Laveen South Mountain Transportation Study

Matrix

MARICOPA ASSOCIATION of GOVERNMENTS

Laveen South Mountain Transportation Study

Prepared by Matrix Design Group

December 2020

The Laveen South Mountain Transportation Study was funded by Maricopa Association of Governments, Maricopa County, and the City of Phoenix.

Executive Summary

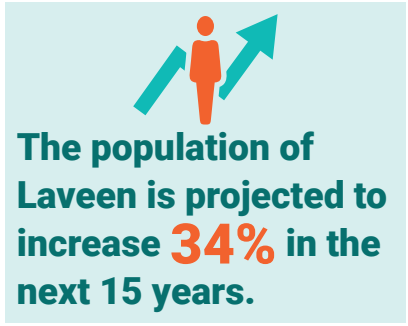
Study Background and Purpose

Laveen has experienced significant growth over the last 20 years, with rapid urbanization stressing the largely rural and limited transportation system. Increased traffic flows and congestion, coupled with infrastructure damage due to seasonal storms, are undermining mobility and connectivity and degrading the quality of life for area residents. Further growth and urbanization are anticipated, including increases in population and travel demand, as well as changes in land use, circulation patterns, and transportation needs due to the recent opening of the South Mountain Freeway ("Loop 202") that transects the community. Additional land use and transportation impacts are expected with the proposed State Route 30 (SR-30) that may run perpendicular to the freeway.

The **Laveen South Mountain Transportation Study** (LSMTS) is a collaborative effort among the Maricopa Association of Governments (MAG), Maricopa County, and the City of Phoenix aimed at identifying transportation infrastructure that will meet the demands of continued growth in Laveen and in the Phoenix Metropolitan Area, more broadly. The study is a comprehensive review of existing and future transportation conditions in the Laveen area, as well as an assessment of improvement alternatives and set of recommendations for meeting anticipated travel demands through 2040.

The purpose of the study is to:

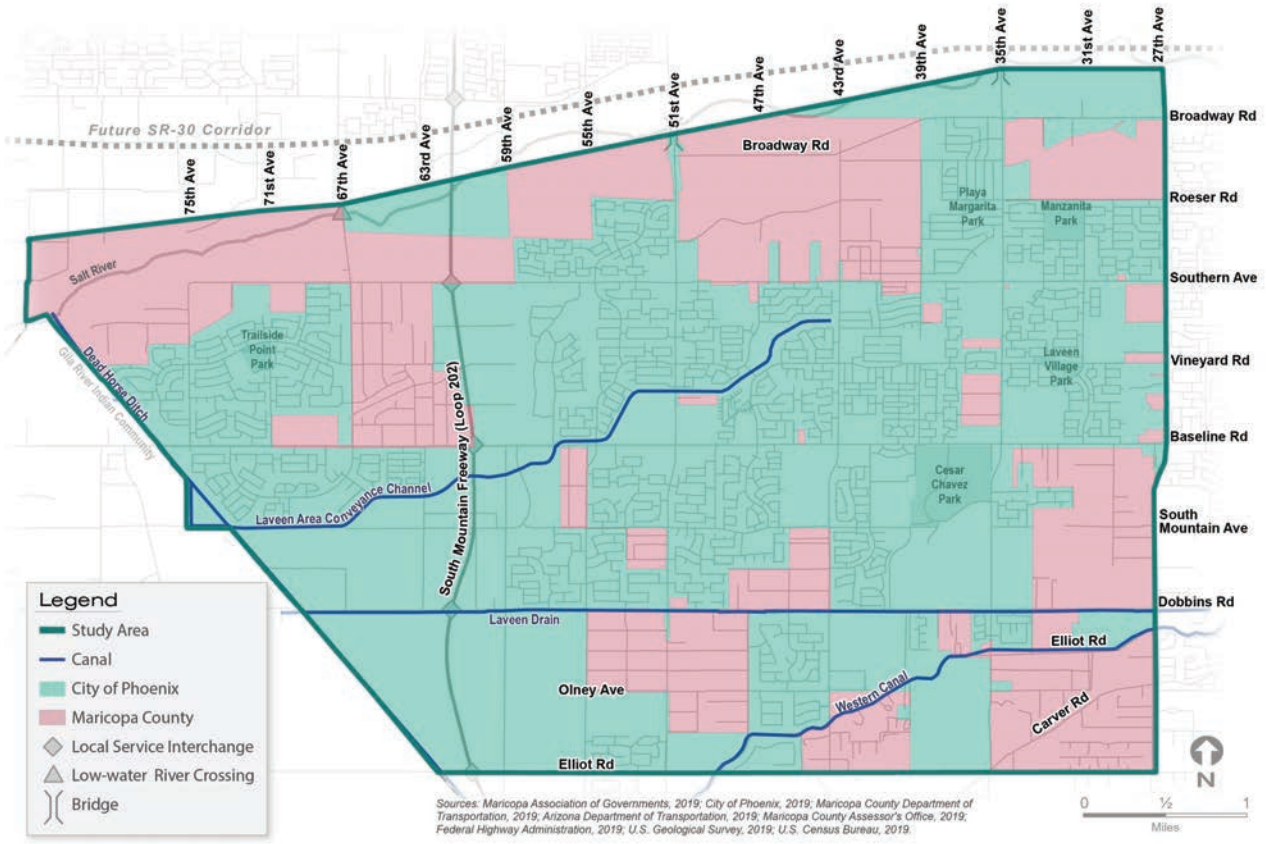
- Review the system's ability to meet the anticipated travel demands of users moving within and through the Study Area;
- Provide a set of feasible improvements to the motor vehicle, bicycle, pedestrian, and public transit networks serving the community;
- Guide the development of a high-capacity, integrated, and equitable system that can meet Laveen's transportation needs well into the future.



The population of Laveen is projected to increase 34% in the next 15 years.

Study Area

The LSMTS Study Area is located approximately seven miles southwest of downtown Phoenix between the South Mountains and the confluence of the Gila and Salt Rivers. It encompasses approximately 23 square miles roughly centered on the intersection of 51st Avenue and Baseline Road and bounded by the Salt River on the north, 27th Avenue on the east, Elliot Road on the south, and the Gila River Indian Community on the west. The area captures all parts of the Laveen community that fall within the City of Phoenix municipal planning area, including portions that have been formally annexed as "Laveen Village" (70%) and portions that are in unincorporated Maricopa County (30%). It captures both rural and developed areas and the public services and amenities, such as health and education facilities, historic sites, and parks and open space that reflect Laveen's unique agricultural history, contemporary sense of place, and vision for the future.



The Laveen South Mountain Study Area

Key Findings: Existing Conditions

The existing Laveen transportation system supports a burgeoning population in one of the fastest growing areas in the nation. The current network of arterial roadways and other transportation infrastructure will be unable to meet demand for travel to economic, social, and cultural opportunities in and around the community. The following key findings characterize the existing transportation and infrastructure system in the Study Area.

Utilities

- The Study Area has both overhead and underground communication lines, many of which follow east-west and north-south arterial streets.
- Several natural gas and liquid petroleum pipelines transverse the Study Area. El Paso Natural Gas maintains a petroleum pipeline along 43rd Avenue, and Kinder Morgan has a 12-inch line along 51st Avenue. An abandoned, 6-inch Kinder Morgan pipeline also follows 51st Avenue. Southwest Gas maintains several natural gas lines in the area, as well.
- Most overhead and underground electric power lines in Laveen are owned and operated by Salt River Project, a primary water and electric utility in the State of Arizona. In some cases, overhead and underground lines follow the same alignment.

Drainage and Floodplains

- The Study Area contains five major drainage features (watercourses), of which the westward-flowing Salt River is by far the most significant.
- The Flood Control District of Maricopa County, City of Phoenix, and others have recently completed nine flood control studies and constructed projects in the area.
- The first project open house yielded additional findings relating to flooding. Flooding along Dobbins Road was repeatedly noted.

Roadways

- Existing major north-south and east-west streets mostly range from two to four lanes, although a few six-lane segments exist.
- The streets with the highest daily traffic volumes include Broadway Road, Southern Avenue, Baseline Road, and 35th, 51st, and 67th Avenues; however, traffic volumes may change because of the recent opening of the Loop 202 (the effects cannot be assessed at this time because the freeway only recently opened and because of impacts associated with the COVID-19 pandemic).
- There are currently 25 signalized intersections along city streets and county roads in the Study Area.
- Pavement conditions on most major streets in the Study Area are considered Good, although some exceptions exist.

Safety

- The majority of all crashes occurred along three major corridors: Baseline Road, 51st Avenue, and Southern Avenue.
- Rear end, angle, and single vehicle crashes account for two-thirds of all crashes.
- Half of all fatal crashes involved alcohol or drugs, and one-fourth involved pedestrians.
- Many types of crashes can be mitigated by implementing engineering controls, increasing enforcement, or increasing driver education.

Public Transit

- Valley Metro operates four local bus routes in the Study Area and one RAPID bus line from the park-and-ride at 27th Avenue and Baseline Road.
- Public buses are ADA-compliant, and the City of Phoenix provides door-to-door service to qualifying individuals living within .75 miles of a local route.
- Study Area residents expressed interest in sixteen new bus stops and six new bus routes or route extensions at LSMTS open houses, with most suggestions already included in the long-range Phoenix Transportation 2050 Plan (City of Phoenix, 2015).

Active Transportation

- Although active transportation infrastructure exists along portions of several major streets, the network in the Study Area has many gaps and missing links.
- Most facilities for pedestrians and bicyclists are currently sidewalks or bike lanes, but multi-use paths exist along portions of 75th Avenue, 67th Avenue, Baseline Road, and Dobbins Road.
- Off-street facilities for pedestrians and bicyclists extend into South Mountain and ultimately carry users around all of metropolitan Phoenix, to the Gila River Indian Community, and to other jurisdictions.

Key Findings: Future Conditions

The LSMTS also considers planned and programmed improvements so that community leaders, planners, and residents can fully understand system characteristics and capacities through time and accurately determine what needs will arise and how to address them. The following key findings capture the roadway, public transit, and active transportation improvements that have already been proposed, planned, or programmed by the City of Phoenix, Maricopa County, and the Arizona Department of Transportation.

Future Land Use

- The predominant land use that the City of Phoenix plans for the LSMTS Study Area is low-density residential with fewer than 10 units per acre, although smaller pockets of higher-density housing are planned.
- Commercial and mixed-use areas are also supported, most notably along the Loop 202 between Baseline and Elliot Roads.

Future MCFCD Drainage and Floodplain Improvements

- MCFCD is designing and constructing a 72-inch storm drain along Olney and 27th Avenues, with financial support from the City of Phoenix.
- Substantial flood control projects are proposed near 51st Avenue / Sunrise Drive and 35th Avenue / Olney Avenue.
  - The total estimated cost of the three projects is approximately $9.6 million.

Future Roadway Conditions

- One new, east-west freeway, designated as SR-30, will run parallel to I-10 near the northern Study Area boundary. Initially, SR-30 will terminate at a system interchange with Loop 202 near Broadway Road, with local service interchanges located at 67th and 83rd avenues. SR-30 will open with six general purpose lanes and a 50-foot median. The construction timetable will depend on funding availability.
- Although the Loop 202 will help moderate traffic volumes on some existing major roads, up to 30,000 vehicles a day are forecast for portions of Southern Avenue and Baseline Road in 2040. Parts of Dobbins Road will also experience substantial traffic increases over current levels. Afternoon peak hour volumes in excess of 3,000 vehicles per direction are expected by 2040 on portions of five arterial streets.
- The City of Phoenix has programmed major improvement projects on 2 segments of Baseline Road from 2020 through 2023, as well as 18 pavement maintenance projects on arterials in the Study Area. MCDOT has programmed near-term roadway projects on portions of 45th Avenue, 35th Avenue, 31st Drive, Broadway Road, Southern Avenue, Dobbins Road, and Olney Avenue.

Future Public Transit Improvements

The City of Phoenix (2015) T2050 transportation plan includes local bus route extensions on four north-south streets and three east-west streets in the Study Area. A new local route is proposed on Dobbins Road. Valley Metro Rail plans a future extension of the light rail system along I-10, several miles north of the Study Area, to 79th Avenue. The extension could connect with several bus routes serving the Study Area.

Future Active Transportation Improvements

The City of Phoenix has programmed near-term improvements to bike lanes on Broadway Road, Southern Avenue, Dobbins Road, and 35th Avenue. The City's Comprehensive Bicycle Master Plan (2014) identifies planned long-term improvements involving bike lanes on the four major east-west mile streets in the Study Area. The MCDOT Active Transportation Plan (2018) shows 22 potential improvements to various pedestrian and bicycle facilities along major roadways and other streets.

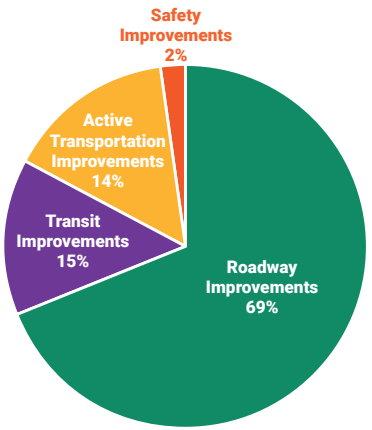
Multimodal Recommendations and Implementation Details

A hallmark of the LSMTS is the recommendation of transportation improvements that can meet the present and future multimodal travel needs of residents and visitors to the Study Area. The improvements pertain to roadways and roadway safety, bicycle and pedestrian facilities (active transportation), and public transit in order to enhance mobility and connectivity for all system users.

The recommendation of specific improvement alternatives was based on existing and future conditions, travel demand modeling, public input, and other criteria. Modeling was used to determine how well the transportation system would operate from a traveler's point of view given different improvements and the resulting network scenarios for 2030, 2035, and 2040. Public input that was garnered during open house events, meetings, and online was also instrumental in identifying which potential improvements can best meet the community's needs. The City of Phoenix and MCDOT will continue to coordinate public engagement efforts and involve both the general public and the Laveen Village Planning Committee in decision-making processes as projects are programmed for design and construction.

In order to increase the functionality of the study, improvement projects were further recommended for a specific year (2030, 2035, 2040) or time frame (near-term, mid-term, or long-term) based on several factors, including: the urgency of needs met; the ability to meet one or more needs previously identified in adopted planning documents; the ability to simultaneously address one or more problems quickly and inexpensively; the ability to fill gaps in facilities or services, especially in key travel corridors; any opportunity to coordinate multimodal solutions by implementing related transportation projects in tandem; the potential to address different types of issues such as roadway capacity and drainage in a single effort; public interest and support; and the availability of funding. It should be noted that funding is neither assured nor earmarked for any of the recommended improvements, including those recommended for 2030 or the near term. Finally, estimated planning-level costs of implementing each recommendation have also been provided to help Laveen residents and leadership further prioritize projects relative to real-time budgetary constraints.

Breakdown of Recommendations Costs



Ultimately, 119 potential improvements have been recommended and detailed for implementation over time to ensure residents and visitors critical mobility and connectivity to area resources.

Key Roadway Recommendations

- Construct approximately 15 miles of roadway capacity improvements on Southern Avenue, Baseline Road, Dobbins Road, 51st Avenue, and 35th Avenue.
- Total cost of recommended roadway improvements: $136 million

Key Safety Recommendations

- Where appropriate, install driver information signs to address safety concerns.
- Consider improved roadway lighting at high-crash locations.
- Perform signal warrant analyses on unsignalized high-capacity / high-crash intersections.
- Conduct signal timing studies in areas with high crash volumes or congestion to potentially improve traffic flow. Additional alternatives may include improvements such as adding or lengthening turn lanes, replacing or relocating signal heads, or installing raised medians.
- Total cost of recommended safety improvements: $4 million

Key Public Transit Recommendations

- Build a new park-and-ride lot along Baseline Road near the Loop 202.
- Extend three local bus routes by a total of eight miles.
- Add a new local bus route on Dobbins Road, extending four miles in the Study Area.
- Total cost of recommended public transit improvements: $28 million

Key Active Transportation Recommendations

- Construct approximately 28 miles of new sidewalks along or adjacent to major roadway corridors.
- Construct approximately 24 miles of new bike lanes along or adjacent to major roadway corridors.
- Construct approximately 6 miles of multi-use paths in major roadway corridors along or adjacent to major roadway corridors.
- Total cost of recommended active transportation improvements: $30 million

$197 MILLION **Total estimated cost of the recommended improvements through 2040, in 2020 dollars.**

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1. Study Background

Background

Laveen, Arizona, is located in Maricopa County, approximately seven miles southwest of downtown Phoenix between the South Mountains and the confluence of the Gila and Salt Rivers. Originally founded by dairymen and farmers in 1884, the community has retained its rural character and longstanding appeal to agriculturalists, equestrians, and those seeking mountain views near the city. Laveen has nevertheless experienced significant growth over the last 20 years, with rapid urbanization stressing the limited, rural transportation system. Increased traffic flows and congestion coupled with infrastructure damage due to seasonal storms are undermining mobility and connectivity and degrading quality of life for area residents.

Further growth and urbanization are anticipated, including increases in population and travel demand, as well as changes in land use, circulation patterns, and transportation needs due to the recent opening of the South Mountain Freeway ("Loop 202") that transects the community. Additional land use and transportation impacts are expected with the proposed State Route 30 (SR-30) that may run perpendicular to the freeway.

Ultimately, the LSMTS constitutes a manageable strategy for delivering a high capacity, integrated, and equitable system that can meet Laveen's transportation needs well into the future.

The **Laveen South Mountain Transportation Study** (LSMTS) is a collaborative effort among the Maricopa Association of Governments (MAG), Maricopa County, and the City of Phoenix (COP) aimed at identifying transportation infrastructure that will meet the demands of continued growth in Laveen and in the Phoenix Metropolitan Area, more broadly. The study is a comprehensive review of existing and future transportation conditions in the Laveen area, as well as an assessment of improvement alternatives and set of recommendations for meeting anticipated travel demands through 2040. The review considers system variables ranging from vehicular, public, and active transportation facilities to roadway conditions and crash histories. The study draws on planning documents, traffic demand forecasting models, and extensive public input to identify and evaluate future base network alternatives. This information was used to develop a set of recommended improvements to enhance system capacity and connectivity between Laveen and areas beyond. A hallmark of the LSMTS, the recommendations are based on specific criteria and presented in conjunction with implementation time frames and rough cost estimates to guide further prioritization and strategic project planning.

The core of the study is presented in five chapters that cover existing conditions, planned transportation elements, demand forecasts, system alternatives, and recommended improvements. Recommendations are provided at the arterial roadway level only; collector and local roadway improvements are not a part of the study. Definitions of key terms, summaries of public engagement efforts and community feedback, and detailed planning-level costs are presented in appendices.

Ultimately, the LSMTS constitutes a practical, holistic strategy for delivering a high-capacity, integrated, and equitable system that can meet Laveen's transportation needs well into the future.

Study Area

The LSMTS Study Area includes approximately 23 square miles roughly centered on the intersection of 51st Avenue and Baseline Road and bounded by the Salt River on the north, 27th Avenue on the east, Elliot Road on the south, and the Gila River Indian Community (GRIC) on the west (Figure 1.1). Defined by MAG, the Study Area captures all of the Laveen community that falls in the City of Phoenix municipal planning area, including portions that have been formally annexed ("Laveen Village") and portions that are in unincorporated Maricopa County. Seventy percent (70%) of the Study Area has been annexed; thirty percent (30%) is unincorporated (Laveen Village Character Plan, City of Phoenix, 2018).

Key Transportation Findings

Land Use

- Based on City of Phoenix plans for the Study Area, the predominant future land use will be low-density residential with fewer than 10 units per acre. Portions of the Loop 202 corridor will become a focus of commercial and mixed uses.

Roadways

- High-volume streets serving the Study Area include Southern Avenue, Baseline Road, 35th Avenue, 51st Avenue, and 67th Avenue.
- Pavement conditions on most major streets in the Study Area are currently rated as good.
- One new east-west freeway, identified as SR-30, will be constructed near the northern boundary of the Study Area with a system interchange at the Loop 202. The state route is currently being designed.
- Substantial traffic volume increases, both daily and in the afternoon peak hour, will occur on major streets in the Study Area, including Southern Avenue and Baseline Road.

Safety

- From 2013 through 2017, the highest frequency of vehicular crashes occurred along Baseline Road, 51st Avenue, and Southern Avenue.
- Rear end, angle, and single vehicle incidents made up two-thirds of all crashes.
- Half of all fatal crashes involved an intoxicated driver; one-fourth involved a pedestrian.

Public Transportation

- The Phoenix Transportation 2050 Plan (City of Phoenix, 2015), known as "T2050," includes several public transit improvements in the Study Area. Many of these improvements were also suggested by residents during public engagement events.

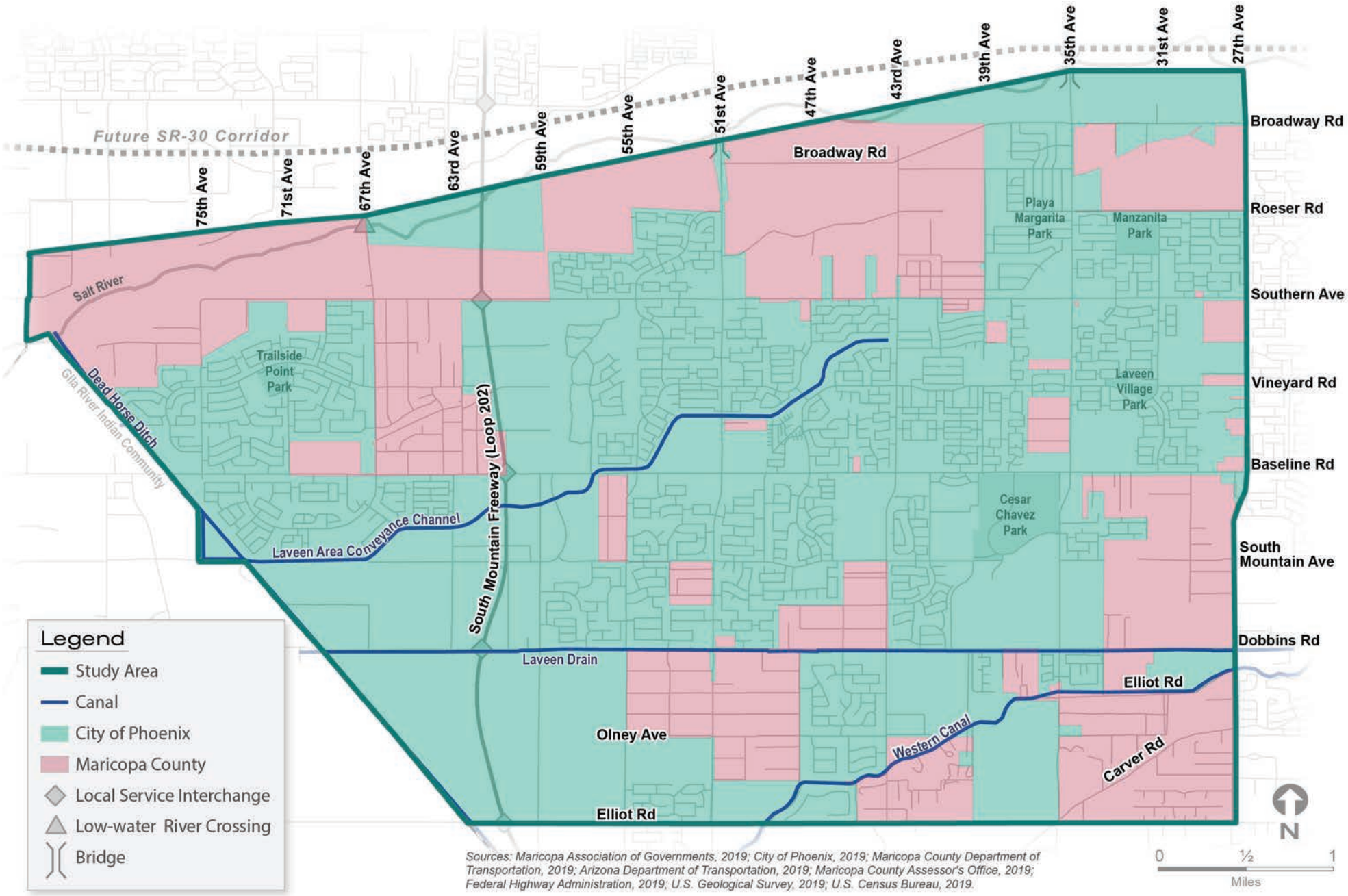
Active Transportation

- The active transportation network in the Study Area includes sidewalks, bike lanes, and multi-use paths. Although the network is extensive, it has many gaps along major roadways.
- Both Phoenix and Maricopa County plan improvements to the active transportation network that are focused on bike lanes and sidewalks.

