. Udall Park | July 8, 2025 |
| Joyner Green Valley Library | July 14, 2025 |
| FUGA Bicicleteada del Sur | July 25, 2025 |
| Wheeler Taft Abbett Library | July 28, 2025 |
| Oro Valley Community Center | July 29, 2025 |

Recommended projects were updated to reflect public input and resulted in:

**142** likes and dislikes

**76** comments

Community input provided valuable local knowledge, highlighted gaps in the proposed plans, and suggested improved connections within the active transportation system. As a result, some recommended improvements were updated to reflect feedback, including extending project boundaries, adding crossing enhancements, and adjusting facility types. By incorporating these perspectives, the recommended projects more accurately address actual community needs and priorities, resulting in a regional network that is more inclusive, practical, and interconnected. If member agencies proceed with implementing these projects, an additional public involvement process will be conducted to engage residents who may be affected.

# Public Engagement Round 3

The third round of public engagement for the RATP took place between September and October 2025. This round centered on gathering input on the draft RATP document and its recommended projects. Community members could provide their comments online or through a series of pop-up events at five locations across the greater Tucson region.

The virtual component of outreach involved collecting comments on the draft RATP document. Online users were able to review different sections of the report, type out a comment, and categorize their comments based on the applicable section of report. 28 users posted their thoughts on the plan. Overall, the comments expressed desires for more safety measures for pedestrians and cyclists, additional geographic areas for improvement, and equitable investment across areas of Tucson. The PAG Facebook page promoted the page as an outlet for input across eight different posts.

The Pima Association of Governments, Kimley-Horn, and Gordley Group interacted directly with community members at in-person pop-up events, sharing information about the draft RATP and collecting feedback on the draft RATP recommended projects. Materials included an exhibit board with a map of the draft project recommendations, 200 printed project flyers, and QR codes for community members to engage digitally with the project content after the pop-up event. Attendees at several events, especially those who utilized bike facilities to commute on a regular basis, expressed their appreciation for the proposed project improvements. Other community members expressed their excitement for the inclusion of communities outside of Tucson, such as Ajo, Marana, and Why, in the plan.

| | |
|---|---|
| Sahuarita Oktoberfest (Sahuarita/Green Valley) | September 26, 2025 |
| SAR Jim Click's Run 'n' Roll (Central Tucson) | September 28, 2025 |
| Ott Family YMCA (East Tucson) | October 8, 2025 |
| El Rio Neighborhood Center (West Tucson) | October 9, 2025 |
| Marana Fall Festival (Marana/Oro Valley) | October 18, 2025 |

Public input resulted in:

351 total interactions

28 comments

*Sahuarita Oktoberfest*

*SAR Jim Click's Run 'n' Roll*

*Ott Family YMCA*