Key Recommendations

- **Roadways**
  - Construct approximately 15 miles of roadway capacity improvements on Southern Avenue, Baseline Road, Dobbins Road, 51st Avenue, and 35th Avenue.
- **Safety**
  - Where appropriate, install driver information signs to address safety concerns.
  - Consider improved roadway lighting at high-crash locations.
  - Perform signal warrant analyses on high-capacity / high-crash intersections.
  - Conduct signal timing studies in areas with high crash volumes or congestion to potentially improve traffic flow. Additional alternatives may include improvements such as adding or lengthening turn lanes, replacing or relocating signal heads, or installing raised medians.
- **Public Transportation**
  - Build a new park-and-ride lot along Baseline Road near the Loop 202.
  - Extend three local bus routes by a total of eight miles.
  - Add a new local bus route on Dobbins Road, extending four miles in the Study Area.
- **Active Transportation**
  - Construct approximately 28 miles of new sidewalks along or adjacent to major roadway corridors.
  - Construct approximately 24 miles of new bike lanes along or adjacent to major roadway corridors.
  - Construct approximately 6 miles of multi-use paths in major roadway corridors along or adjacent to major roadway corridors.
- **Cost Analysis of Final Recommendations**
  - The total estimated cost of the recommended improvements through 2040, in 2020 dollars, is approximately $197 million.
  - Approximately $136 million dollars, or 69 percent (69%) of the total cost, would be applied to roadway improvements that enhance motor vehicle mobility.
  - Approximately $28 million dollars, or 14 percent (14%) of the total cost, would go toward transit improvements. Of the transit funding, about $8 million dollars, or 29 percent (29%), would pay for the new park-and-ride lot, and most of the remainder would pay for the operating costs of new and extended routes through 2040.
  - Approximately $30 million dollars, which is 15 percent (15%) of the total cost, would go toward active transportation improvements. This cost would be divided among bike lanes ($11.5 million, or 38% of the subtotal), sidewalks ($9.3 million, or 31% of the subtotal), and multi-use paths ($9.2 million, or 31% of the subtotal). Multi-use paths are the most expensive per mile.
  - Approximately $4 million dollars, or two percent (2%) of the total cost, would go toward various recommended safety improvements. However, this does not necessarily include the cost of capital improvements that may be recommended in traffic studies.

Figure 1.1 *Study Area*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; Federal Highway Administration, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019.

2. Existing Conditions

Understanding the Existing Transportation System

The existing Laveen transportation system supports a burgeoning population in one of the fastest growing areas in the nation. Laveen's population was an estimated 52,500 people in 2015 and is expected to grow by 34 percent (34%) over the course of 15 years; Maricopa County is expected to grow by 30 percent (30%) in the same time period (Laveen Village Character Plan, City of Phoenix, 2018). The current network of arterial roadways and other transportation infrastructure will be unable to meet demand for travel to social, cultural, and economic opportunities in and around the community.

The existing transportation facilities in the Study Area provide the base for evaluating anticipated travel demand. This evaluation assists in determining gaps in needed travel resources and in helping to identify improvement alternatives. The review of existing conditions begins with a community profile, including community services, health, education, other local resources, and points of interest. These provide the context in which the demand for increased mobility will arise and the distinctive character that residents wish to preserve. The chapter then reviews current zoning, utilities, drainage, and floodplains. This is followed by a discussion of roadway capacity (number of lanes), pavement conditions, crash histories, public transportation, and active transportation. Community input was integral to understanding these local conditions and is summarized in Appendix B.

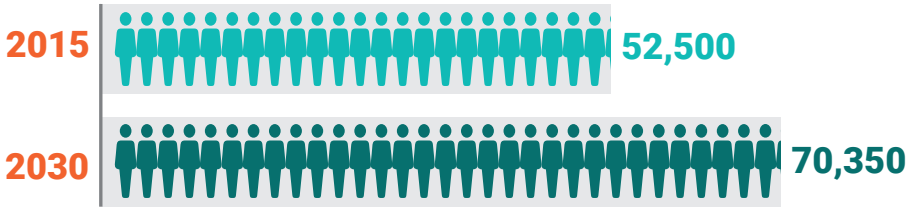
The population of Laveen is projected to increase 34% in the next 15 years.

Community Profile

Community Resources and Points of Interest

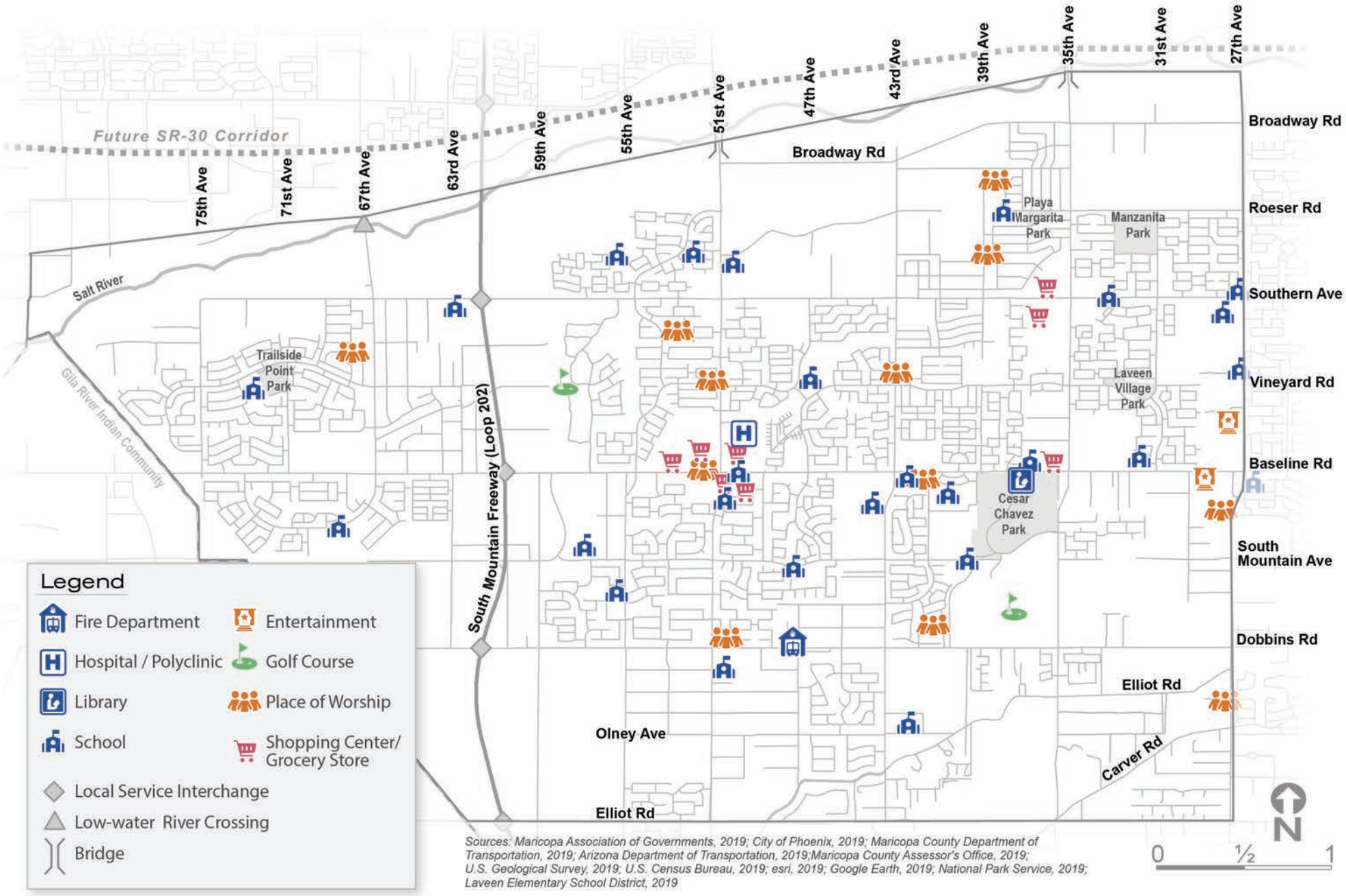
The Study Area contains many schools, parks, and other facilities that serve the needs of the community and which must be integrated into the transportation system to connect residents and services and ensure opportunities are maximized. Figure 2.1 shows the locations of these facilities and other community resources that impact traffic volumes and access needs in different ways, as discussed below.

Estimated Laveen Population in 2015 and 2030



Water Tower, Laveen Arizona. Photo by Marine 69-71, September 2015, CC-BY-SA-4.0 International.

Figure 2.1 *Community Facilities and Points of Interest*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019;Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019; esri, 2019; Google Earth, 2019; National Park Service, 2019; Laveen Elementary School District, 2019

Health and Safety Resources

Dignity Health Arizona General Hospital opened in the heart of the Study Area in 2015. The 39,000-square-foot hospital just north of Baseline and 51st Avenue has 16 inpatient rooms, two operating rooms, a laboratory, radiology suite, and 24-hour emergency services. Residents also have access to a number of urgent care facilities in the immediate area.

Laveen Village is serviced by a local fire station and several police stations outside the Study Area. Phoenix Fire Station 58 is located on Dobbins Road, west of 47th Avenue, and the closest police stations are approximately three miles northeast of the community.

Educational Resources

Laveen is served by the Laveen Elementary School District and the Phoenix Union High School District, which administer a total of eight traditional elementary / middle schools and two traditional public high schools. The Study Area has five charter schools and a private school that also serve primary and secondary learners.

South Mountain Community College (SMCC) Laveen Center on South 59th Avenue provides post-secondary education opportunities, as do other community colleges just outside the Study Area. Although these campuses offer online learning opportunities, most adult learners use the transportation network to access these resources.

Parks and Other Recreational Opportunities

Seventeen percent (17%) of the Study Area consists in designated parks and open space owned and managed by the City of Phoenix, including five city parks and a network of multi-use paths and trails for pedestrians, bicyclists, and equestrians.

Cesar Chavez Park.

Cesar Chavez Park in the eastern part of the Study Area on 35th Avenue between Baseline and Dobbins Road is of particular note. The park offers fishing and boating on Alvord Lake, a skating plaza, dog park, fields, ramadas, and the new Cesar Chavez Community Center that is scheduled to open in 2021. Cesar Chavez Library is immediately adjacent to the park, and one of two public golf courses is located to the south. The library was named one of 10 New Landmark Libraries by the Library Journal in 2011 and has won multiple environmental awards. The park, library, and golf course are all easily accessible via major roadways and public transportation.

Laveen itself is nestled against the base of South Mountain Park and Preserve, the largest municipal park in the United States, an unparalleled regional asset, and Phoenix Point of Pride. The Park encompasses 16,000 acres of rugged desert terrain and affords spectacular views, solitude, and access to scenic natural landmarks. The landscape has been used for thousands of years and is home to many ancient trails, prehistoric images (petroglyphs), and historic-period structures.

Del Monte Market, Laveen, Arizona.

Historic Sites

The Laveen family homestead was located at the present-day intersection of 51st Avenue and Dobbins Road, where the family also built the area's first general store. A second store, the Del Monte Market, was built at 27th Avenue and Dobbins Road in 1908 and is now considered the longest continuously operating general store in the state. It is one of two properties in the Study Area that are listed on the Historic Property Register of the City of Phoenix. The Sachs-Webster Farmstead that was built around 1909 is also on the Phoenix register, and the Laveen School Auditorium that was built in 1908 is listed on the National Register of Historic Places. At the heart of the Laveen Village, these properties represent the area's unique past and inform current residents' sense of place.

Zoning

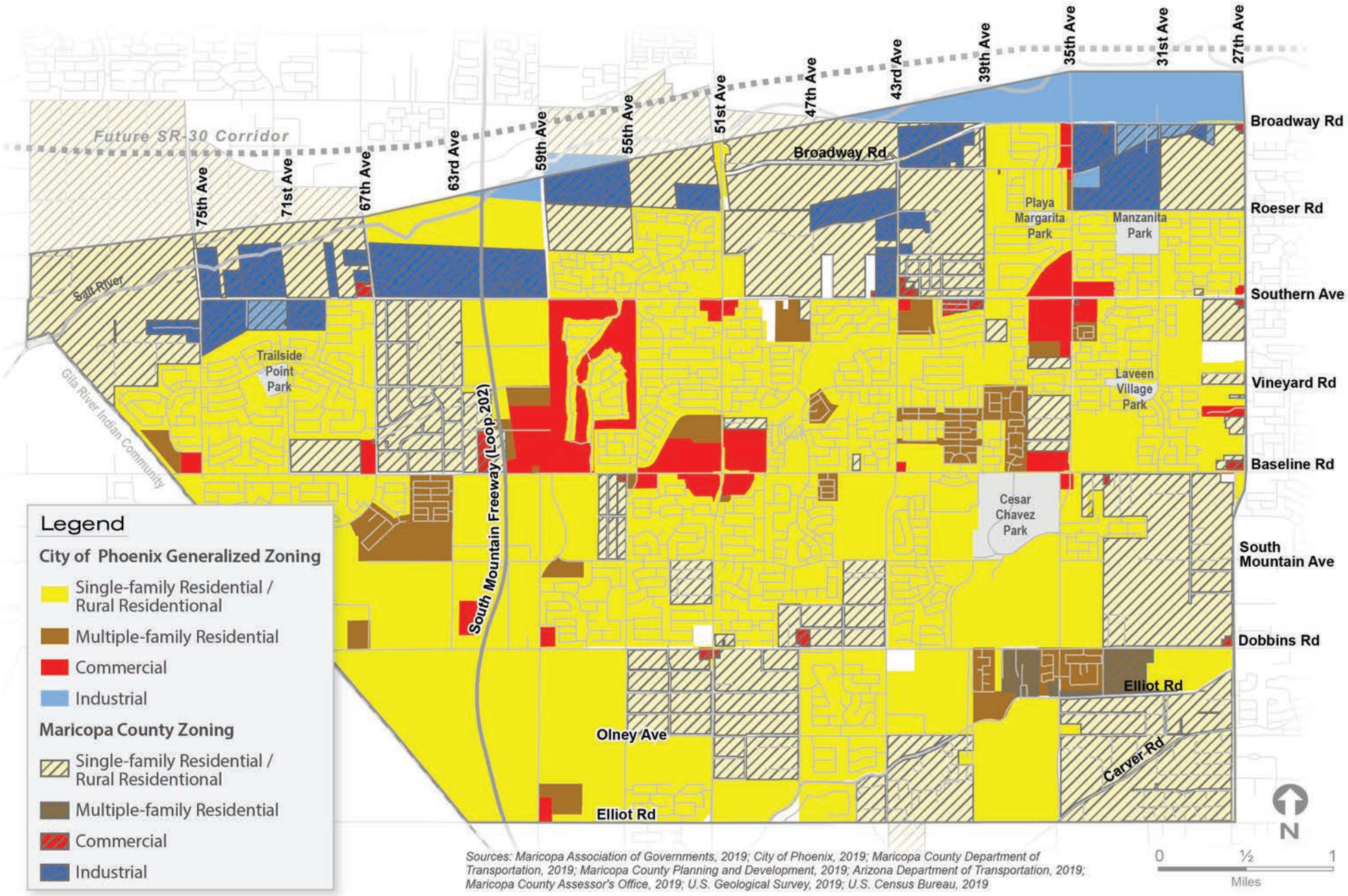
Most of the LSMTS Study Area, whether in the City of Phoenix or unincorporated Maricopa County, is currently zoned for either commercial or residential uses, with single-family residential most common.

Figure 2.2 shows existing City of Phoenix and Maricopa County zoning in the Study Area, with unincorporated areas indicated by "hatching." The majority of land in the city is zoned for five or fewer residential units per acre (i.e., single-family housing). Multi-family housing and commercial zones are also common. Multi-family zones are located along several north-south and east-west arterial and collector streets, especially along Baseline Road, Southern Avenue, and Dobbins Road. The largest multi-family area exists southwest of the 63rd Avenue / Baseline Road intersection near the Loop 202.

While commercial zoning exists along several arterial streets, the largest concentrations occur along Baseline Road between the Loop 202 and 49th Avenue, along Southern Avenue between 59th and 55th Avenues, and around the intersection of 35th Avenue and Southern Avenue where the Walmart Supercenter is located. Laveen's current commercial core adjoins the intersection of 51st Avenue and Baseline Road. Phoenix has also established several industrial zones in the Study Area, with the largest on the south side of the Salt River between 43rd and 27th Avenues.

Most of the land in unincorporated Maricopa County is zoned single-family residential or low-density, rural residential. Commercially zoned property occupies a relatively small area, but extensive industrially zoned tracts exist along Southern Avenue and north of it. Like Phoenix, Maricopa County plans single-family housing as the predominant land use in Laveen. This zoning category predominates along the Loop 202, although some commercial and industrial zoning exists on both sides of the freeway near Southern Avenue and Baseline Road.

Figure 2.2 *Zoning, 2019*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Maricopa County Planning and Development, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Utilities

Both overhead and underground utilities traverse the Study Area. Figure 2.3 through 2.5 show the locations of three types of utilities in Laveen: communication lines, gas and petroleum pipelines, and electric power lines. Figure 2.3 shows the overhead and underground communication lines in the Study Area; many follow east-west and north-south arterial streets. Figure 2.4 depicts the natural gas and liquid petroleum pipelines. El Paso Natural Gas maintains a petroleum pipeline along 43rd Avenue, and Kinder Morgan has a 12-inch line along 51st Avenue. An abandoned, 6-inch Kinder Morgan pipeline that also follows 51st Avenue is represented with hatching. Southwest Gas maintains several natural gas lines in the area, as well. Figure 2.5 identifies the overhead and underground electric power lines in Laveen and indicates most are owned and operated by Salt River Project (SRP), a primary water and electric utility in the State of Arizona. In some cases, overhead and underground lines follow the same alignment.

Photo by Robin M., unsplash.com

Figure 2.3 *Communication Lines, 2019*

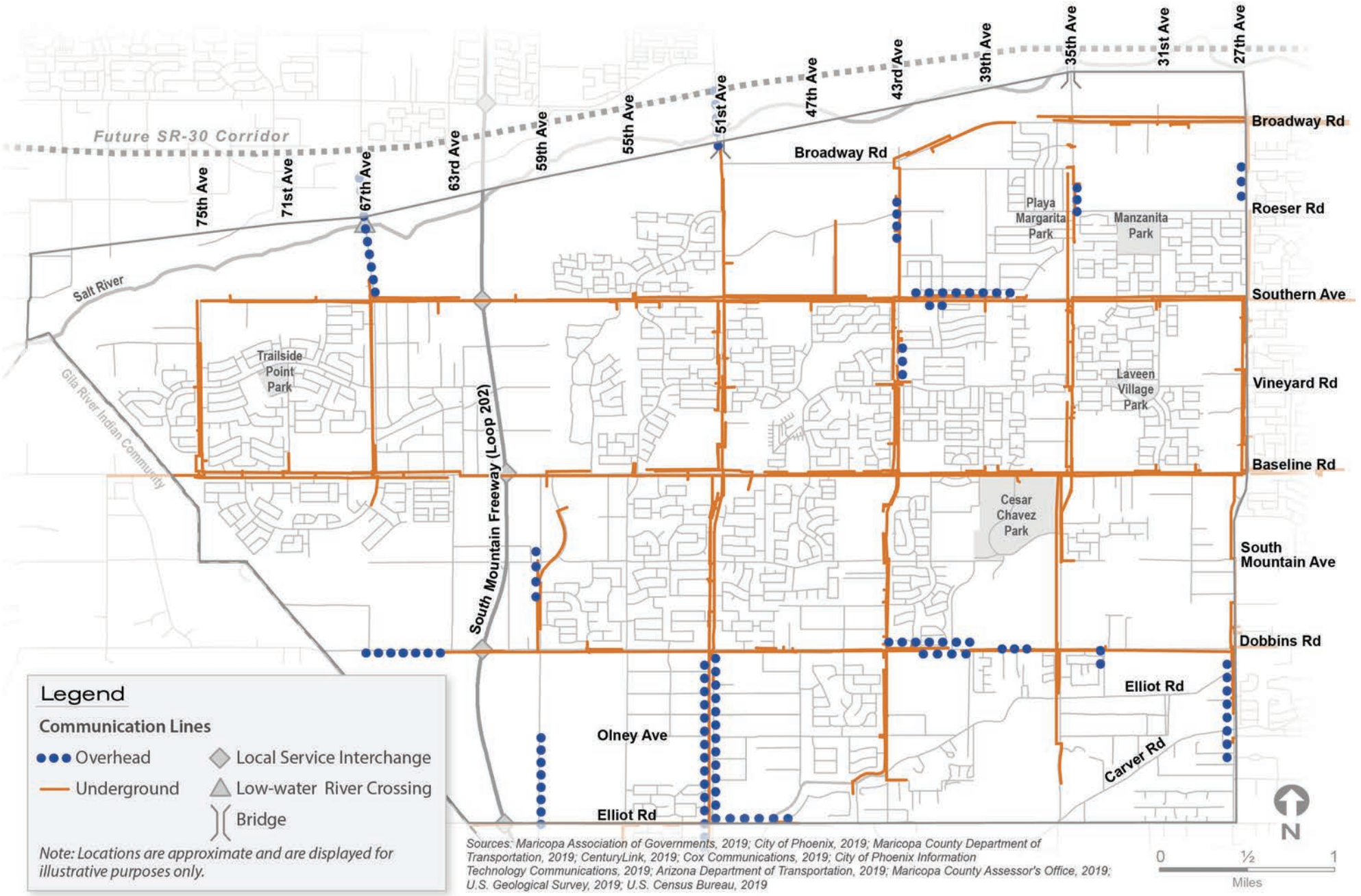


Figure 2.4 *Gas and Petroleum Lines, 2019*

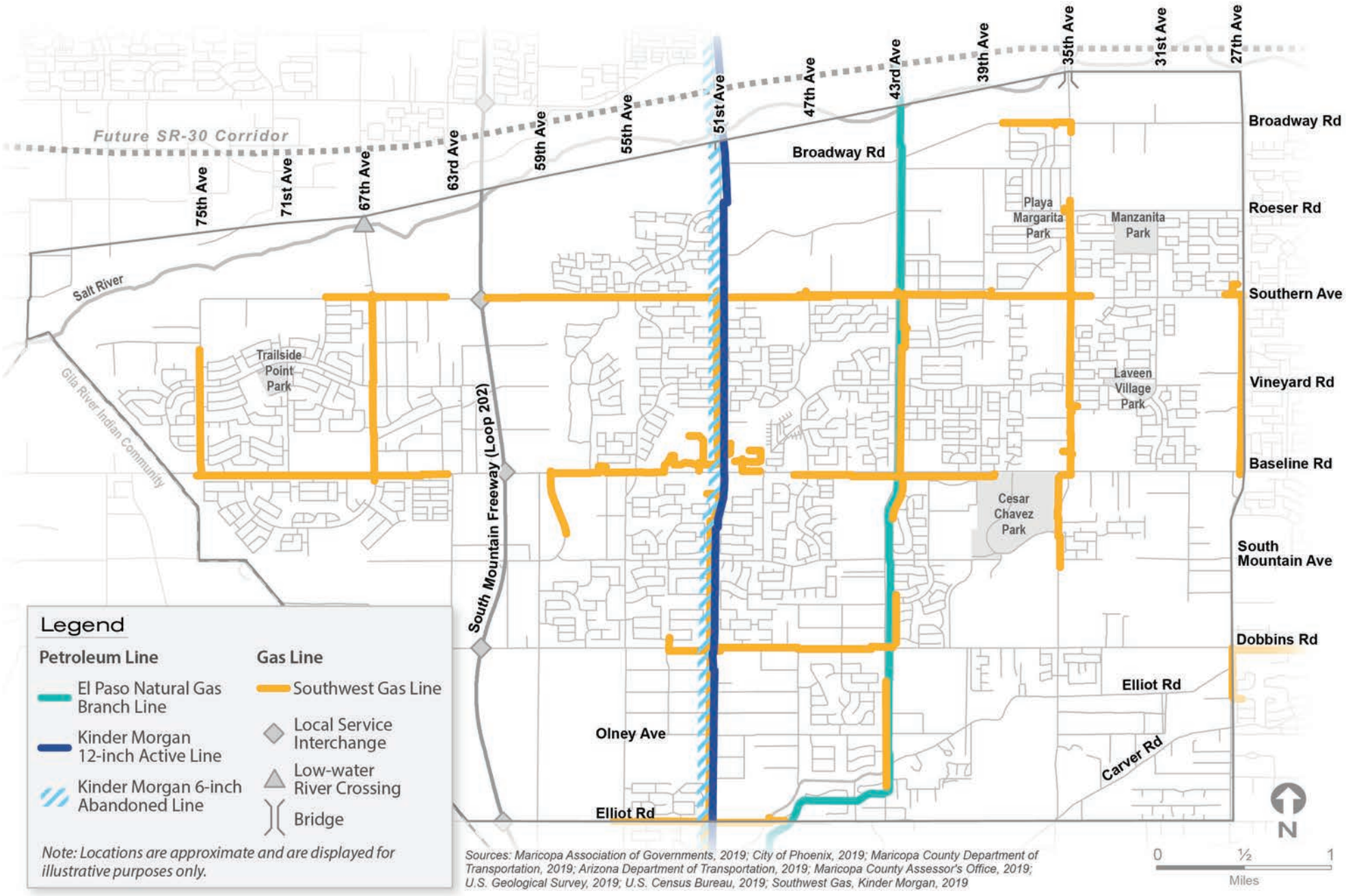
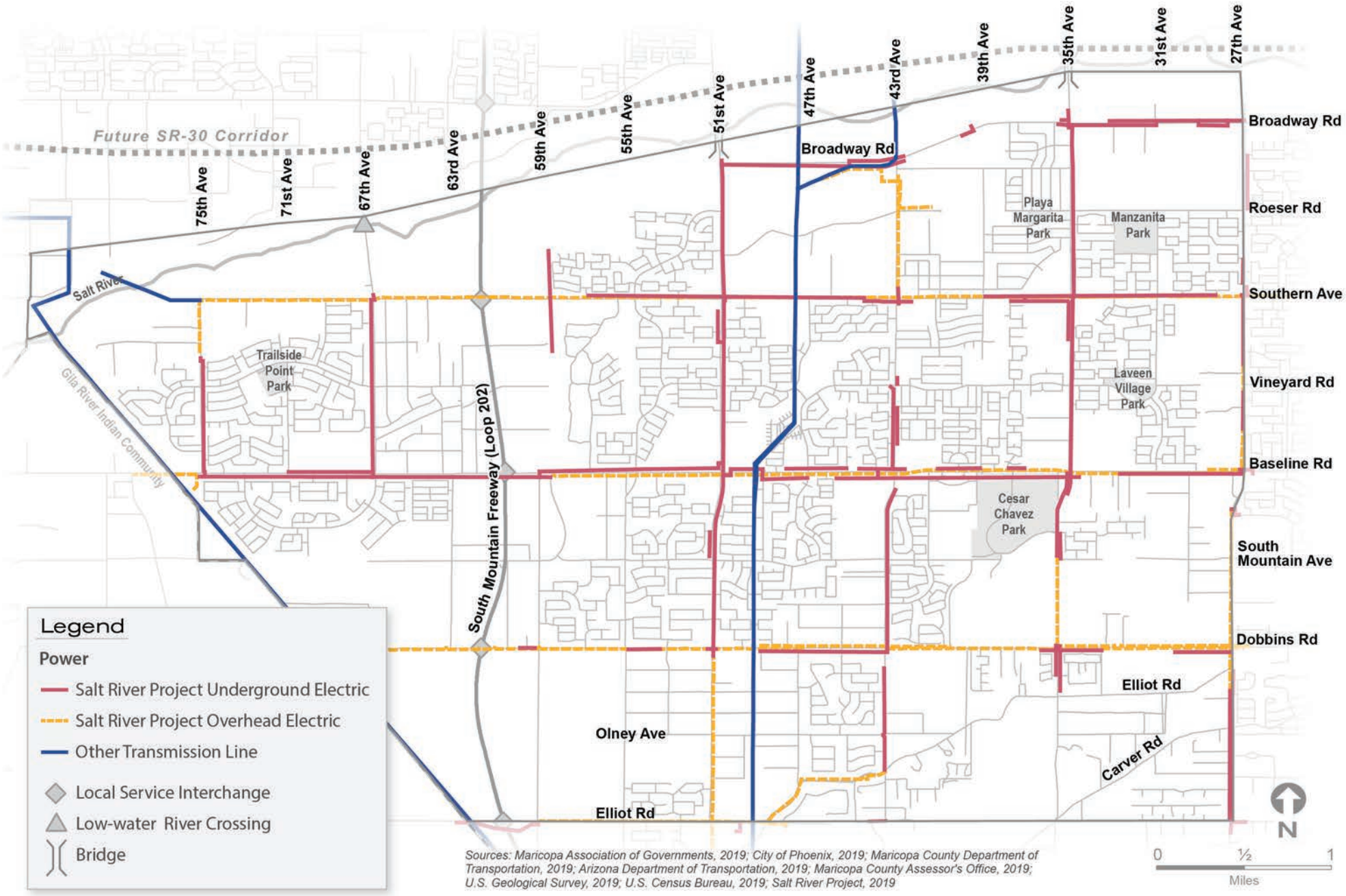


Figure 2.5 *Electric Lines, 2019*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019; Salt River Project, 2019

Drainage and Floodplains

Figure 2.6 shows the existing and proposed drainage features and infrastructure in the Study Area, including storage facilities (e.g., detention basins), storm drains, storm culverts, the Laveen Area Conveyance Channel (LACC), and other facilities described below. The Flood Control District of Maricopa County (FCDMC) designed and built much of the infrastructure, often in cooperation with the City of Phoenix, Maricopa County Department of Transportation (MCDOT), and other partners.

Major Drainage Features

Salt River

The Salt River flows from east to west near the northern edge of the Study Area and is the major outfall for the Village. It is typically dry, with a roughly graded sand and gravel bed. Channel alignment has been disrupted by low-flow road crossings, and the bed disturbed by industrial activities, including gravel operations. Figure 2.6 shows the alignment as it traverses the Study Area and the associated 100-year regulatory floodplain designated by the Federal Emergency Management Agency (FEMA).

Until December 2019 when the Loop 202 was completed, the Salt River presented a significant barrier to north-south travel between Laveen and the rest of the West Valley to the north. The only bridged, all-weather river crossings in the Village were on 35th Avenue and 51st Avenue, and the low-water crossing at 67th Avenue is often closed after heavy rains and/or the release of water stored upstream by SRP. The two new four-lane bridges that carry the Loop 202 across the riverbed have now greatly improved connectivity and access to resources and activities outside the Study Area.

Laveen Area Conveyance Channel

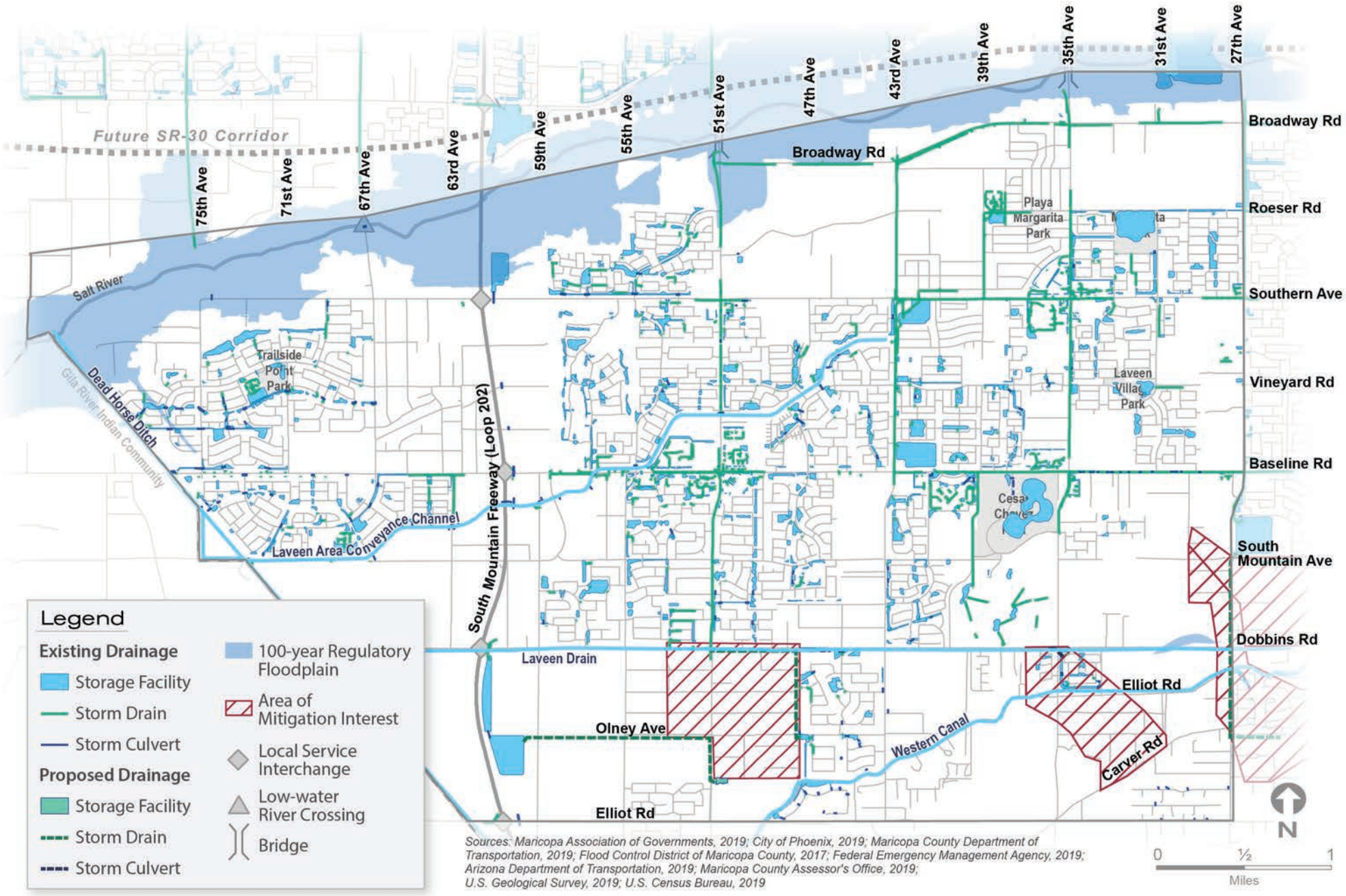
The LACC extends 5.85 miles from 43rd Avenue south of Southern Avenue to the Salt River near the 81st Avenue alignment. The LACC effectively upgrades the Maricopa Drain to a regional flood control facility able to contain and convey a 100-year flood, and thereby provide flood protection to the area bounded by the Salt River on the north, South Mountain Park on the south, GRIC on the west, and 43rd Avenue on the east. The LACC and an associated flood control basin at 43rd Avenue and Southern Avenue, which mitigates peak flood flows to the conveyance channel, are grass-lined with a concrete, low-flow channel for delivering irrigation water pumped by SRP to GRIC. The LACC also collects and carries irrigation tailwater from surrounding agricultural fields to the Salt River.

The LACC was a collaborative project between the FCDMC, the City of Phoenix, MCDOT, and SRP and designed with an average 200-foot-wide corridor with desert landscaping, trails, and other multi-use amenities that provide diverse recreational opportunities while enhancing and integrating the corridor aesthetic and adjacent environment.

Western Canal

The Salt River Project operates the Western Canal, which is an irrigation canal and primary outfall for the area between Carver Hills and South Mountain Park. It generally runs east-west for 22 miles from the town of Gilbert to the vicinity of 40th Avenue and Carver Road in the South Mountain foothills.

Figure 2.6 *Drainage and Flood Control Facilities, 2017*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Flood Control District of Maricopa County, 2017; Federal Emergency Management Agency, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Dead Horse Ditch

Dead Horse Ditch is an earthen channel that parallels the eastern boundary of the Gila River Indian Community and the power line corridor west of Carver Hills. It runs northwesterly from 51st Avenue one-half mile south of Estrella Drive to Elliot Road, where it continues due west on Indian land. Its capacity is insufficient to convey significant storm flows.

Laveen Drain

The Laveen Drain is a subsurface pipeline that drains upper soils so that agricultural fields may be farmed. Installed in the 1920s, the concrete and clay pipe has open joints that allow water to infiltrate and be carried downstream to Dead Horse Ditch. It was not intended as a storm water facility but to drain saturated soils. The drain varies in diameter from 10 to 18 inches and proceeds southwesterly from 43rd Avenue and Dobbins Road to Dead Horse Ditch.

Completed Flood Control Projects

The following paragraphs briefly describe current, recently completed, and proposed flood control projects and studies in the Study Area. The information comes from FCDMC sources such as the Maricopa County web site and Laveen Area Drainage Master Study / Plan Update (ADMPU).

Laveen Area Drainage Master Plan

In the fall of 2000, the FCDMC initiated the Laveen Area Drainage Master Plan (ADMP) for a study area bounded by approximately the Salt River, South Mountain Park, GRIC, and 7th Avenue. The area had been subject to frequent flooding hazards, primarily due to the inadequate capacity of the original Maricopa Drain and to ponding from inadequate conveyance of substantial storm water. The ADMP was timed to precede impending development.

The recommended plan incorporated stakeholder input and consisted in a combined system of basins, channels, and storm drains. These recommendations have since been superseded by the ADMPU, as described in the following paragraph.

Laveen Area Drainage Master Study / Plan Update

The purpose of the Laveen Area Drainage Master Study / Plan Update (ADMPU) that was completed by the FCDMC in December 2017 was to quantify the extent of drainage, along with flooding problems, sources, and hazards in the 37 square miles bounded by the Salt River, South Mountain, the western boundary of the Hohokam Area Drainage Master Study, and the GRIC. This area encompasses the entire LSMTS Study Area. In 2002, the original Laveen ADMP recommended drainage mitigations that included constructing several detention basins and storm drain systems in order to decrease flooding hazards and carry storm water to the LACC. The ADMPU identifies additional flooding problems revealed by 2014 storms and re-examines the recommended alternative.

The ADMPU identified six Areas of Mitigation Interest (AoMI) warranting consideration of flood control alternatives. Three are located at least partially within the LSMTS Study Area (Figure 2.6) and are described below.

- **AoMI 2:** 51st Avenue and Sunrise Drive, an area situated between Dobbins Road, 47th Avenue, and 54th Avenue. Recommendations are summarized below in the description of the 51st Avenue and Sunrise Drive AoMI Drainage Improvement Project.
- **AoMI 3:** 35th Avenue and Olney Avenue, an area trending from southeast to northwest, south of Dobbins Road, north of Elliot Road, and between 30th and 37th Avenues. Recommendations are summarized below in the description of the 35th Avenue and Olney Avenue AoMI Drainage Improvement Project.
- **AoMI 4:** 27th Avenue and Olney Avenue. The portion that falls within the Study Area is north and west of the 27th Avenue / Elliot Road intersection. Recommendations are summarized below in the description of the 27th Avenue and Olney Avenue project.

35th Avenue and Dobbins Road Basin and Storm Drain

A previous FCDMC study recommended a detention basin at this intersection, which is located at the northern edge of AoMI 3. The City of Phoenix intended to use the area as a public golf course, so implementing a joint use basin and recreational facility was found to be the most cost-effective solution. The 100-year basin drains through a storm drain constructed along 39th Avenue with an outlet to the Baseline Road Storm Drain. The City of Phoenix acted as the lead agency for construction and shared the capital cost with FCDMC.

Baseline Road Storm Drain

The Baseline Road Storm Drain is part of the South Phoenix Drainage Improvement Project, which protects residents and farmland from a 100-year flood. It also protects a high school and an elementary school. The system consists of underground pipes and basins, including a storm drain along Baseline Road between 43rd and 7th avenues, with an outlet at a basin constructed at 43rd Avenue / Baseline Road. It was completed through a partnership among FCDMC, Phoenix, and MCDOT. FCDMC and MCDOT shared the cost. Phoenix owns, operates, and maintains the project.

Lower Salt River Floodplain Delineation Study

The Lower Salt River Floodplain Delineation Study updated approximately 15 miles of the Special Flood Hazard Area of the lower Salt River from near the 44th Street bridge to its confluence with the Gila River. FEMA approved the proposed changes to the Flood Insurance Rate Map, effective in 2017.

South Phoenix / Laveen Drainage Improvement Project Supplement

Earlier FCDMC studies recommended constructing several detention basins and a storm drain system to reduce flooding hazards and carry storm water to the Salt River. The South Phoenix / Laveen Drainage Improvement Project Supplement examined the expansion of drainage facilities to further mitigate flooding in areas that suffered damage in large storms in the summer of 2014. The study area contained the portion of Laveen east of 35th Avenue from Baseline Road to South Mountain Park, including AoMIs 3 and 4. FCDMC completed the study in 2015.

South Phoenix Two Basins Project (27th Avenue and South Mountain Avenue)

This project consists of a regional storm water detention basin at the northeast corner of 27th Avenue / South Mountain Avenue, in AoMI 4. The basin will discharge to the previously constructed storm drain

system in Baseline Road and will further mitigate flooding hazards with a goal of flood protection up to the 100-year rainfall event. The completed project is owned, operated, and maintained by the City of Phoenix.

South Phoenix Two Basins Project (43rd Avenue and Baseline Road)

This project consists of a regional storm water detention basin at the northeast corner of 43rd Avenue / Baseline Road. The basin will discharge to the previously constructed storm drain system in 43rd Avenue and will further mitigate flooding hazards with a goal of flood protection up to the 100-year rainfall event. The completed project is owned, operated, and maintained by the City of Phoenix.

23rd Avenue and Olney Avenue Detention Basins

The 23rd Avenue and Olney Avenue Detention Basins were originally part of the 27th Avenue and Olney Avenue Storm Drain project. Two of the three basins are located north and south of the Salt River Project's Telegraph Pass Canal along 23rd Avenue. They mitigate flows entering the Southern Highlands Subdivision from the subdivision's east side. The third is along 22nd Avenue south of Olney Avenue. The basins are in or near AoMI 4.

Public input identified flooding on Dobbins Road as a noteworthy issue.

The conceptual project goal was to provide 10-year flood protection to properties south of Olney Avenue and west of 23rd Avenue and on both sides of 27th Avenue north of Olney. The basins were designed to the maximum possible capacity given site constraints. The FCDMC partnered with the City of Phoenix and split the project costs evenly.

Phoenix desired to have the three basins designed and constructed separately from the storm drain. Because it was urgent to implement the basin construction portion before the start of the 2019 monsoon season, FCDMC allowed Phoenix to undertake construction of the three retention basins on 23rd Avenue ahead of the proposed 72-inch storm drain construction.

Design and construction of the three basins, which provide 7.6 million acre-feet of dead storage volume, were completed in September 2019. The final evaluation shows that the three completed basins will provide flood protection up to the 90-year level.

Findings

- The Study Area contains five major drainage features (watercourses), of which the westward-flowing Salt River is by far the most significant.
- The FCDMC, City of Phoenix, and others have recently completed nine flood control studies and constructed projects in the area.
- The first project open house yielded additional findings relating to flooding, as shown in Figure 2.6 and summarized in Appendix B. Flooding along Dobbins Road was repeatedly noted.

Roadways

- Roadways in the Study Area are classified as arterials, collectors, or local roads. Arterials are defined as the major north / south and east / west transportation roadways at 1-mile intervals within the grid system. Collector roads typically run north / south and east / west between the arterial roadways at ½-mile intervals. Local roads are mostly found in residential areas and provide connectivity to collector and arterial roadways. Phoenix street classifications may be overlaid with a scenic designation for the purpose of maintaining the underlying functional classification of the street while imposing special design features and policy requirements. The design features and policies relate to streetscapes, landscaping in adjacent easements, and compatibility with adjacent development to preserve the general character or vistas in a given area. These requirements can impact the range, cost, ease, and prioritization of potential improvements along designated scenic roadways. Portions of 51st Avenue, 35th Avenue, Baseline Road, and Dobbins Road have been designated scenic streets with corresponding overlays, These and other scenic roads are selected on the basis of several criteria, as listed below.
- Interest in preserving existing natural areas
- Recognition of the existing character or theme of adjacent areas
- Commitment to preserving special or unique character
- Recognition and preservation of views from a roadway or adjacent areas

Responsible Agencies

Responsible agency refers to the jurisdiction or entity that owns, operates, and maintains a given roadway. Figure 2.7 indicates which agencies are responsible for roadways in the Study Area, including the State of Arizona, Maricopa County, and the City of Phoenix. Each jurisdiction's responsibilities are also listed below.

State

The State of Arizona is responsible for state highways in the Study Area: the Loop 202, which opened in December 2019, and the future SR-30, a proposed east-west highway described later. The State fulfills its roadway obligations through the Arizona Department of Transportation (ADOT).

Maricopa County

Maricopa County, through MCDOT, is responsible for approximately 10 miles of arterial roadways and collector streets.

- One segment of 75th Avenue (approximately 0.4 miles)
- One segment of 67th Avenue (0.5 miles)
- One segment of 63rd Avenue (0.5 miles)
- One segment of 55th Avenue (0.5 miles)
- One segment of 51st Avenue (0.3 miles)
- Two segments of 43rd Avenue (1.3 miles)
- One segment of 27th Avenue (1.0 miles)
- Two segments of Southern Avenue (2.3 miles)
- One segment of Vineyard Road (0.5 miles)
- One segment of South Mountain Avenue (0.2 miles)
- Four segments of Dobbins Road (1.7 miles)
- One segment of Olney Avenue (0.8 mile)

Shared MCDOT / Phoenix Roadways

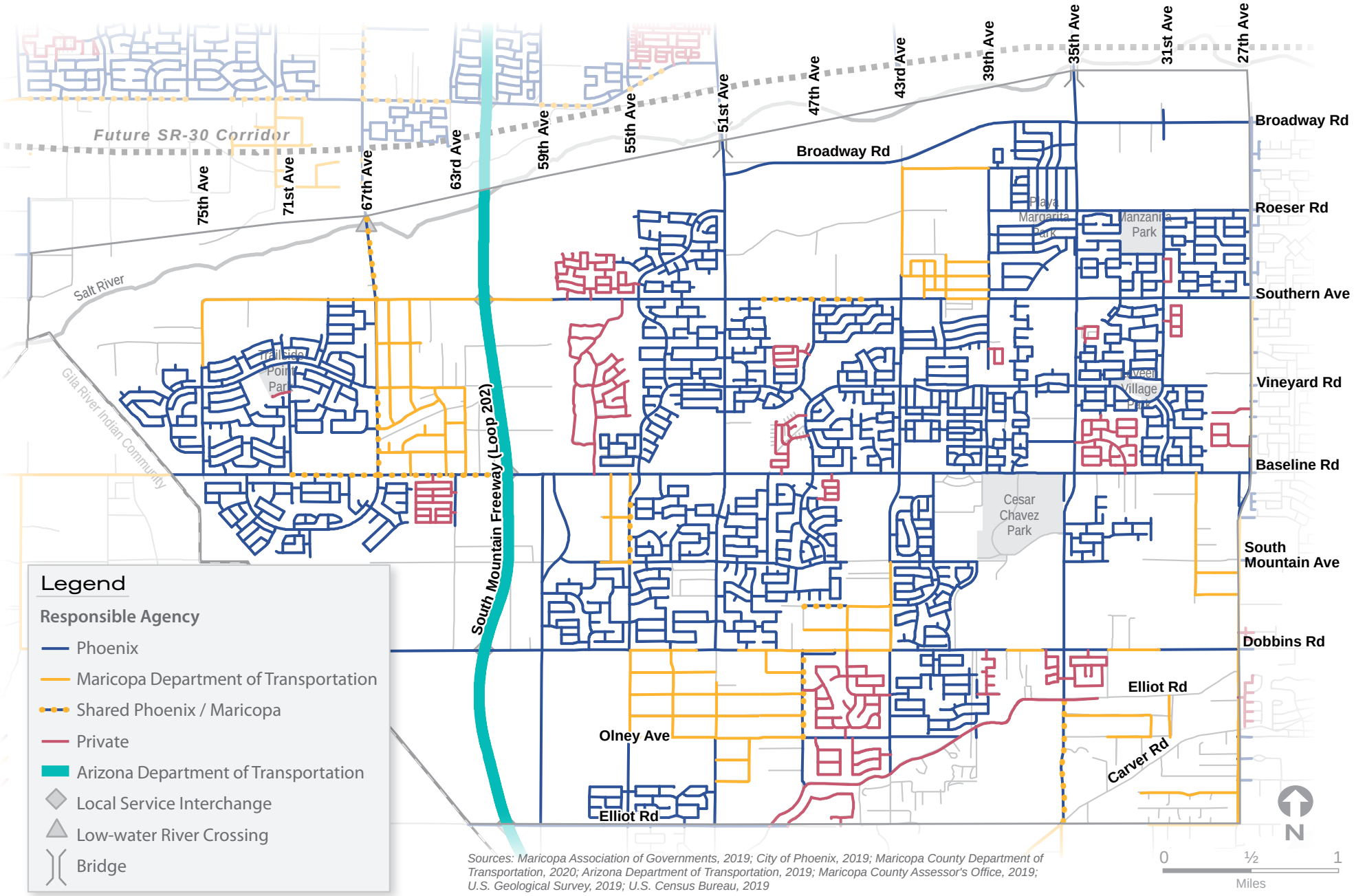
The Study Area also contains more than four miles of arterial and collector streets for which MCDOT and the City of Phoenix share operational and maintenance responsibilities.

- Two segments of 67th Avenue (approximately 1.0 miles)
- One segment of 55th Avenue (0.4 miles)
- One segment of 47th Avenue (0.5 miles)
- One segment of 35th Avenue (0.7 miles)
- One segment of Southern Avenue (0.6 miles)
- One segment of Baseline Road (1.2 miles)

City of Phoenix

Excepting the roadways that fall under MCDOT's jurisdiction and the roadways for which MCDOT and COP share responsibilities, the City of Phoenix is responsible for all arterial, collector, and local neighborhood streets in the Study Area.

Figure 2.7 *Agencies Responsible for Roadway Facilities*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2020; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

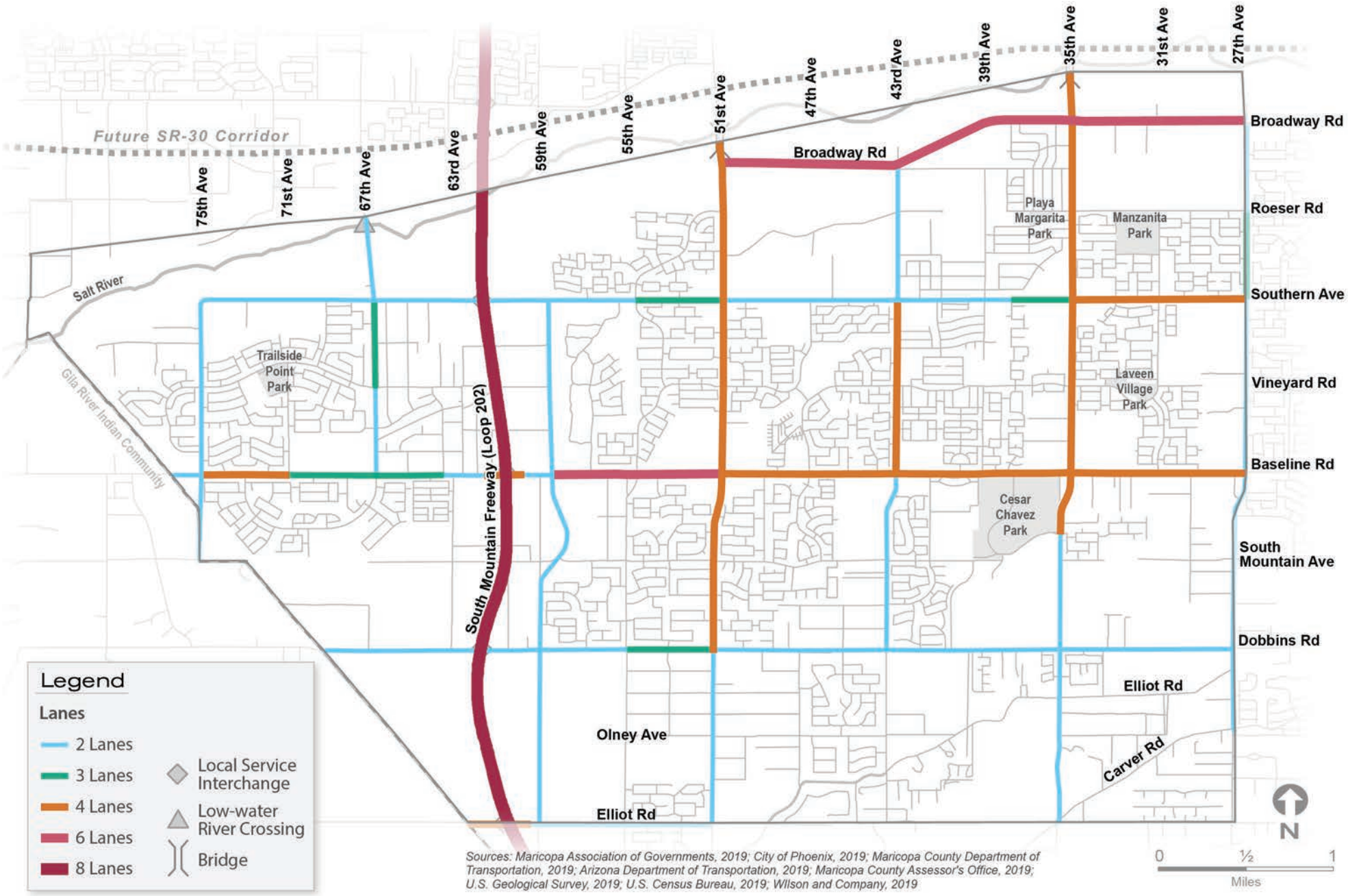
Existing Number of Lanes

Figure 2.8 depicts the existing number of lanes on major roads and streets in the LSMTS Study Area. Table 2.1 lists the City of Phoenix and Maricopa County roadways that have four or more traffic lanes; i.e., two or more per direction.

Table 2.1 *Existing Lanes on Major Roads in the Study Area*

Number of Lanes on Study Area Roadway Segments		
Roadway	**Segment**	**No. of Lanes**
Broadway Rd	51st Ave-27th Ave	6
Southern Ave	35th Ave-27th Ave	4
Baseline Rd	75th Ave-71st Ave	4
Baseline Rd	59th Ave -51st Ave	6
Baseline Rd	51st Ave-27th Ave	4
51st Ave	North Study Area boundary-Dobbins Rd	4
43rd Ave	Southern Ave-Baseline Rd	4
35th Ave	North Study Area boundary-south edge of Cesar Chavez Park	4

Figure 2.8 *Number of Lanes, 2018*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019; Wilson and Company, 2019

Recent Traffic Counts

Existing Average Daily Traffic

Figure 2.9 shows year 2018 average daily traffic on major streets in the Study Area. The heaviest daily (weekday) traffic of over 35,000 vehicles occurs at the 35th Avenue bridge over the Salt River. For many residents of the area, this is the shortest link to I-10, which connects to the freeway system that serves the entire MAG region. Similarly, 51st Avenue carries more than 30,000 vehicles from the Salt River Bridge to Southern Avenue. Other roadways accommodating more than 20,000 vehicles include Broadway Road (east of 51st Avenue, where recently widened by MCDOT), Southern Avenue, Baseline Road, 67th Avenue, 51st Avenue, and 35th Avenue.

Over 35,000 vehicles cross the bridge at 35th Avenue over the Salt River every day.

Existing PM Peak Hour Traffic Volumes

Figure 2.10 shows directional 2018 traffic volumes during the afternoon (PM) peak hour on major streets. The afternoon peak usually experiences the highest traffic volumes of the day, with volumes of more than 3,000 vehicles typically occurring in a number of locations.

- Broadway Road east of 51st Avenue (in each direction)
- 51st Avenue from the Salt River to Southern Avenue (in each direction)
- 35th Avenue just south of the Salt River (in each direction)
- Portions of westbound Southern Avenue, westbound Baseline Road, southbound 67th Avenue, and southbound 35th Avenue

Many of the 2018 traffic patterns in both the AM and PM peak periods may change now that the Loop 202 is open. With respect to surface streets, the changes may involve the location and direction of traffic flows, as well as reduced traffic at some places.

Traffic Control and ITS Infrastructure

Figure 2.11 depicts the location of traffic signals in the Study Area. As of November 2019, the Study Area contained 25 signalized intersections.

East-west streets

- Baseline Road (at 11 intersections)
- Southern Avenue (5)
- Broadway Road (4)
- Vineyard Road (3)
- Roeser Road (1)
- Dobbins Road (1)

North-south streets

- 51st Avenue (at 6 intersections)
- 43rd and 35th avenues (4 each)
- 27th Avenue (3)
- Various others (8)

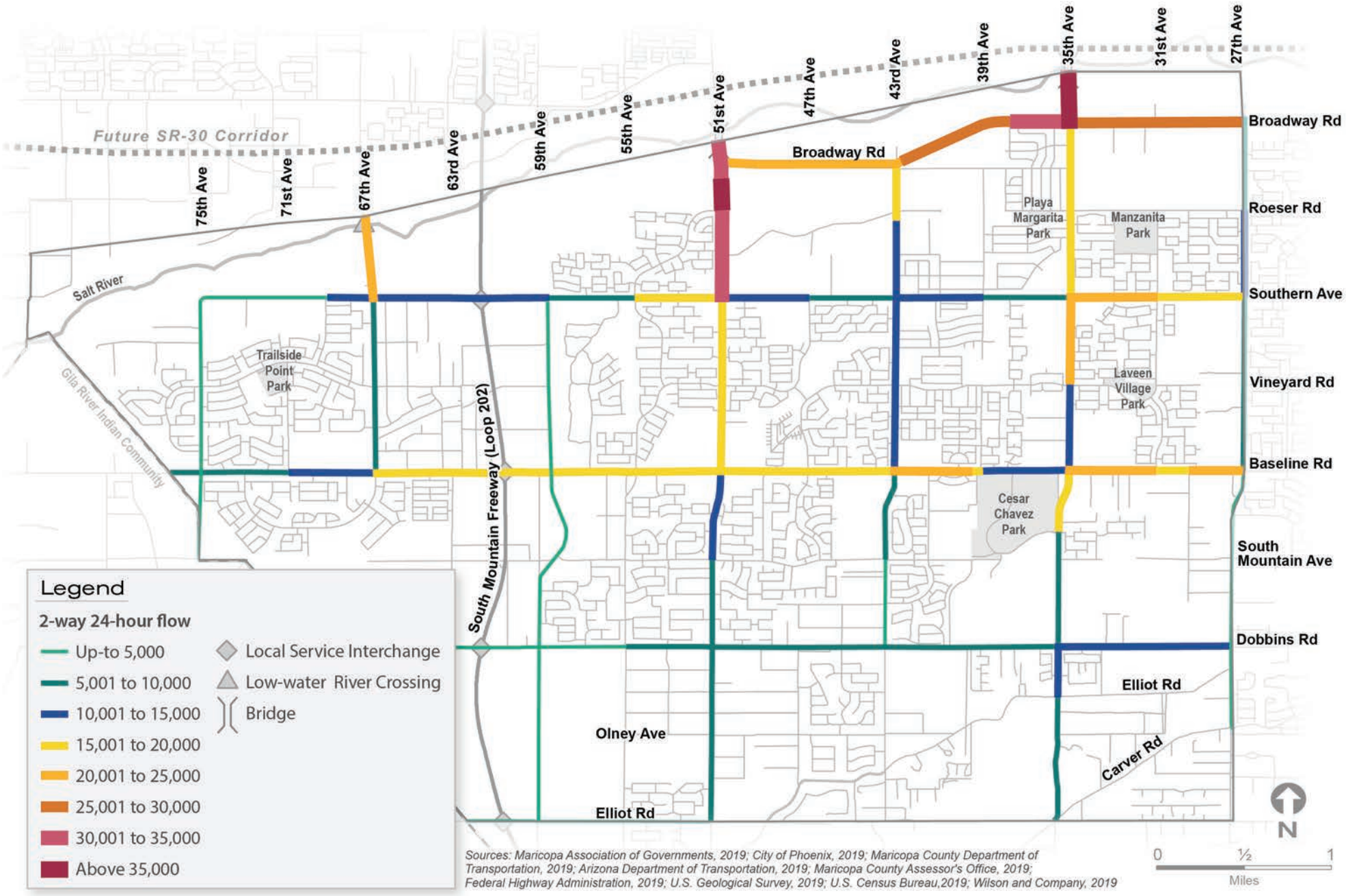
Of the 25 signalized intersections, 22 use a green arrow to allow protected left turns in at least one direction. Eleven provide for protected left turns in every direction.

Figure 2.12 shows existing signals and other traffic control devices on arterial streets. In addition to the 25 signalized intersections, seven locations have two-way STOP control and four have all-way STOP signs.

Right-of-Way

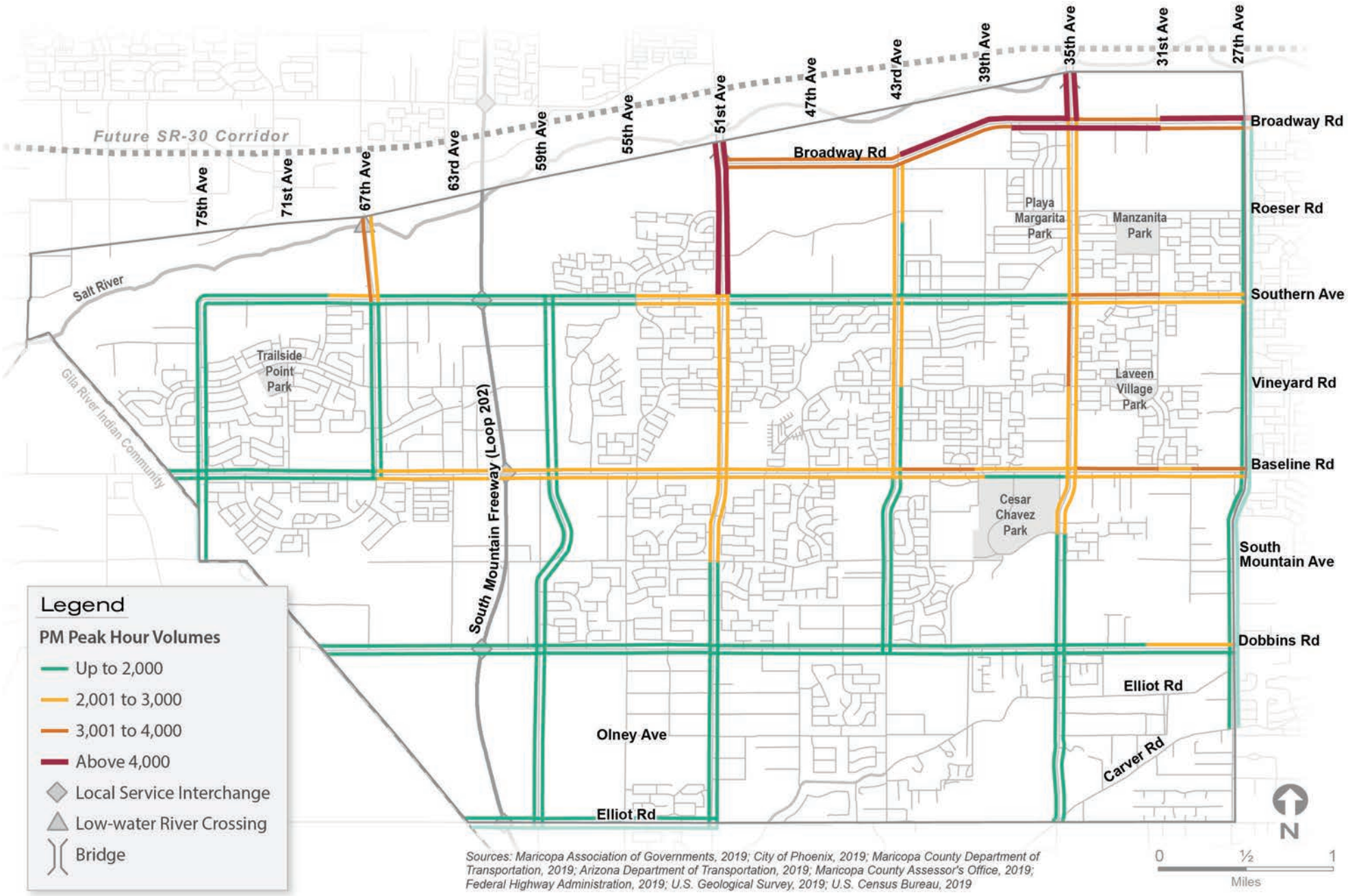
Figure 2.13 depicts right-of-way widths of major roads in the LSMTS communities. Most surface streets have no more than 150 feet of right-of-way. Segments of a few north-south and east-west arterial streets are wider. Loop 202 is the only roadway with a right-of-way wider than 200 feet.

Figure 2.9 *Average Daily Traffic Volumes, 2018*



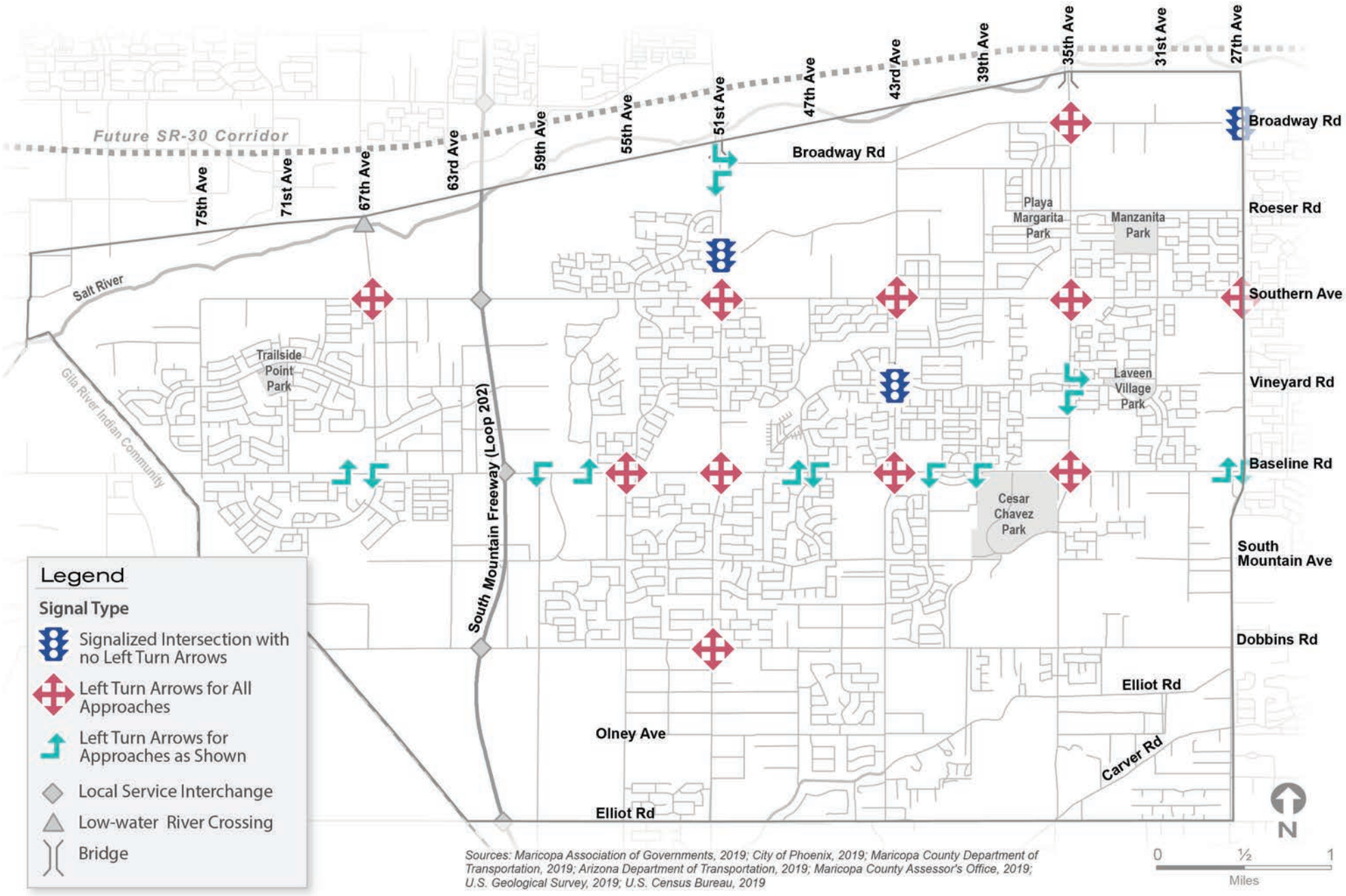
Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; Federal Highway Administration, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau,2019; Wilson and Company, 2019

Figure 2.10 *Afternoon Peak Hour Traffic Volumes, 2018*



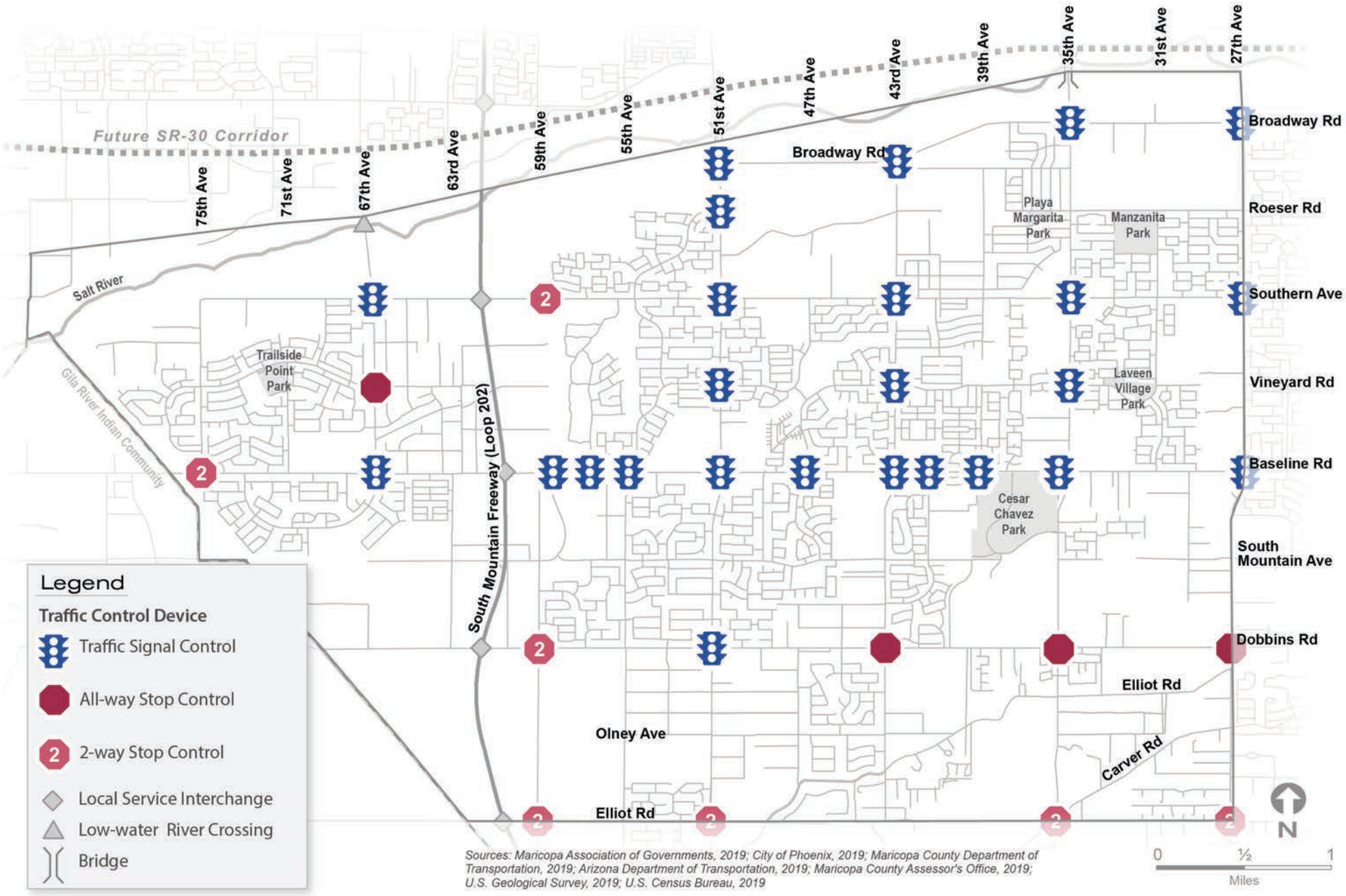
Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; Federal Highway Administration, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 2.11 *Signalized Intersections, 2019*



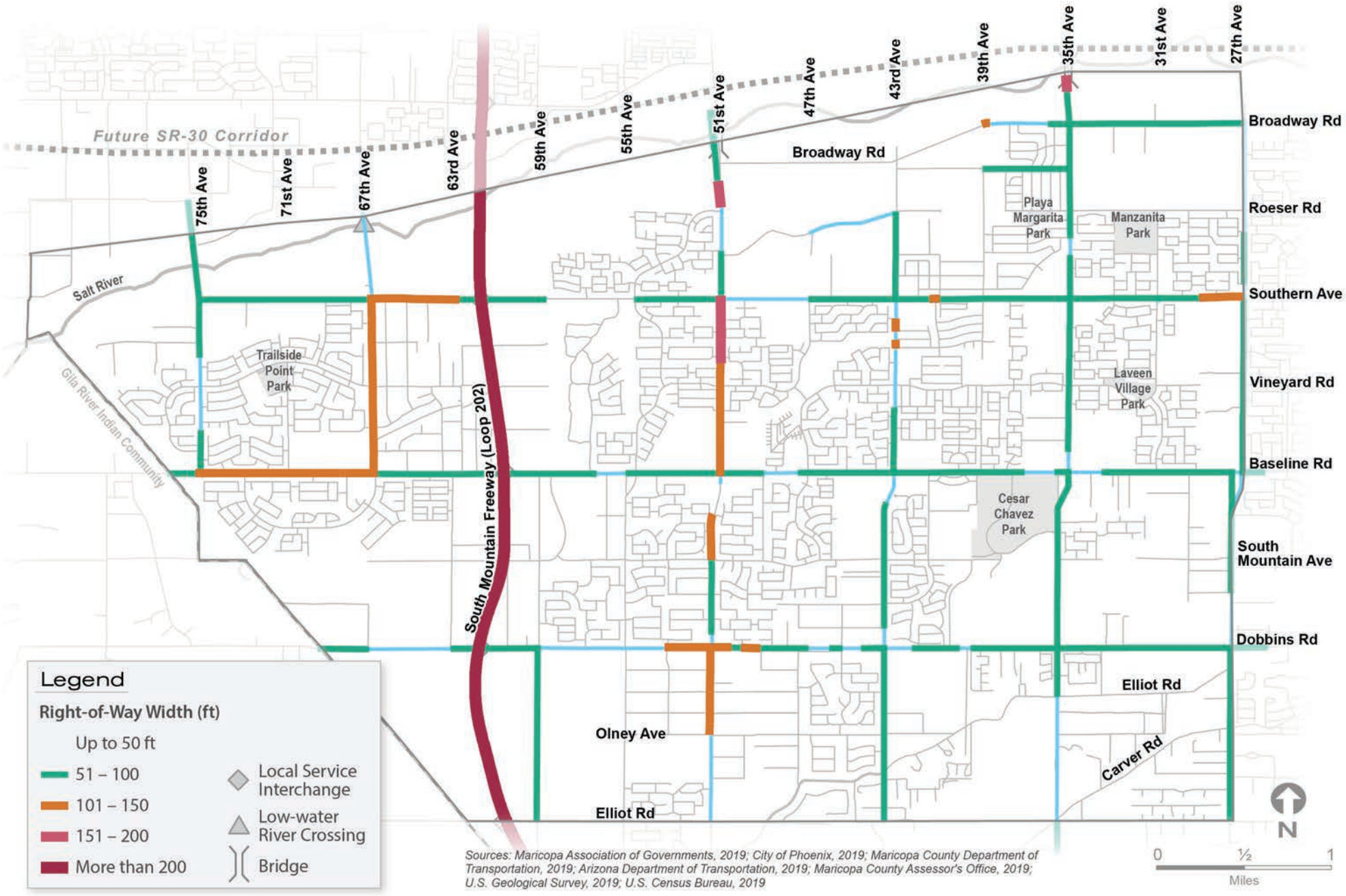
Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 2.12 *Traffic Control Devices on Arterials, 2019*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 2.13 *Right-of-Way Width, 2019*



Pavement Conditions

The City of Phoenix uses a pavement management system to evaluate the condition of asphalt on city streets. Using a Pavement Conditions Index ranging from 0 (Failed) to 100 (Good), staff identify roads eligible for resurfacing treatment that can extend the life of the pavement. MCDOT uses a Pavement Condition Rating (PCR) to evaluate its roads, with a rating of 0 being Very Poor and 100 being Very Good. Table 2.2 converts the Phoenix and MCDOT ratings to three standardized ranks: Good, Fair, and Poor. Pavement conditions on Study Area roadways are displayed using this standardized system in Figure 2.14.

Table 2.2 *Pavement Condition Ratings and Interpretations*

City of Phoenix Streets		
PCI Range	**City Category**	**Standardized Rank**
90-100	Good	Good
85-90	Good	Good
75-85	Satisfactory	Good
70-75	Satisfactory	Good
65-70	Fair	Fair
55-65	Fair	Fair
40-55	Poor	Poor
25-40	Very Poor	Poor
10-25	Serious	Poor
0-10	Failed	Poor

Maricopa County Roadways		
PCR Range	**County Category**	**Standardized Rank**
90-100	Very Good	Good
85-90	Good	Good
75-85	Good	Good
70-75	Fair	Fair
65-70	Fair	Fair
55-65	Fair to Poor	Fair
40-55	Poor	Poor
25-40	Very Poor	Poor
10-25	Very Poor	Poor
0-10	Very Poor	Poor

Source: *City of Phoenix; Maricopa County Department of Transportation, 2019.*

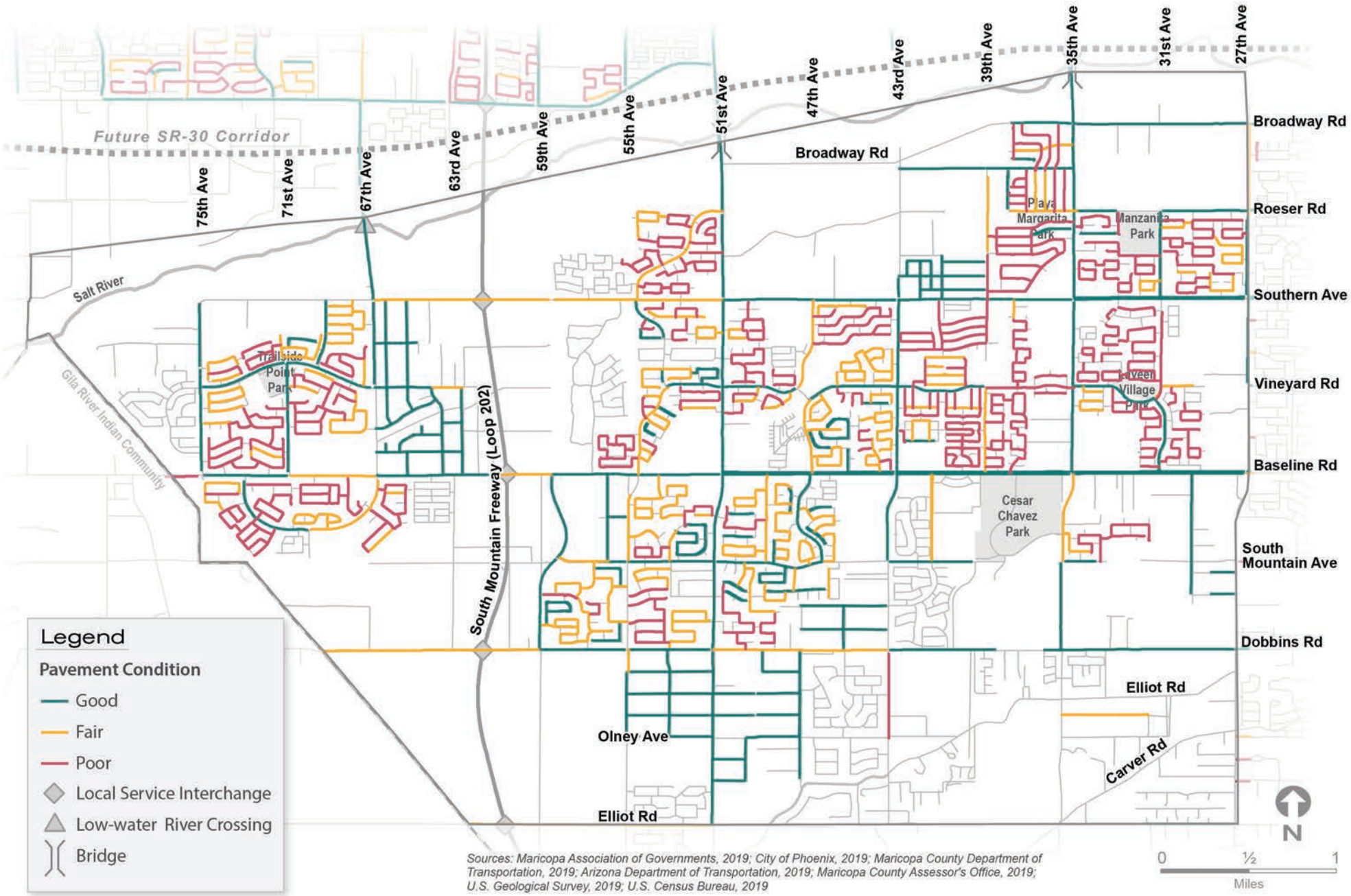
As Figure 2.14 illustrates, most major streets in the Study Area are in Good or Fair condition, including the most heavily traveled roads, whether owned by Phoenix or MCDOT. A notable exception is 43rd Avenue between Dobbins Road and Olney Avenue, which has two heavily traveled lanes in Poor condition. Poorly performing pavement is most common on local neighborhood streets that carry low traffic volumes.

Good Pavement Condition

Fair Pavement Condition

Poor Pavement Condition

Figure 2.14 *Pavement Conditions, Phoenix and MCDOT, 2019*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Locations of Scalloped Streets

"Scalloped" streets are streets on which the number of lanes fluctuates unpredictably from a motorist's point of view. Scalloped streets may create operational bottlenecks and safety issues for motor vehicles, bicyclists, and pedestrians. Examples in Laveen include portions of Southern Avenue, Baseline Road, 43rd Avenue, and 27th Avenue.

Findings

- Existing major north-south and east-west streets mostly range from two to four lanes, although a few six-lane segments exist.
- The streets with the highest daily traffic volumes include Broadway Road, Southern Avenue, Baseline Road, and 35th, 51st, and 67th Avenues; however, traffic volumes may change because of the recent opening of the Loop 202 (the effects cannot be assessed at this time because the freeway only recently opened and because of impacts associated with the COVID-19 pandemic).
- There are currently 25 signalized intersections along city streets and county roads in the Study Area.
- Pavement conditions on most major streets in the Study Area are considered Good, although some exceptions exist.

Safety

Crash and Safety Data

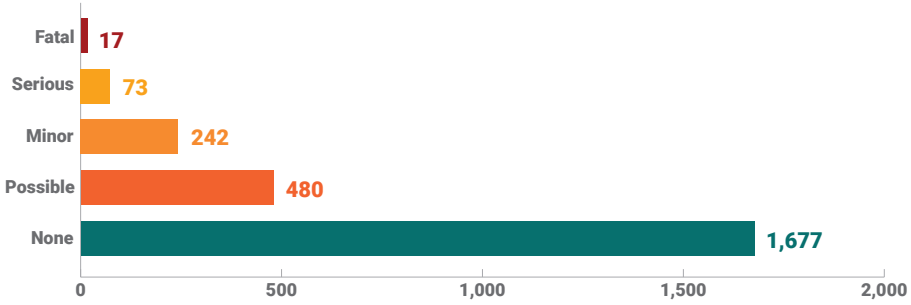
Traffic safety is a vital part of an adequately functioning transportation system. Mitigating issues that could contribute to crashes, injuries, and property damage improves the well-being of roadway users, while preserving adjacent infrastructure. Crashes can occur for various reasons, but certainly more crashes occur on more heavily traveled roads due to higher risk exposure. Additionally, inadequate or inconsistent roadway widths introduce merge points that create points of conflict; inadequate roadway width often accompanies absent or inadequate facilities for bicyclists and pedestrians, who tend to suffer serious injury or death in collisions with motor vehicles. Inefficient traffic control at intersections can also degrade roadway operations and increase risk for all users. Inefficient control can be due to the lack of signals at STOP-controlled intersections that need signalization, inadequate signal cycle length, or "split lengths" (green time), and improper left-turn phasing. Particular attention was paid to these conditions and how they contribute to the crash history in the Study Area.

Recent Crash History

In order to characterize road network safety in the Study Area, crash data for 2013 through 2017, the five most recent years available, were requested and received from the City of Phoenix. During the subject time period, 2,489 crashes involving 4,900 units (vehicles, bicycles, pedestrians) occurred in the Study Area. More than two-thirds of these crashes were without injuries. There were 1,282 crashes that resulted in possible, minor, serious, or fatal injuries, and 17 fatal crashes resulting in 20 deaths. Table 2.3 presents the crash data relative to injury severity.

Table 2.3 *Crashes from 2013-2017 Relative to Reported Injuries*

Study Area Crash Data by Injury Severity					
Injury Severity	No. of Crashes	% of Total Crashes	No. of Units	No. of Injuries	No. of Fatalities
None	1,677	67.4%	3,204	0	0
Possible	480	19.3	1,016	717	0
Minor	242	9.7	500	411	0
Serious	73	2.9	145	138	0
Fatal	17	0.7	35	16	20
Grand Total	**2,489**	**100.0%**	**4,900**	**1,282**	**20**



Source: *City of Phoenix, 2019.*

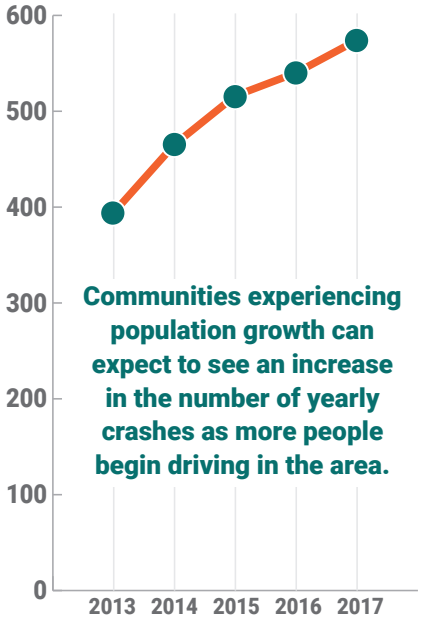
The crash history for the Study Area shows yearly increases in the number of crashes, as would be expected for an area experiencing population growth. Table 2.4 shows the number of crashes that occurred in the Study Area during the five most recent years for which data was available.

Table 2.4 *Number of Crashes from 2013-2017 by Year*

Year	2013	2014	2015	2016	2017	Total
Crashes	394	465	516	540	574	**2,489**

Source: *City of Phoenix, 2019.*

Crash data are typically identified by the roads on which the crashes occurs, the crossroads, direction, and offset distances, or number of feet from roadway intersections. Because all crashes are identified in relation to an intersection, whether junction-related or not, all crashes are discussed in terms of the intersections identified in the crash data. Locations for analysis were selected according to three primary criteria: those specified by the community, those that experienced five or more crashes per year, or 25 crashes during the five-year analysis period, and those with fatal crashes. Using a threshold of five crashes per year ensured that enough information was available to clearly indicate roadway improvements such as changes in geometry, striping, signalization, signage, and/or sight distance that could improve safety conditions. An engineering solution may not exist in some cases, or need to be supplemented with regulatory and information signage, increased driver education, and/or increased law enforcement.



Crashes were classified by the manner of collision, with collision types designed to be mutually exclusive and collectively exhaustive. Table 2.5 shows the number of crashes by these collision types. Rear end crashes were the most common, followed by angle, single vehicle, left turn, sideswipe, and "other." Moreover, just over one-fourth, or 26.3 percent (26.3%), of reported incidents involved excessive speed, while 4.1 percent (4.1%) involved alcohol. Figure 2.15 displays this crash data by location as a percentage of the total number of crashes in the Study Area.

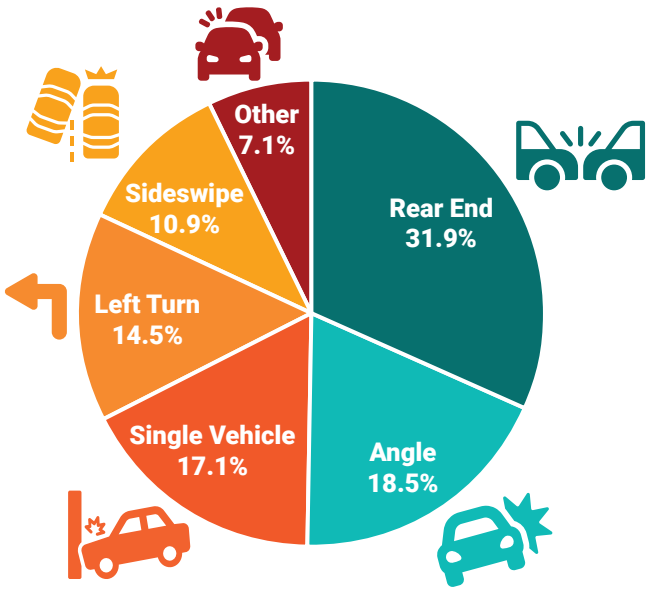
Over 25% of crashes involved excessive vehicle speeds

Table 2.5 *Number of Crashes in the Study Area by Crash Type*

Number and Types of Crashes in the Study Area			
Crash Type	**No. of Crashes**	**% of Total Crashes**	**Description of Crash Type**
Rear End	795	31.9%	Front end to rear end, same direction
Angle	461	18.5	Front end to side, perpendicular direction
Single Vehicle	426	17.1	Vehicle departs from the roadway and may strike nearby object
Left Turn	360	14.5	Left turning vehicle strikes or is struck, opposite direction
Sideswipe	271	10.9	Side to side, opposite or same direction
Other	176	7.1	These crash types were grouped together because each individually comprised a small proportion of the total
Pedestrian	40	1.6	Pedestrian is involved in the crash
U Turn	38	1.5	U-turning vehicle strikes or is struck, opposite or perpendicular direction
Head On	35	1.4	Front end to front end, opposite direction
Bike	32	1.3	Bicycle is involved in the crash
Backing	24	1.0	Backing vehicle strikes or is struck, any direction
Unknown	4	0.2	Crash type is unknown
Other	3	0.1	Crash type fits some other, unspecified, category
Grand Total	**2,489**	**100.0%**	

Source: *City of Phoenix, 2019.*

Figure 2.15 *Study Area Crash Types by Percentage of Total Crashes*



Rear end crashes, 14 percent (14%) of which were associated with a traffic signal, account for almost one-third of the crashes evaluated. The most common cause of these crashes was vehicles following too closely, and while mostly attributable to operator error, it will be important to look at signal timing to determine whether the yellow and all-red times are appropriate and follow national and local guidelines. Vehicle detection should also be investigated to determine whether currently existing detection is inadequate or, if no detection is present, whether safety could be improved with this addition.

Angle and left turn crashes together represent one-third of the crashes. Signal timing as well as signal phasing will be important to investigate, as will lane configuration, sight distance, and speed limit, to determine the most potentially effective improvements to safety conditions. Lighting, median, and roadside landscaping should also be evaluated as part of the sight distance investigation.

Single vehicle crashes represent about 17 percent (17%) of the intersection crashes, but there is often little information about the nature of the crash, aside from the object with which the vehicle came into contact. Single vehicle crashes happened slightly more frequently when dark than during daylight, which is unlike other types of crashes that occur about two to three times more frequently during daylight hours when traffic volumes are greatest.

Sideswipes accounted for approximately 11 percent (11%) of crashes in the study period and were mostly caused by operator error, such as making unsafe lane changes, especially while merging. Roadway sections with merging and weaving movements should be observed to determine whether the roadway geometry is able to support them and whether appropriate warning of lane drops and required merge movements exists.

Table 2.6 shows the severity of collisions for each type of crash. Note the high proportion of "serious injury" and fatal crashes that are classified as "other," pedestrian, head-on, and bike collisions.

Table 2.6 *Severity of Crashes in the Study Area by Crash Type*

Severity of Crashes as a Percentage of Total Crashes by Crash Type					
Crash Type	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal Injury
Rear End	33.2	36.3	23.1	9.6	5.9
Angle	16.3	22.5	24.4	27.4	5.9
Single Vehicle	20.4	8.3	12.0	16.4	17.6
Left Turn	12.3	18.1	21.1	17.8	11.8
Sideswipe	13.4	6.0	5.8	4.1	0.0
Other	4.4	8.8	13.6	24.7	58.8
Pedestrian	0.2	2.5	5.0	11.0	23.5
U Turn	1.7	1.5	0.4	1.4	5.9
Head On	0.7	2.1	2.9	5.5	11.8
Bike	0.1	2.1	5.4	5.5	17.6
Backing	1.3	0.4	0.0	0.0	0.0
Unknown	0.1	0.2	0.0	1.4	0.0
Other	0.2	0.0	0.0	0.0	0.0
Column Totals	100.0%	100.0%	100.0%	100.0%	100.0%

Source: *City of Phoenix, 2019.*

ADOT maintains a detailed statewide data set on all crashes reported by law enforcement agencies throughout the state, including the Phoenix Police and the Maricopa County Sheriff's Department. Figure 2.16 through Figure 2.18 present the data for vehicular crashes in the Study Area during calendar years 2013 through 2017, which is the most recent information available.

Each red dot on Figure 2.16 represents one reported crash during the specified five years. Crashes were concentrated along major streets carrying relatively heavy traffic volumes, such as Southern Avenue, Baseline Road, 51st Avenue, and 35th Avenue north of Baseline Road. In contrast, sparsely developed areas with low-volume streets experienced few crashes. A total of 2,489 crashes were recorded from 2013 through 2017.

Most crashes occur on Baseline Road, Southern Avenue, and 51st Avenue, all of which are major artierials with high traffic volumes.

Figure 2.17 focuses on locations with a relatively large number of crashes in the 2013 through 2017 period. The map identifies only places with 11 or more crashes in five years. Many are major street intersections, which have the largest number of conflicting vehicle movements and especially during periods of heavy travel. Three of the four intersections between the predominant east-west and north-south arterials experienced 51 or more crashes, or an average of more than 10 per year. Three of the five locations with 25 to 49 crashes were along Baseline Road. The other two were on Broadway Road and Southern Avenue. Overall, the streets with the most high-crash locations were Baseline Road, 51st Avenue, 35th Avenue, and Southern Avenue. Only one location was north of Southern Avenue, while three were south of Baseline Road and none were reported west of 55th Avenue. These patterns may change as development expands to the south and west.

Figure 2.18 shows the most serious subset of vehicular crashes: those known to have resulted in one or more injuries or deaths. Severe injury crashes tended to cluster along arterials, which carry high volumes at relatively high speeds. Crashes also cluster at arterial intersections. It is not surprising that the highest crash densities are located at well-developed intersections with large shopping centers. These locations experience higher volumes and more conflicting movements, and hence more crashes. However, it is important to determine whether other factors contribute to the number of crashes and whether those factors can be mitigated. The 21 intersections with the most crashes lie predominantly along three corridors — Baseline Road, 51st Avenue, and Southern Avenue — with additional intersections of interest along 35th Avenue and Broadway Road.

Crash Locations

Each intersection was ranked according to the number of crashes that occurred within 150 feet of the location or that were identified by the reporting officer as being intersection related. Table 2.7 lists the highest-ranked intersections, along with intersection control type: signal, two-way STOP control, or all-way STOP control. More than five crashes a year occurred at all but one of these locations.

Table 2.7 *Intersections in the Study Area with the Highest Number of Crashes*

Intersections with the Highest Crash Rates and Associated Traffic Control Measures	
Intersection	**Traffic Control**
51st Avenue / Baseline Rd	Signal
35th Ave / Southern Ave	Signal
35th Ave / Baseline Rd	Signal
51st Ave / Southern Ave	Signal
35th Ave / Broadway Rd	Signal
43rd Ave / Baseline Rd	Signal
27th Ave / Baseline Rd	Signal
39th Ave / Southern Ave	Signal
55th Ave / Baseline Rd	Signal
53rd Ln / Baseline Rd	Two-Way STOP control
43rd Ave / Southern Ave	Signal
59th Ave / Baseline Rd	Signal
51st Ave / Vineyard Rd	Signal
39th Ave / Baseline Rd	Signal
41st Ave / Baseline Rd	Signal
27th Ave / Southern Ave	Signal
31st Ave / Baseline Rd	Two-Way STOP control
47th Ave / Baseline Rd	Signal
35th Ave / Dobbins Rd	All-Way STOP control
51st Ave / South Mountain Ave[2]	Two-Way STOP control
33rd Ave / Southern Ave	Two-Way STOP control
55th Ave / Southern Ave[1]	Two-Way STOP control

[1]Did not have more than 5 crashes per year but was of specific interest to the public

[2]Had more than 5 crashes per year and was also identified during public meetings.

Source: *City of Phoenix, 2019.*

Figure 2.16 *Crash Locations, 2013 – 2017*

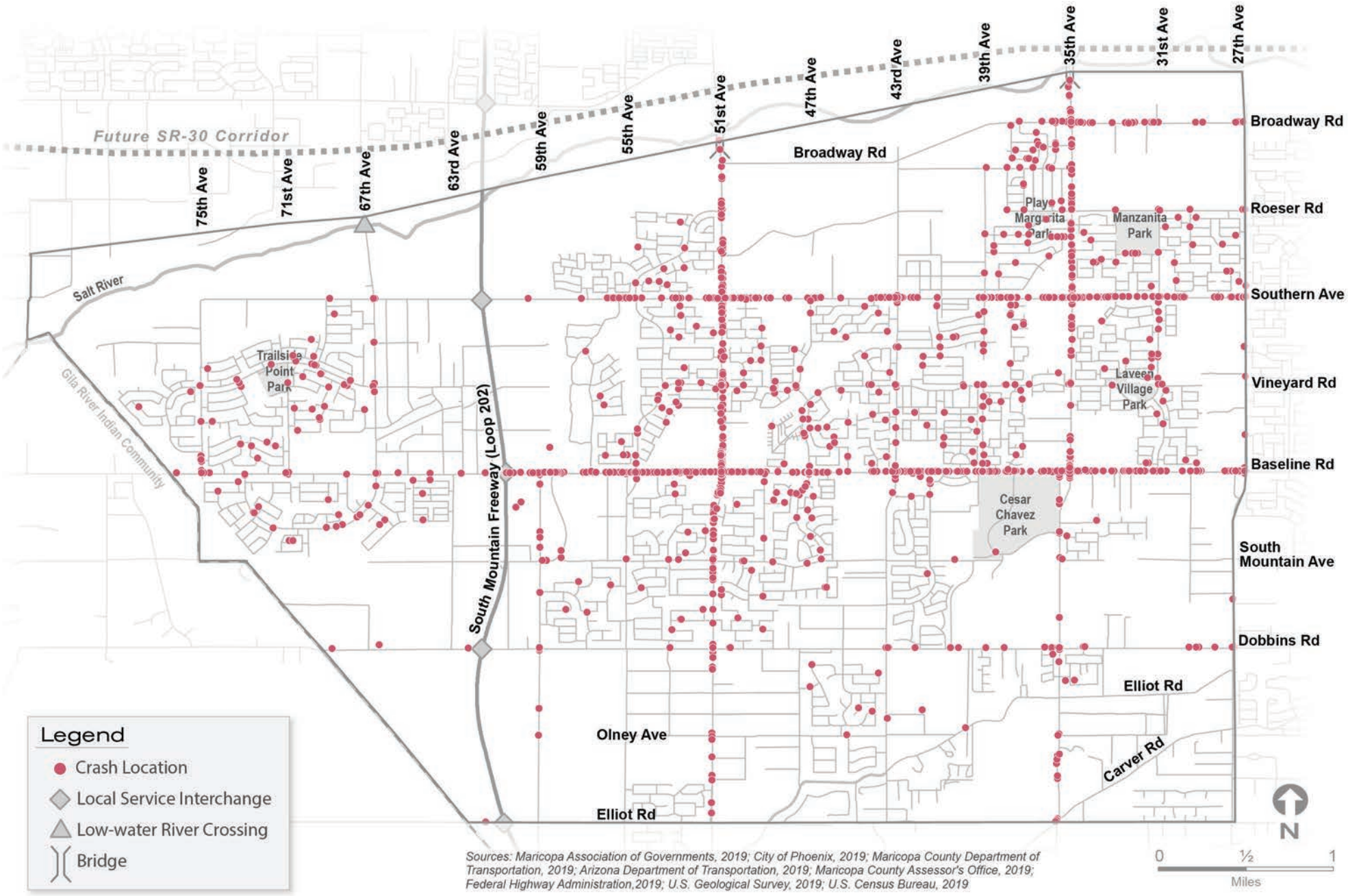
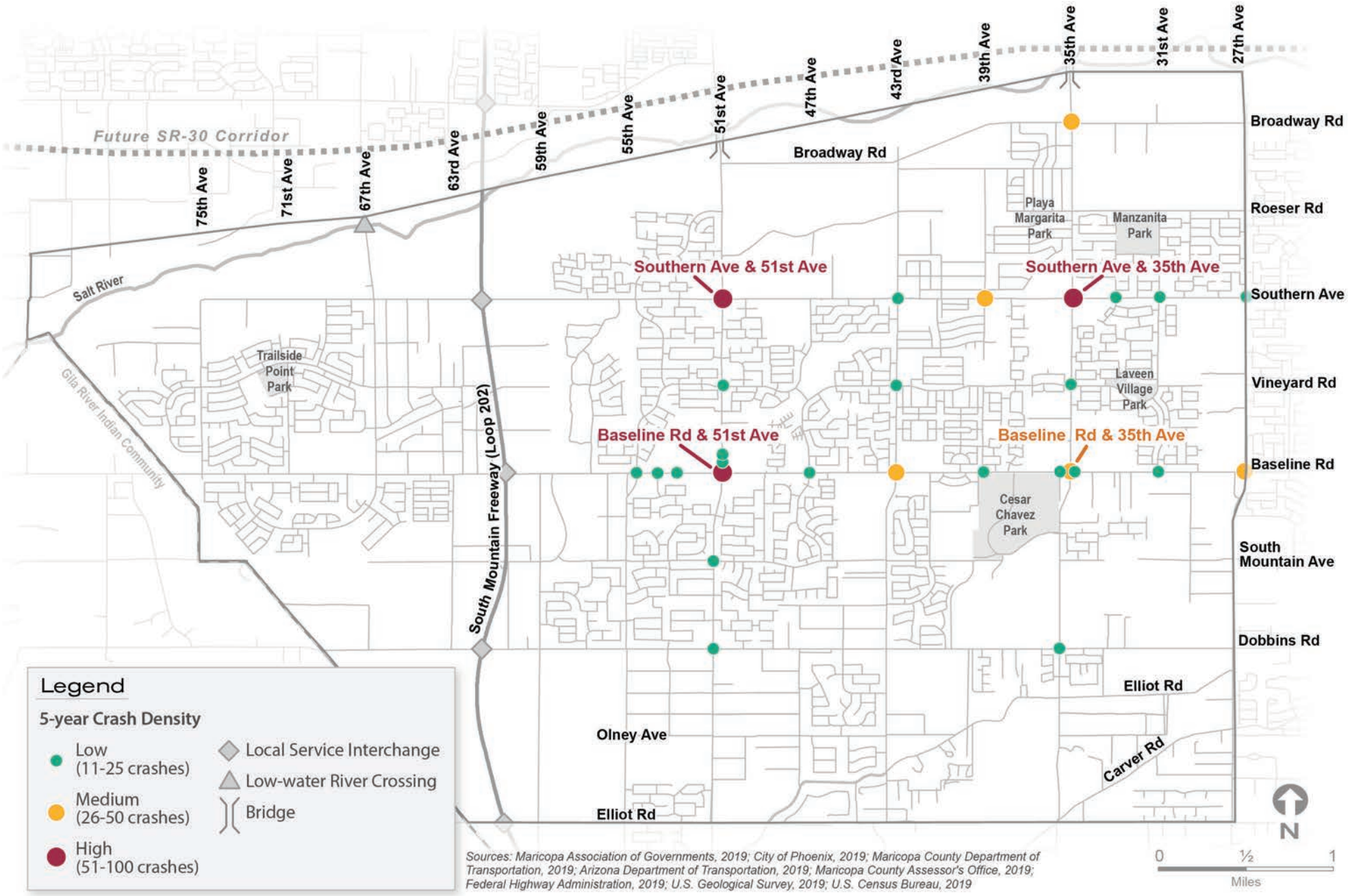
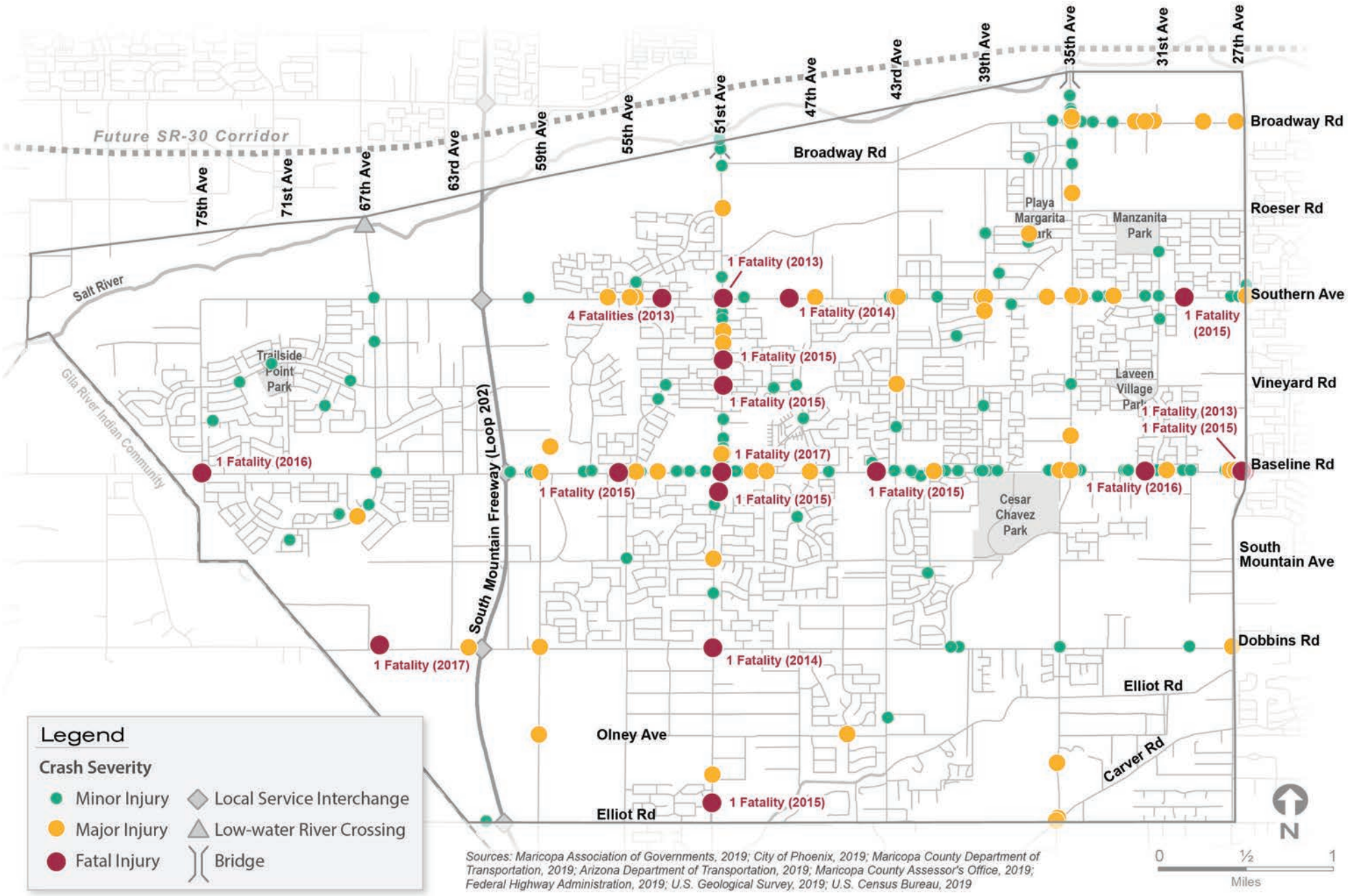


Figure 2.17 *Crash Rate by Location, 2013 – 2017*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; Federal Highway Administration, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 2.18 *Crashes Causing Injury and Fatalities, 2013 – 2017*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; Federal Highway Administration, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Analysis of Fatal Crashes

Although fatal crashes comprise less than one percent (1%) of all crashes in the Study Area, analysis is critical to ensure a safe roadway network. Single-vehicle crashes account for three of 17 fatal crashes, or 18 percent (18%) — the same as the number of fatal bicycle crashes. Crashes in the "other" category comprise only seven percent (7%) of all crashes, but almost 60 percent (60%) of fatal crashes. Pedestrian crashes are included in the "other" category and account for almost one-fourth of all fatal crashes. Head-on crashes account for approximately 12 percent (12%). An investigation into improvements that might reduce the number of fatal crashes in the Study Area is recommended.

Of the 17 fatal crashes that occurred during the period under analysis, 16 involved one fatality and one crash resulted in four fatalities, for a total of 20 deaths. Fatal crashes occurred along three major corridors: Baseline Road, 51st Avenue, and Southern Avenue, with two additional fatal crashes on Dobbins Road. The 17 locations associated with fatal crashes are specified below.

Baseline Road

- At 75th Avenue: pedestrian crash in intersection
- 232 feet to the west of 55th Avenue: pedestrian
- At 51st Avenue: bicycle crash in intersection
- 30 feet to the west of 44th Avenue: U turn
- 376 feet to the west of 31st Avenue: pedestrian
- 93 feet to the west of 27th Avenue: single vehicle
- At 27th Avenue: angle crash in intersection

51st Avenue

- At Southern Avenue: left turn crash in intersection
- 96 feet to the south of Saint Anne Avenue: bicycle
- At Vineyard Road: left turn crash in intersection
- 617 feet to the south of Baseline Road: pedestrian
- 614 feet to the north of Elliot Road: rear end

Southern Avenue

- At 54th Avenue: head on crash in intersection, multiple fatalities
- 654 feet to the west of 47th Avenue: single vehicle
- At 30th Avenue: head-on crash in intersection

Dobbins Road

- 243 feet west of 67th Avenue: single vehicle
- 40 feet west of 51st Avenue: bicycle

General Statistics for (17) Fatal Crashes

- Nine (53%) involved alcohol or drugs.
- Four (24%) involved pedestrians.
  - All pedestrian fatalities occurred after dark.
  - Two of these fatalities involved pedestrians crossing the street outside of a crosswalk; two involved pedestrians walking with traffic, although it is unclear if they were walking within roadway prisms or on the sidewalk.
- Three (18%) involved bicyclists
  - Two of these fatalities happened after dark; one occurred during the day.
- Three (18%) were single-vehicle crashes
  - All three were related to excessive speed; one was also alcohol related.
- Ten (59%) occurred during dawn, dusk, or at night
- Ten (77%) of the 13 crashes that did not involve pedestrians involved vehicle operators who were not or may not have been using safety devices (seat belt, bicycle helmet, etc.).

Findings

- **The majority of all crashes occurred along three major corridors: Baseline Road, 51st Avenue, and Southern Avenue.**
- **Rear end, angle, and single vehicle crashes account for two-thirds of all crashes.**
- **Half of all fatal crashes involved alcohol or drugs, and one-fourth involved pedestrians.**
- **Many types of crashes can be mitigated by implementing engineering controls, increasing enforcement, or increasing driver education.**

Transit

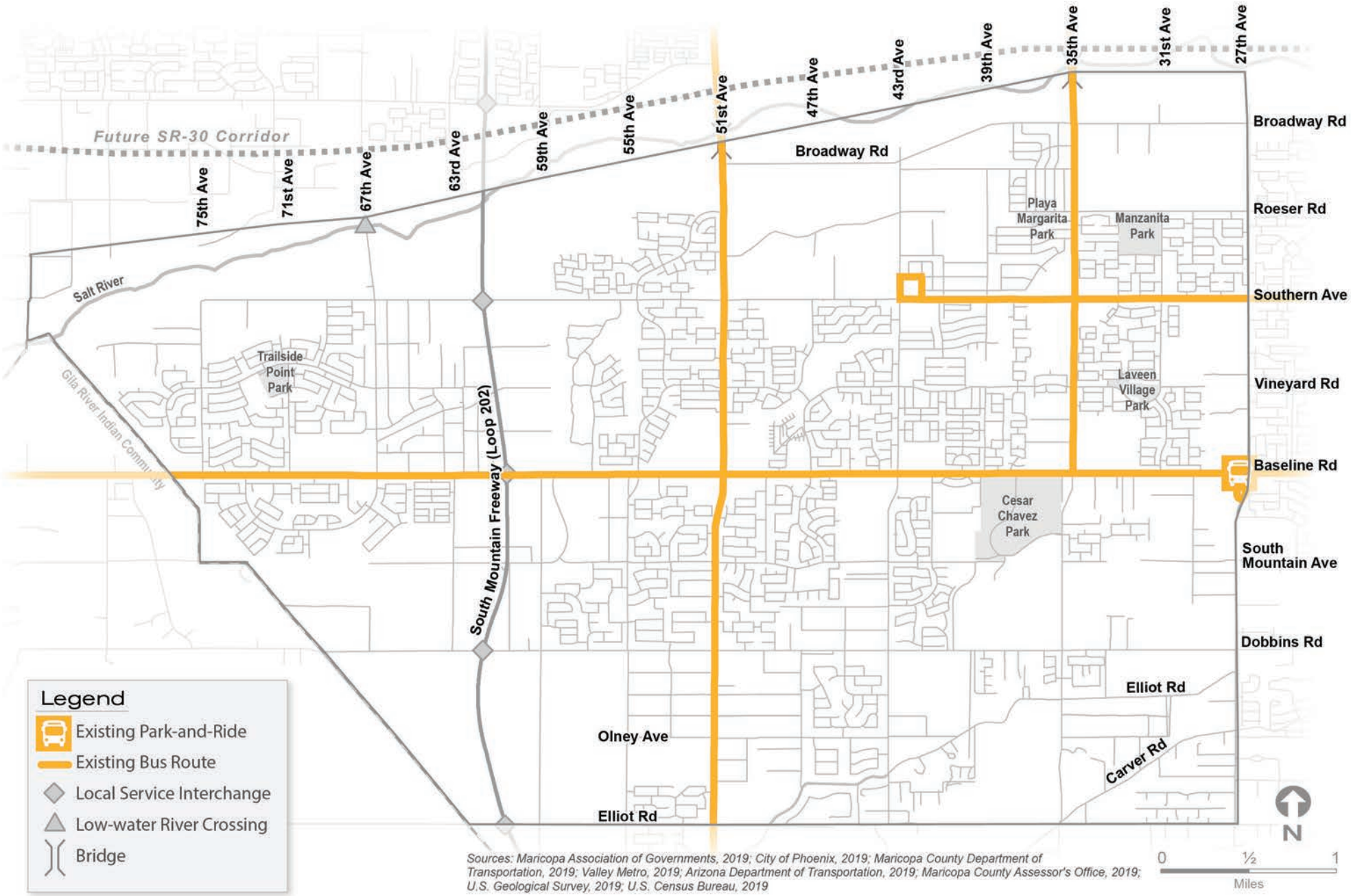
Current Transit

Valley Metro Regional Public Transit Authority, commonly called "Valley Metro," is responsible for the regional public transit system in and around Phoenix. It operates over 100 bus routes, as well as light rail, although rail service does not currently extend to Laveen. Valley Metro does operate four bus routes in the Study Area, as listed in Table 2.8 and shown in Figure 2.19. Two run north-south on 51st and 35th Avenues and two run east-west on Southern Avenue and Baseline Road. Route 51 travels all the way across Laveen from north to south and to the GRIC. RAPID (express) bus service is accessible from a park-and-ride lot with 212 covered automobile spaces and limited bicycle parking at the southwest corner of 27th Avenue and Baseline Road. The facility is operated by the City of Phoenix and serves Routes 19, 35, 77, and the peak-period South Mountain West RAPID.

Transit operations in Phoenix are funded through a sales tax that has been levied to support T2050 objectives since 2015. The funding supports service along local routes in Phoenix seven days a week and at least once every half hour until midnight or later, providing residents basic public transit in the Study Area and to points in the greater metropolitan area. All buses carry bike racks, allowing riders to combine transportation options and extend access beyond the bus system. Valley Metro buses are compliant with the Americans with Disabilities Act (ADA) to ensure equitable public transit opportunities.

The City of Phoenix also provides demand-responsive, door-to-door service for persons who qualify under the ADA. This federal statute requires service to all eligible persons who reside within 0.75 mile of a local bus route.

Figure 2.19 *Public Transportation, 2019*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Valley Metro, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Table 2.8 *Public Bus Lines in the Study Area Operated by Valley Metro*

Local Bus Routes, Service Frequencies, and Jurisdictions Served			
Route	**Endpoints**	**Weekday Frequency (minutes)**	**Other Jurisdictions Served**
35: 35th Ave	Happy Valley Rd-27th Ave / Baseline Rd	15-30 (peak = 15)	None
51: 51st Ave	Arizona State University West- 51st Ave / Pecos Rd[1]	30-60[1]	Glendale, GRIC, unincorporated Maricopa County
61: Southern Ave	43rd Ave-Superstition Springs Transit Center	15-30 (peak = 15)	Tempe, Mesa
77: Baseline Rd	75th Ave-Dobson Rd	30	Tempe, Mesa

[1]Route alternates between long trips serving Pecos Road and shorter trips terminating at Baseline Road. Service operates every 30 minutes north of Baseline Road and every 60 minutes south of that point.

Source: *Valleymetro.org; accessed September 2019.*

Findings

- Valley Metro operates four local bus routes in the Study Area and one RAPID bus line from the park-and-ride at 27th Avenue and Baseline Road.
- Public buses are ADA-compliant, and the City of Phoenix provides door-to-door service to qualifying individuals living within .75 miles of a local route.
- Study Area residents expressed interest in sixteen new bus stops and six new bus routes or route extensions at LSMTS open houses, with most suggestions already included in the long-range Phoenix Transportation 2050 Plan (City of Phoenix, 2015). Other findings that emerged from community events are detailed in Appendix B.

Active Transportation

Existing Facilities

Three types of active transportation facilities are considered in this study. Pedestrian sidewalks are typically located just behind the curb. They are built on both sides of the street in residential and commercial areas, although limited right-of-way occasionally confines sidewalk development to one side. Bike lanes are striped and signed lanes with at least five feet of clear width between the edge line stripe and the curb. They are built on both sides of the road to provide adequate lateral space and safe directional separation. A multi-use path (or trail) is a paved or unpaved route designated exclusively for pedestrians, bicyclists, and equestrians. If it lies within a roadway right-of-way, it is physically separated from motorized traffic. Unlike sidewalks and bike lanes, paths are often provided on only one side of the road.

Figure 2.20 is based on the brochure, "MAG Bikeways," (Maricopa Association of Governments, 2019) and illustrates existing bicycle facilities on both major roadways and local streets in the Study Area. Many of Laveen's bikeways are on-street bicycle lanes, and Phoenix has been creating additional bike lanes on existing streets with the objective of becoming one of the most bicycle-friendly cities in the nation. MCDOT also has bike lanes on parts of several Laveen roadways. As specified in the American Association of State Highway and Transportation Officials' *Guide for the Development of Bicycle Facilities* (fourth edition, 2012), Phoenix and other jurisdictions in the MAG region routinely construct bike lanes on both sides of two-way streets.

As Figure 2.20 shows, many of the bike lanes penetrate neighborhoods via collector or local streets. The arterials listed below also have on-street bike lanes.

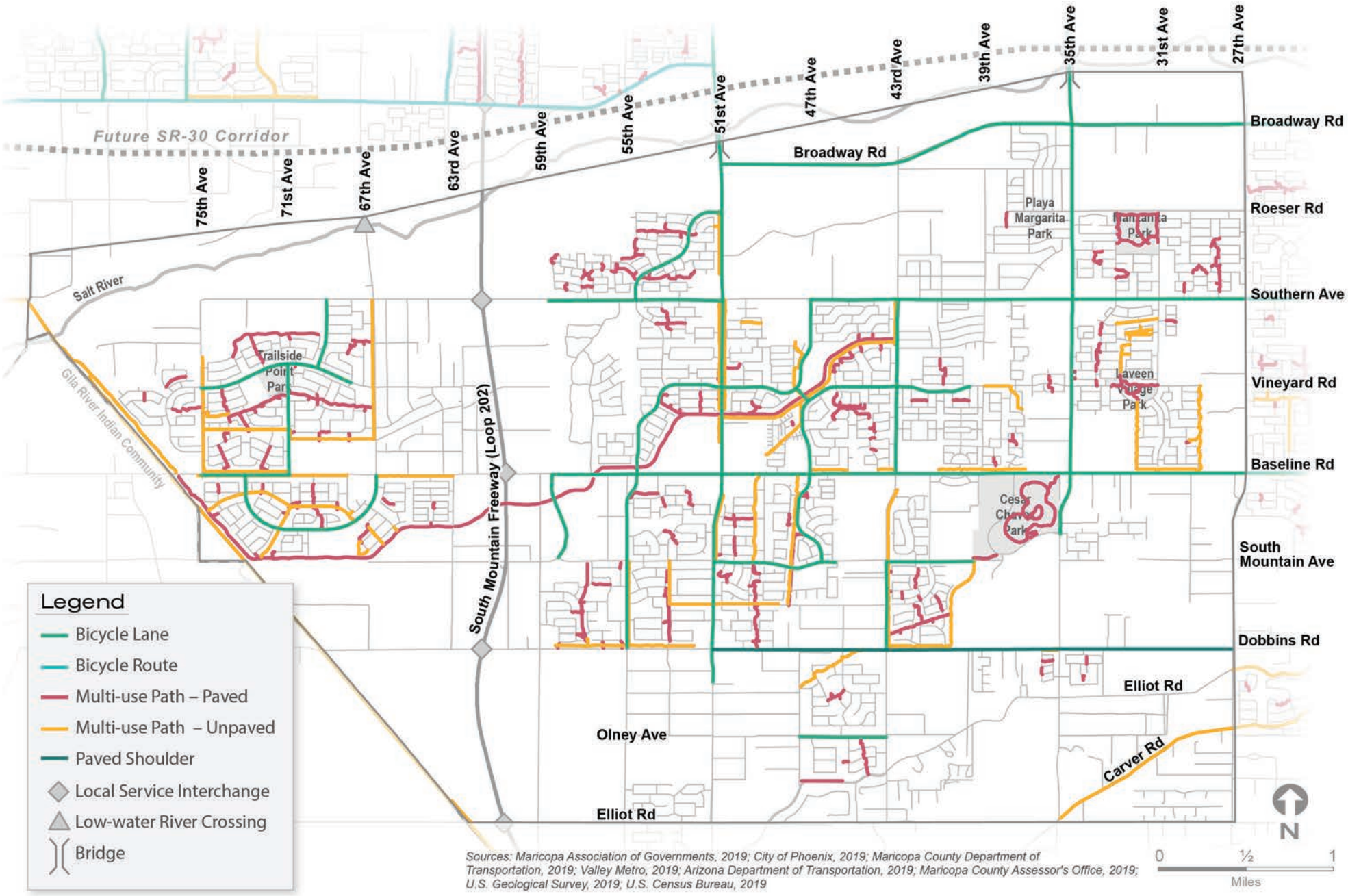
- Broadway Road, 51st Avenue to 43rd Avenue; 35th Avenue to 27th Avenue (partly MCDOT)
- Southern Avenue, 59th Avenue to 51st Avenue; 47th Avenue to 27th Avenue (partly MCDOT)
- Baseline Road, 59th Avenue to 27th Avenue
- 59th Avenue, Baseline Road to South Mountain Avenue, serving South Mountain Community College
- 51st Avenue, north of Salt River to Dobbins Road
- 43rd Avenue, Southern Avenue to Baseline Road, and South Mountain Avenue to Dobbins Road (partly MCDOT)
- 35th Avenue, north of Salt River to Cesar Chavez Park

The longest continuous bike lanes within the Study Area extend for three to four miles along Baseline Road and 51st Avenue. Dobbins Road, the collector street one mile south of Baseline Road, also has three miles of paved shoulders available for bicycle use from 51st Avenue to 27th Avenue.

Off-street bicycle and pedestrian facilities in the Study Area, mapped in Figure 2.20, include the following facilities.

- The westernmost segment of an unpaved, multi-use path extends along the Western Canal, generally northeast to southwest from 35th Avenue to 27th Avenue south of Dobbins Road.
- Segment 8 of the recently completed Maricopa Trail, a mostly unpaved facility from the Tres Rios area of the Salt River to South Mountain Park. The facility continues as part of the park's trail system. The Maricopa Trail forms a continuous, 242-mile-long, non-motorized loop around metropolitan Phoenix, connecting most regional parks and many jurisdictions. Segment 3 and Segments 6 through 9 are also components of the Sun Circle Trail (see below).
- The Sun Circle Trail, which coincides with Segment 8 of the Maricopa Trail in the LSMTS Study Area, is shorter and typically more urban than the Maricopa Trail. This trail forms a 140-mile loop, largely using canal banks. Segment 8 of the combined Maricopa / Sun Circle Trail, which serves the Study Area, follows a Salt River Project power line on the boundary between Phoenix and the GRIC. The 7.8-mile Laveen segment connects the Tres Rios Wetlands with South Mountain Park. The Sun Circle and Maricopa trails cross the Salt River using a low-water crossing east of 83rd Avenue.
- Phoenix maintains a paved, multi-use path as part of the LACC linear park.
- A 1.5-mile paved path travels around Alvord Lake in Cesar Chavez Park.

Figure 2.20 *Active Transportation Facilities, 2018*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Valley Metro, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Findings

- Although active transportation infrastructure exists along portions of several major streets, the network in the Study Area has many gaps and missing links.
- Other facilities for pedestrians and bicyclists are currently most prevalent along Southern Avenue, Baseline Road, and 51st Avenue. Most are sidewalks or bike lanes, but multi-use paths exist along portions of 75th Avenue, 67th Avenue, Baseline Road, and Dobbins Road.
- Off-street facilities for pedestrians and bicyclists extend into South Mountain and ultimately carries users around all of metropolitan Phoenix, to the GRIC, and other jurisdictions.

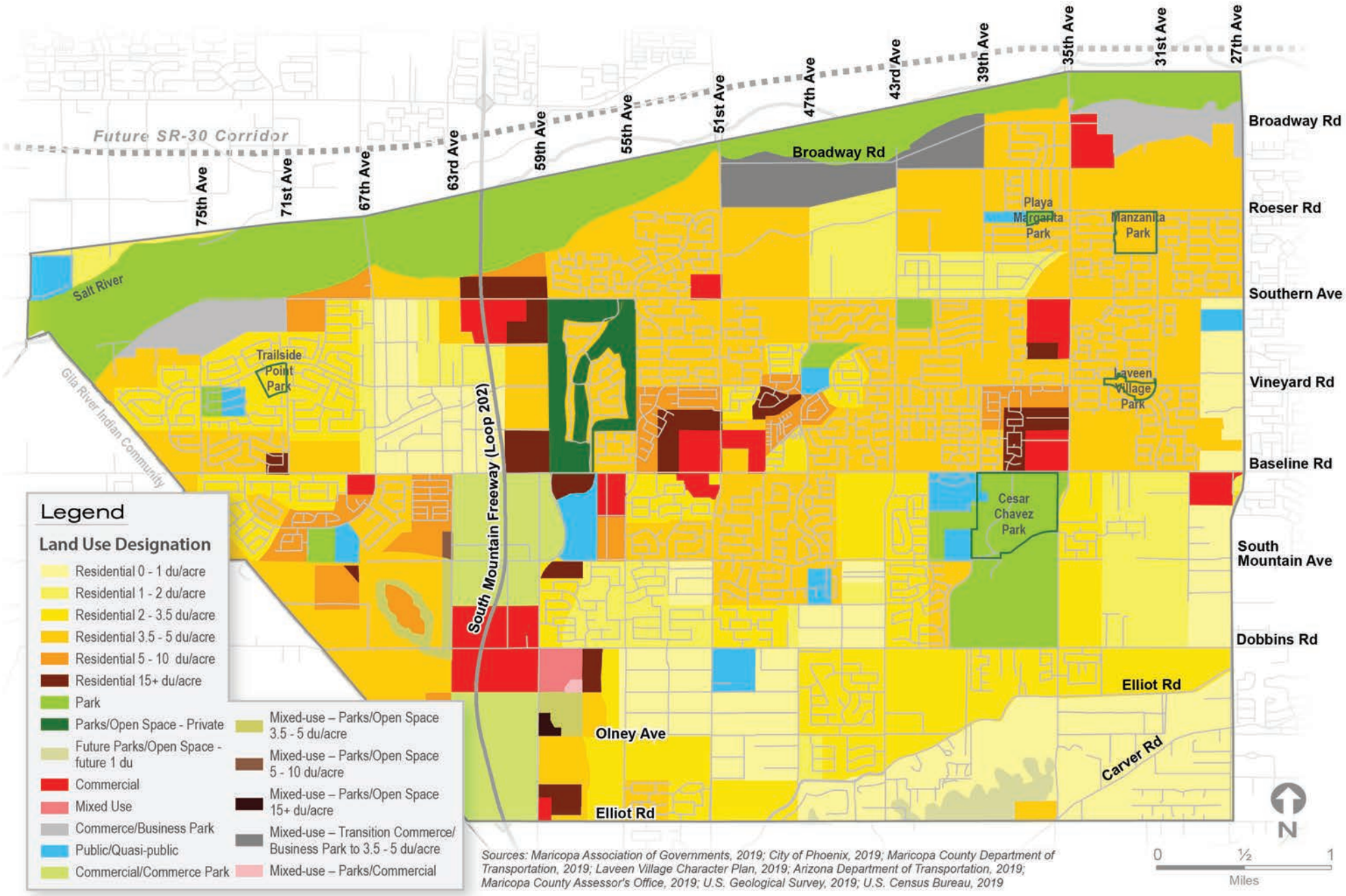
3. Planned Future Conditions

The existing, or current year (2020), conditions in the LSMTS Study Area, including the roadway network, alternative transportation facilities, utilities, and zoning detailed in Chapter 2, constitute the core transportation system and related variables that impact traffic volumes, circulation, and access demands — and the ability to meet those demands in the near future. As community residents, planners, and leaders look to accommodate projected growth over the next 20 years, however, improvements that are already planned or programmed must also be considered to understand the characteristics and capacities of the system over time and to accurately determine what transportation needs will arise. This chapter focuses on roadway, public transit, and active transportation improvements that have already been proposed, planned, or programmed by the City of Phoenix, Maricopa County, and the Arizona Department of Transportation. Both the current and future system variables together provided the framework for travel demand modeling that guided specific recommendations and associated implementation time frames presented in Chapter 5.

Future Land Use

Land use is a significant determinant of traffic volumes, circulation patterns, and access and parking needs. In turn, mobility, connectivity, and access can determine how easily and frequently residents and visitors can benefit from community resources such as health care facilities, parks, and historic sites. Figure 3.1 shows the land use designations in the Study Area, as defined by the City of Phoenix Laveen Village Character Plan. The predominant planned land use is low-density residential with fewer than 10 units per acre, although smaller pockets of higher-density housing are planned as well. These denser uses mostly occur along Southern Avenue and Baseline Road. Commercial and mixed-use areas are also supported, most notably on both sides of the Loop 202 between Baseline and Elliot Roads. Other primary land uses include open space and public / quasi-public, which are located throughout the Study Area.

Figure 3.1 *Phoenix General Plan Future Land Use*



Of particular note is a 160-acre (one-fourth square mile) village core that is planned for the west side of 59th Avenue at Dobbins Road. It will ultimately provide a blend of employment, commercial, and recreational uses with community activities. Across 59th Avenue, a 40-acre town center will include retail, office, and residential lofts above the ground floor. Although the town center will be designed at a pedestrian scale, including an outdoor mall with a town square, both developments will increase traffic volumes as people travel to and from them, as well as increase demand for access points and connections with other parts of Laveen.

Focal Points from Previous Plans

Future land use in the Study Area also include "focal points' that were defined by stakeholders as part of the Laveen Village Character Plan development. These specific land uses and associated design policies are intended to preserve local character while encouraging growth and investment. Table 3.1 lists 16 named focal points in the area and the policies relating to them.

Table 3.1 *Focal Points with Associated Land Use and Design Policies*

Focal Point(s)	Associated Policies
27th Ave / Baseline Rd Park-and-Ride	Develop transit facilities in appropriate cores, centers, and corridors to facilitate trip reduction and the use of mass transit (land use).[1]
51st Ave / Baseline Rd	Establish distinctive urban shopping destinations and support the establishment of small, local retailers in appropriate areas; support and attract retail and restaurants that foster a pedestrian environment; cluster uses in pedestrian centers and critical masses of urban vitality (land use).[1]
Baseline Rd	Provide multi-use path connections where appropriate (design).[1]
Broadway Rd Corridor	Support and protect the expansion of industrial zoning in targeted industrial areas (land use).
Commercial development at 51st Ave / Southern Ave (southwest corner)	Promote neighborhood identity through planning that reinforces the existing landscaping and character of the area; new development should contribute to this character (design).
Dobbins Point Neighborhood (near 43rd Ave / Dobbins Rd)	Protect residential areas from concentrations of incompatible land uses that could change their character or destabilize land values (land use).
	Create new development / redevelopment that is sensitive to the scale and character of surrounding neighborhoods and incorporates development standards to prevent negative impacts on residential properties (design).
Estrella Mountain and South Mountain	Protect neighborhood views of open space, mountains, and man-made and natural landmarks (design).
La Salvia Dairy	Support the growth of land uses that contribute to a healthy and sustainable food system, like grocery stores, community gardens, urban farms, and other urban agricultural elements (land use).
Laveen Estates (near 55th Ave / Dobbins Rd)	Promote site development and land use that protect the natural environment by preserving vegetation and surface water, minimize disturbance to the terrain and to greenfields specifically, and encourage development of brownfields in synergy with our desert climate (design).
Laveen Village Core, Loop 202 Corridor	Locate land uses with the greatest height and most intense uses within limits based on local character, land use needs, infrastructure, and transportation system capacity (land use).[1]
Loop 202 Corridor	Encourage development of taller and larger buildings away from single-family and low-rise, multi-family housing (land use).
	Maintain continuity of trails and avoid creating barriers to active transportation when designing new freeways and arterials (design).[1]
Phoenix Fire Station No. 58 (47th Ave / Dobbins Rd)	Locate police, fire, and paramedic facilities to provide efficient emergency service to residents (land use).
Rio Salado	Establish design and management standards for natural washes and connected open spaces that will preserve natural ecological and hydrological systems and allow appropriate public use (design).[1]
Scooptacular and Del Monte Grocery	Encourage land uses that promote the growth of entrepreneurial or new businesses in appropriate locations (land use).
Sierra Madre Neighborhood (47th Ave / Baseline Rd)	Protect and enhance the character of each neighborhood and its housing lifestyles through new development compatible in scale, design, and appearance (design).
	Develop housing that does not directly front, or have direct access to, arterial streets unless lot size, buffering, or site design adequately mitigates negative traffic impacts and adverse noise impacts to residents (design).[1]
South Mountain	Promote land uses that preserve natural open spaces (land use).

[1] *Transportation- or drainage-related*

Source: *Laveen Village Character Plan, City of Phoenix.*

Findings

- The predominant land use that the City of Phoenix plans for the LSMTS Study Area is low-density residential with fewer than 10 units per acre, although smaller pockets of higher-density housing are planned.
- Commercial and mixed-use areas are also supported, most notably along the Loop 202 between Baseline and Elliot roads.
- As art of developing the Laveen Village Character Plan, "focal points" and related design policies were identified to preserve Laveen's character while promoting development.

Future MCFCD Drainage and Floodplain Improvements

27th Avenue & Olney Avenue (Underway)

This project is the recommended ADMPU alternative in AoMI 4. It consists of the design and construction of a 72-inch storm drain along Olney Avenue from west of 23rd Avenue to 27th Avenue, then north along 27th Avenue to South Mountain Avenue. The storm drain will outfall into the existing City of Phoenix basin located at the northeast corner of 27th and South Mountain Avenues. The project also includes the design and construction of three new retention basins along 27th Avenue south of Olney Avenue.

Most of the storm drain will be in unincorporated Maricopa County, with the rest of the drain and the retention basins in the City of Phoenix. FCDMC is the lead agency for all design efforts and for storm drain construction. However, Phoenix is leading construction of the retention basins and contributing half of the project's $3 million dollar cost. Final design for this project was underway in 2019.

51st Avenue & Sunrise Drive AoMI Drainage Improvement Project (Proposed)

This project is FCDMC's recommended ADMPU alternative in AoMI 2. It includes Sunrise Basin, a regional basin at the southeast corner of 51st Avenue and Sunrise Drive. There will also be a collection channel along the south side of Sunrise Drive east of the basin and a new 36-inch-diameter, storm drainpipe to drain runoff from the new regional basin to the offsite drainage system constructed with the Loop 202. Related storm drains, laterals, and catch basins are proposed for 51st Avenue, 47th Avenue, and Dobbins Road. ADOT's review and approval of discharge into the Loop 202 drainage channel will need to be considered during final design. FCDMC identified this project in its capital improvement program for fiscal year 2019, at a cost of $5,568,000.

35th Avenue & Olney Avenue AoMI Drainage Improvement Project (Proposed)

This project is the recommended alternative from the ADMPU to reduce the impacts of flooding in AoMI 3 and is limited to improvements that mitigate flood conditions at the 35th Avenue / Dobbins Road intersection. A culvert sized to capture 100-year discharge will be placed across the intersection from southeast to northwest with the outlet at the southeast corner of a retention basin in Aguila Golf Course. This project will be constructed at a cost of $1,013,000 as funding becomes available.

Findings

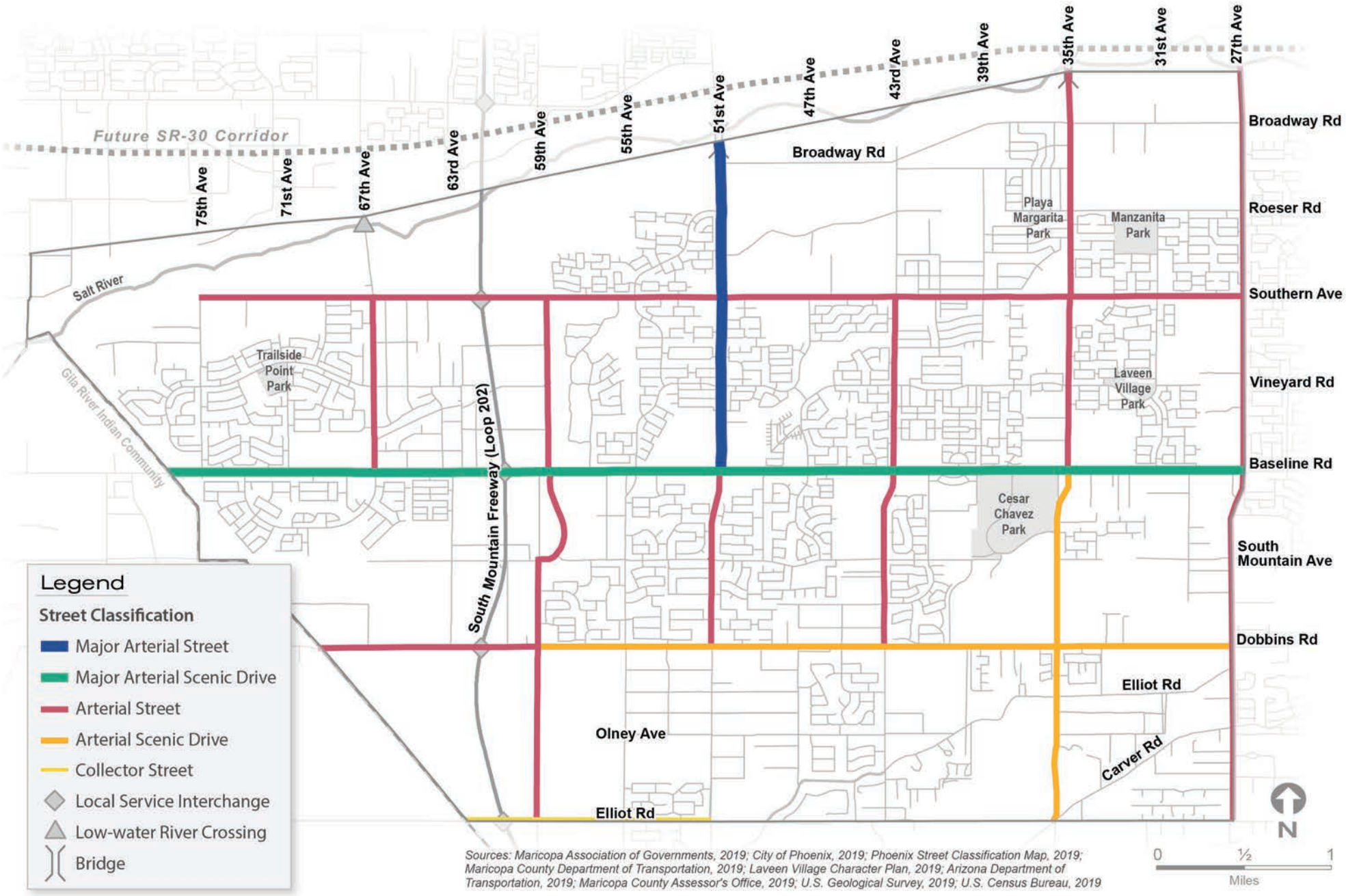
- MCFCD is designing and constructing a 72-inch storm drain along Olney and 27th avenues, with financial support from the City of Phoenix.
- Substantial flood control projects are proposed near 51st Avenue / Sunrise Drive and 35th Avenue / Olney Avenue.
  - The total estimated cost of the three projects is approximately $9.6 million.

Future Roadway Conditions

Phoenix General Plan Street Facility Type

As Figure 3.2 indicates, most north-south and east-west streets in the one-mile grid are designated as arterials or major arterials in planPHX, the 2015 Phoenix General Plan, which covers the entire LSMTS Study Area. Table 3.2 compares relevant Phoenix criteria for major arterial streets and arterial streets.

Figure 3.2 *Phoenix General Plan Street Facility Type*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Phoenix Street Classification Map, 2019; Maricopa County Department of Transportation, 2019; Laveen Village Character Plan, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Table 3.2 *City of Phoenix Criteria for Major Arterial and Arterial Streets*

Major Arterial	
Purpose	Long-distance traffic movement within Phoenix and between cities
Service to abutting land	Limited or very limited
Control of access	Frontage roads, raised medians, spacing and location of driveways and intersections
Typical separation of opposing traffic	Raised median
Signals	Coordinated for progressive movement
Typical daily traffic volume	30,000 to 60,000 (two-way)
Typical number of lanes	3 per direction
Active transportation	Accommodated as appropriate

Arterial	
Purpose	Moderately long-distance movement within Phoenix and between cities
Service to abutting land	Moderate
Control of access	Frontage roads, raised medians, spacing and location of driveways and intersections
Typical separation of opposing traffic	Raised median or continuous left-turn lane
Signals	Coordinated for progressive movement
Typical daily traffic volume	15,000 to 50,000 (two-way)
Typical number of lanes	2 or 3 per direction
Active transportation	Accommodated as appropriate

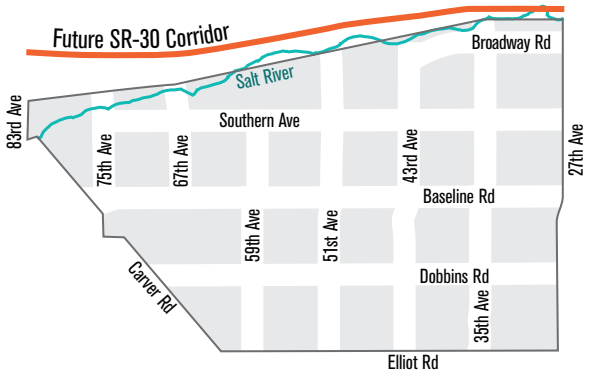
Source: *planPHX (Phoenix General Plan 2015), City of Phoenix, 2018; City of Phoenix Street Classification System, City of Phoenix, 1992.*

Planned ADOT SR-30

Since 2005, ADOT has been studying State Route 30 (SR-30), a proposed new east-west corridor in the MAG freeway system that would serve as an alternative route to I-10 through the West Valley. ADOT issued a Final Environmental Assessment (FEA) with a finding of No Significant Impact (FONSI) in 2019, along with a location/design concept report (L/DCR) for a planned multi-lane, controlled-access highway from the Loop 303 to the Loop 202. This portion of SR-30, approximately 5 miles south of I-10, will extend approximately 14.8 miles, with a right-of-way width of 500 to 600 feet expanding to 1,500 feet at local service traffic interchanges. Ten such interchanges are currently proposed for the recommended "build" alternative: at Cotton Lane, Sarival Avenue, Estrella Parkway, Bullard Avenue, Dysart Road, Avondale Boulevard, 107th Avenue, 91st Avenue, 83rd Avenue, and 67th Avenue. The L/DCR assumes all to be full compact diamond interchanges, except at Sarival and 67th Avenues. At these two locations, a compact half-diamond was evaluated instead. The ramps at 67th Avenue would extend to and from the west.

The proposed SR-30 / Loop 202 system interchange will be located along the Loop 202, near the Study Area boundary, between Broadway Road and Southern Avenue. The interchange will initially contain north, south, and west legs. A future fourth leg for the proposed eastward extension of SR-30 is accommodated in the interchange design.

SR-30 from the Loop 303 to the Loop 202 will initially



be a six-lane facility with a 50-foot median. The median will eventually accommodate another general-purpose lane and a high-occupancy vehicle lane. According to the FEA, the right-of-way will also include a 50-foot-wide corridor for a future transit facility. The service interchanges will be spaced at least one mile apart, with 12-foot auxiliary lanes on the mainline where warranted. SR-30 will pass over the existing major crossroads, leaving the latter at grade.

The FEA and issuance of the FONSI have met the requirements to proceed with this project under the National Environmental Policy Act. The current MAG Regional Transportation Plan indicates that the development of SR-30 will begin in fiscal year 2020, starting with design and right-of-way acquisition. So far only right-of-way acquisition and utility work have been funded and programmed, however. An ADOT news release of December 16, 2019 indicates that MAG has programmed more than $500 million toward this project.

State Route 30 will have a significant impact on

connectivity and travel patterns both in and around the Study Area and is included in the TDM modeling detailed in Chapter 4.

Future Year 2040 Roadway Capacity and Traffic Conditions

Figure 3.3 shows the projected number of lanes on major streets in 2040, according to MAG's regional traffic model and Regional Transportation Plan issued in November 2017. By 2040, most arterial streets in the Study Area will have four lanes, and a few segments will be wider than that. Portions of 35th Avenue, Southern Avenue, and other notable streets will continue to carry traffic on two-lane sections, however.

Figure 3.4 shows projected year 2040 average daily traffic on major streets in the Study Area. Despite overall growth in Study Area and regional travel over the next 20 years, some roadway segments will experience reduced traffic volumes, relative to current demand. The change is due to the high carrying capacity of the Loop 202 and associated interchanges in Laveen. However, daily volumes of up to 30,000 vehicles are expected to use Southern Avenue and Baseline Road east of the new freeway. Portions of Dobbins Road, especially east of 35th Avenue and between 47th and 51st avenues, will see substantial traffic increases as development continues to spread south from the existing Laveen core along Baseline Road.

Figure 3.5 shows projected 2040 traffic volumes on major streets during the afternoon peak hour. The traffic volume categories in the legend are the same as shown in Figure 2.9. By 2040, however, travel is expected to increase substantially. Volumes of more than 3,000 vehicles traveling in each direction are projected on lengthy segments of several arterial streets, especially Broadway Road (east of 51st Avenue), Southern Avenue, Baseline Road, 51st Avenue, and 35th Avenue.

Phoenix / MCDOT Future Transportation Projects

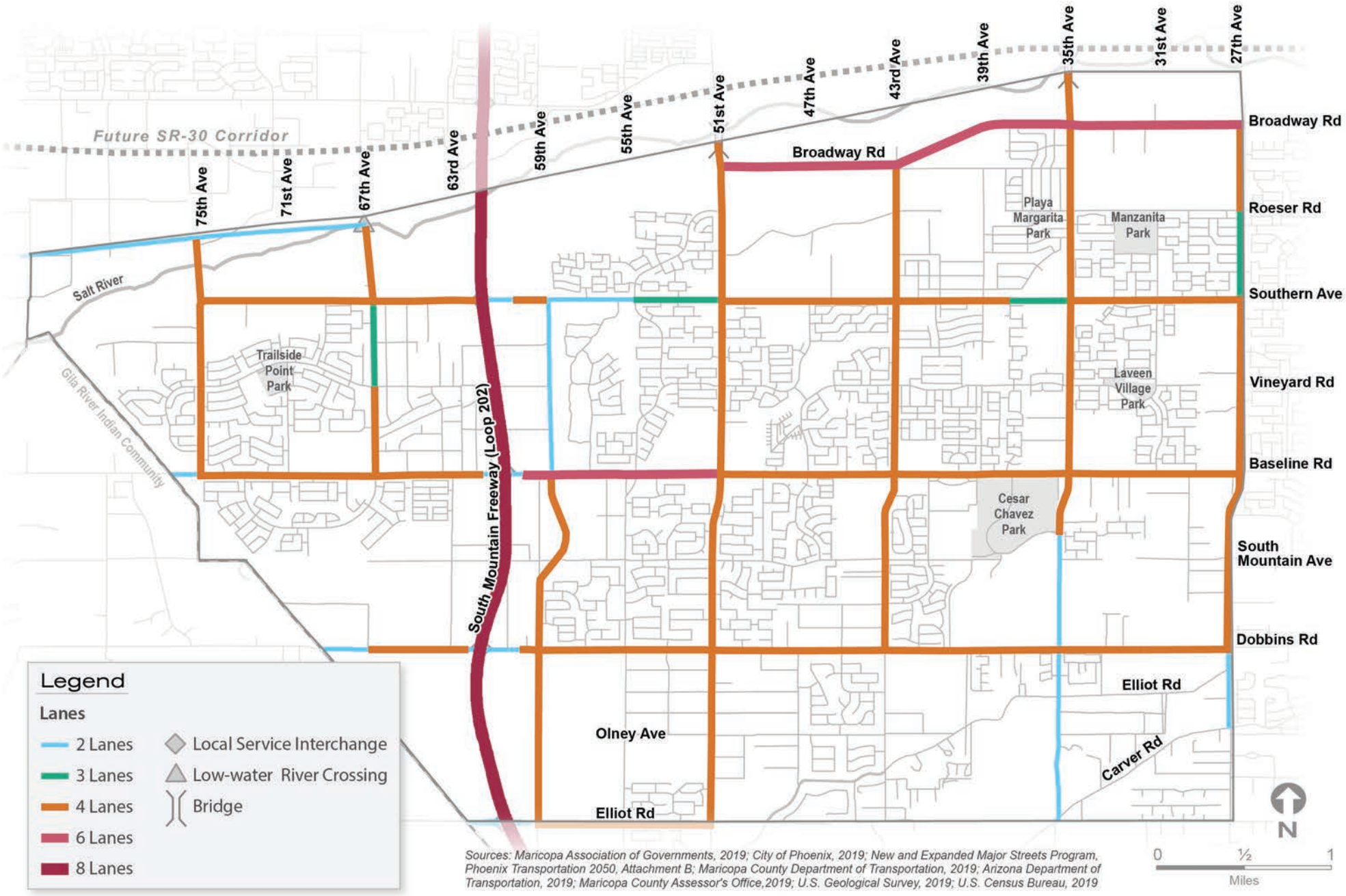
Table 3.3 lists potential project assessments that Phoenix has included in its long-range transportation plan. Figure 3.6 displays these projects, which have not yet been programmed or scheduled.

Table 3.3 *Potential Future Project Assessments Identified by the City of Phoenix*

Street	Extent in Study Area	Miles in Study Area	Notes
Proposed Group 1 (High Priority) Project Assessments			
Southern Ave	37th Ln-51st Ave	1.7	Designated employment area; sidewalks are missing; 4 bus stops are ADA-noncompliant; multiple stops lack shade
Baseline Rd	71st Ave-75th Ave	0.5	Also in COP ***Comprehensive Bicycle Master Plan (2014)***; bus stops lack shade and furniture
Proposed Group 2 Project Assessments			
67th Ave	Buckeye Rd-Baseline Rd	2.0	Designated employment area
75th Ave	Southern Ave-Baseline Rd	1.0	None
51st Ave	Baseline Rd-Estrella Dr	2.0	None
43rd Ave	Baseline Rd-Dobbins Rd	1.0	None
Southern Ave	51st Ave-75th Ave	2.0	None
Dobbins Rd	51st Ave-67th Ave	2.0	None
Dobbins Rd	Central Ave-51st Ave	3.0	Also in COP Comprehensive Bicycle Master Plan (2014)

Source: *Transportation 2050 - Proposition 104 Major Street Improvements Street Map, City of Phoenix, https://www.phoenix.gov/t2050-pmc/proposition-104-major-street-improvements-street-map; accessed March 2020.*

Figure 3.3 *Proposed Number of Lanes, 2040*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; New and Expanded Major Streets Program, Phoenix Transportation 2050, Attachment B; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office,2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 3.4 *Projected Average Daily Traffic Volumes, 2040*

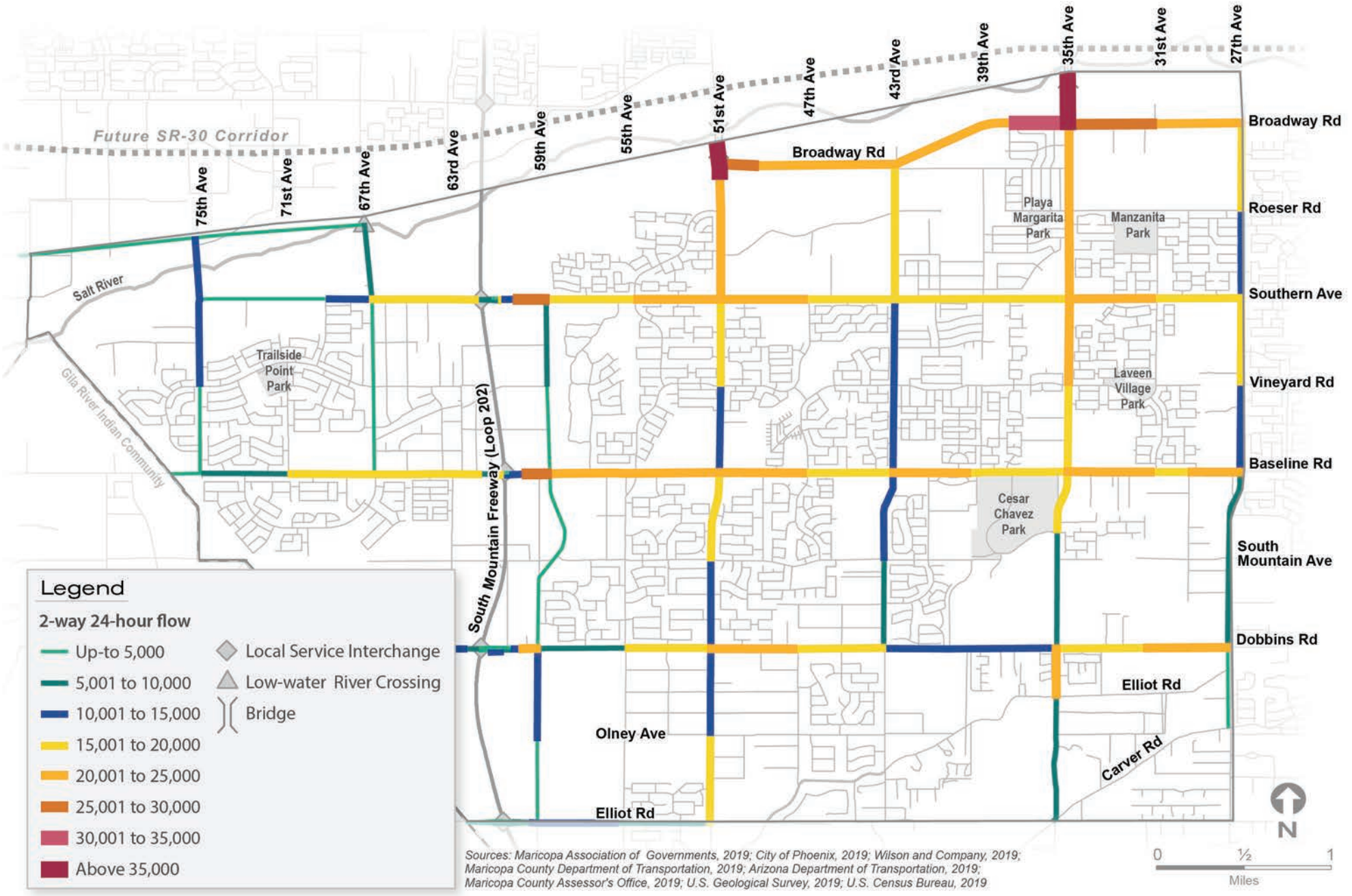
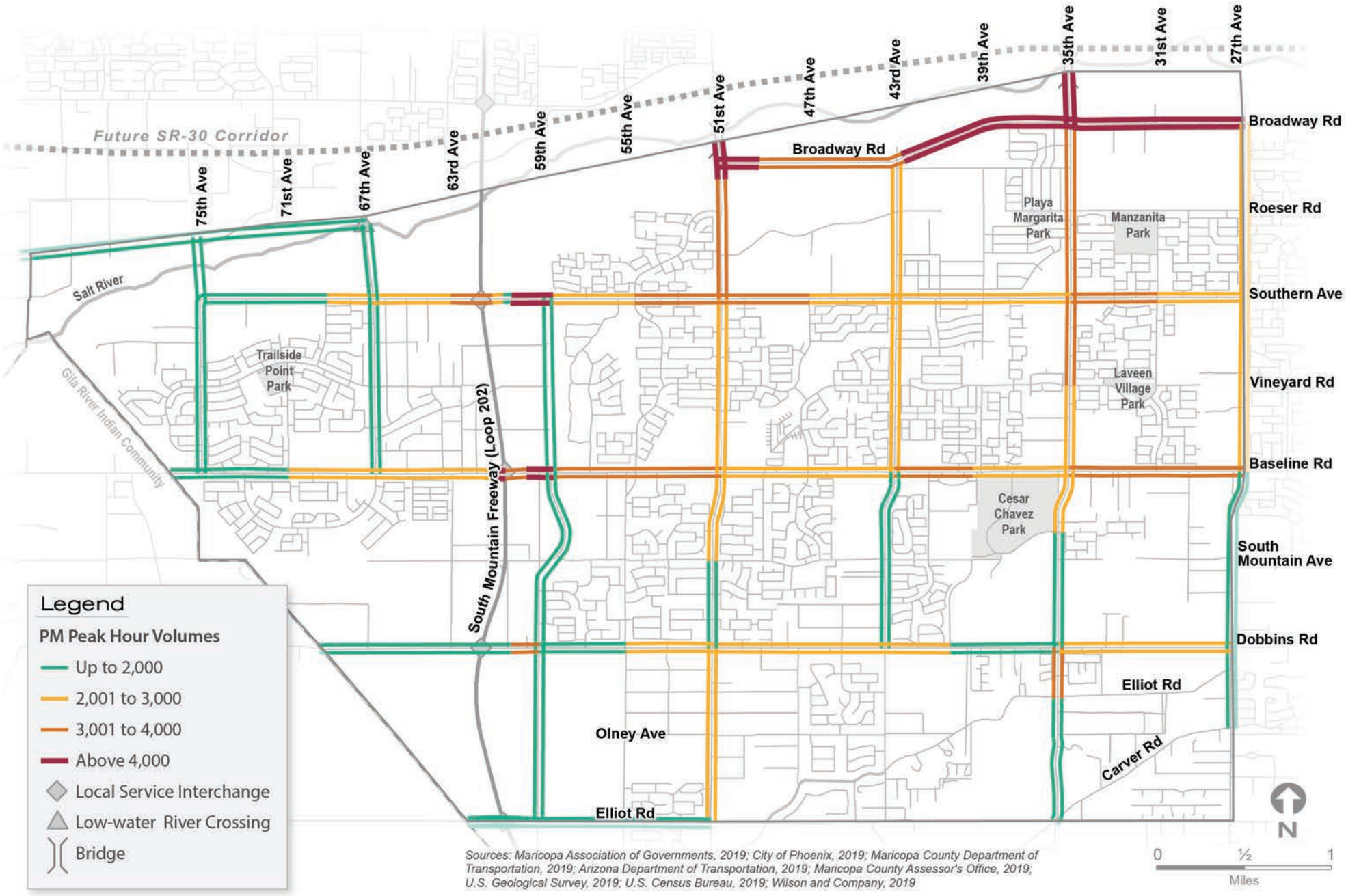
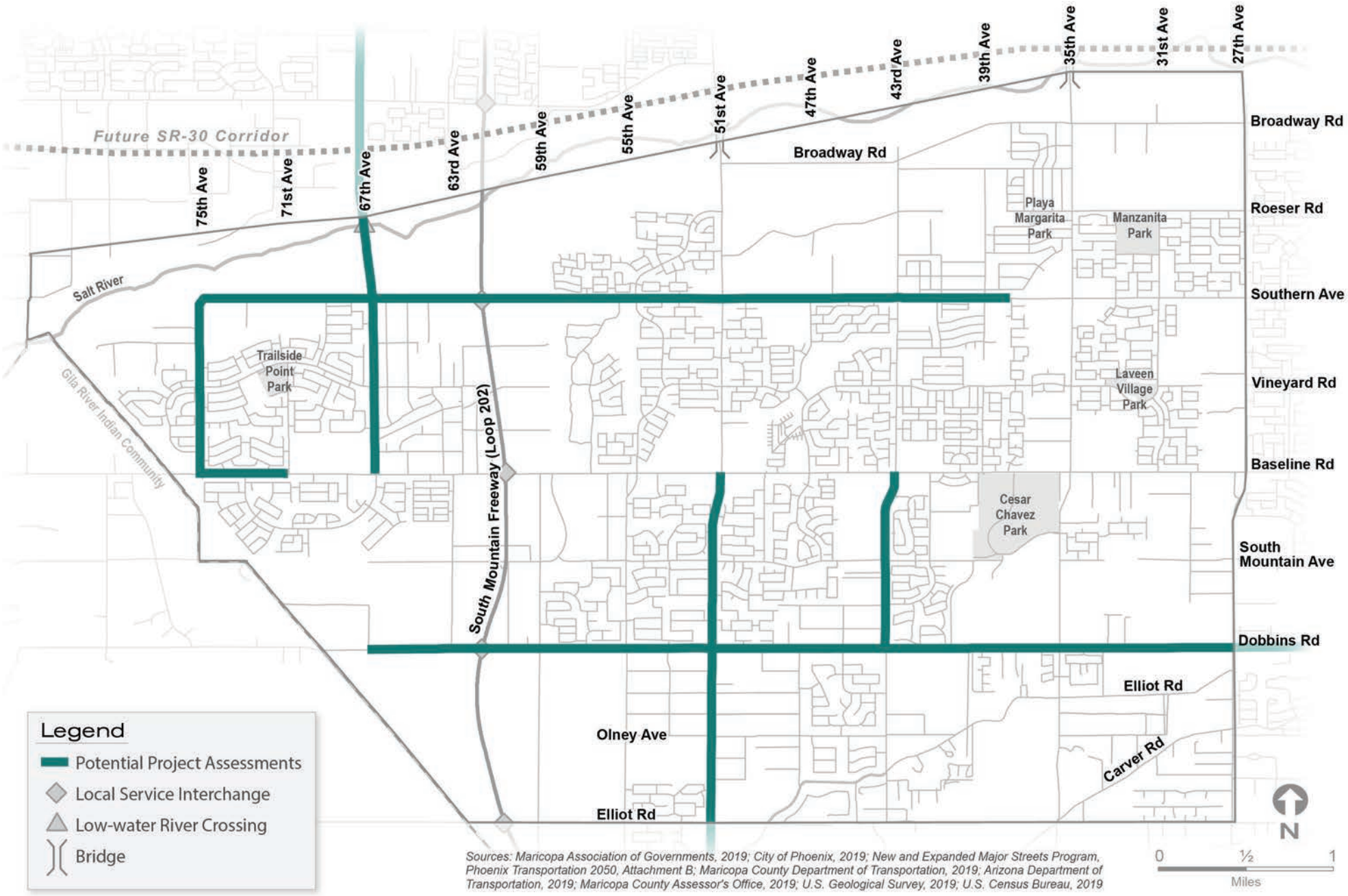


Figure 3.5 *Projected Average Daily Afternoon Peak Hour Traffic Volumes, 2040*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019; Wilson and Company, 2019

Figure 3.6 *Potential City of Phoenix T2050 Project Assessments*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; New and Expanded Major Streets Program, Phoenix Transportation 2050, Attachment B; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Programmed Future Improvement Projects

Table 3.4 lists, and Figure 3.7 illustrates Laveen roadway projects in the Phoenix capital improvement program for fiscal years 2020 through 2023. For projects that were already underway in 2019, the total cost listed includes expenditures for that fiscal year. Table 3.5 and Figure 3.7 show programmed MCDOT projects in the Study Area for fiscal years 2020 through 2024.

Table 3.4 *Programmed Phoenix Roadway Improvements, Fiscal Years 2020-2023*

Title	Description	Year(s)	Cost	Notes
Baseline Rd, 55th Ave-59th Ave (0.5 miles)	Install lighting and sidewalks at gaps; complete bikeways and driveways; install HAWK beacon at LACC Trail; widen to final cross-section.	2020-2022	$9,678	Impact fees; funded through T2050 monies
Baseline Rd, 43rd Ave-46th Ave (0.4 miles)	Bury power lines; relocate ditches; widen, ADA and drainage; add bus shelters, lighting, signals, bike lanes, landscaping, curb, gutter, sidewalks.	2020-2023	$1,903	Funded through T2050 monies
Total Cost			**$11,581**	

Source: *Phoenix Capital Improvement Program 2018-23, City of Phoenix, 2018.*

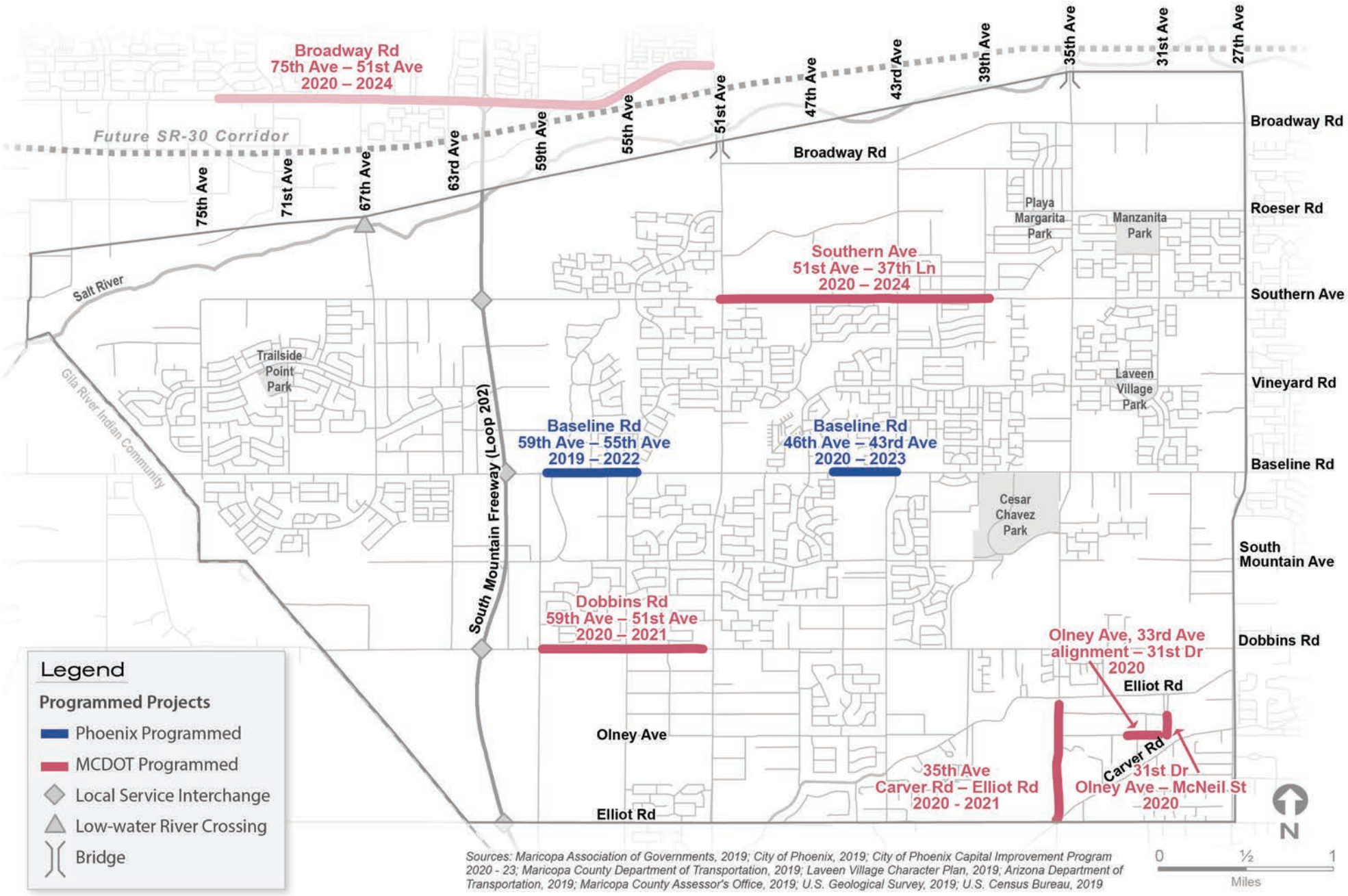
Table 3.5 *Programmed Near-term MCDOT Roadway Improvement Projects, Fiscal Years 2020-2024*

Location	Description	Fiscal Years	Cost
31st Dr, Olney Ave-McNeil St Olney Ave, 33rd Ave alignment-31st Dr 45th Ave, Estrella Dr-Gumina Ave alignment (outside study boundary)	Laveen area low volume road paving	2020	$1,000
35th Ave, Carver Rd-Elliot Rd	Realignment, partial lowering	2020-2021	$2,390
Broadway Rd, 75th Ave-51st Ave (outside study area boundary)	Roadway widening	2020-2024	$21,819
Dobbins Rd, 59th Ave-51st Ave	Rubberized asphalt concrete overlay	2020-2021	$ 751[1]
Southern Ave, 51st Ave-37th Ln	Various improvements that may include a signal at 39th Ave	2020-2024	$13,555
Total Cost			**$39,515**

[1]*Includes cost of other pavement overlay projects outside the Laveen area*

Source: *Maricopa County Department of Transportation, www.gis.maricopa.gov\projects; accessed January 2020.*

Figure 3.7 *Programmed Near-term Improvement Projects*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; City of Phoenix Capital Improvement Program 2020 - 23; Maricopa County Department of Transportation, 2019; Laveen Village Character Plan, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Phoenix Pavement Maintenance Projects

Table 3.6 and Figure 3.8 show pavement maintenance projects that Phoenix has programmed for arterials in the Study Area during fiscal years 2020 through 2022. None are scheduled for 2023, the last year of the current program. The projects are divided nearly equally between north-south and east-west streets, but Southern Avenue has the most with four projects listed, while 35th Avenue and Dobbins Road have three each.

Table 3.6 *Phoenix Pavement Maintenance Projects for Arterials, –2020-2022*

Road	From	To	Project Type[1]	Miles	Fiscal Year
75th Ave	Phoenix boundary	North of Baseline Rd	CS	0.62	2021
59th Ave	South of South Mtn. Ave	North of Baseline Rd	CS	0.50	2020
	South side Baseline Rd	South side Dobbins Rd	CS	0.95	2020
51st Ave	North of Baseline Rd	North of Dobbins Rd	CS	1.01	2020
	South of Olney Ave	North of Estrella Dr	CS	1.50	2020
43rd Ave	North of Southern Ave	South of Baseline Rd	CS	0.99	2022
35th Ave	Salt River Bridge	North of Southern Ave	CS	0.59	2020
	Southern Ave	Baseline Rd	TRMSS	0.50	2022
	North of Dobbins Rd	North of Carver Rd	CS	0.98	2022
Southern Ave	East of 59th Ave	West of 67th Ave	CS	1.00	2020
	East of 50th Ave	West of 59th Ave	MS	0.49	2020
	East of 43rd Ave	West of 51st Ave	Overlay	0.85	2020
	East of 27th Ave	West of 35th Ave	TRMSS	0.99	2021
Baseline Rd	West of 57th Ave	East of 59th Ave	CS	0.26	2021
	East of 51st Ave	East of 55th Ave	Overlay	1.31	2020
	50th Ave	52nd Ave	MS	0.36	2020
	East of 27th Ave	West of 35th Ave	CS	0.94	2020
Dobbins Rd	West side 33rd Ave	West of 43rd Ave	TRMSS	1.01	2022

[1]***CS*** *= Crack seal;* ***MS*** *= Micro seal;* ***TRMSS*** *= Tire rubber modified surface sealer*

Source: *City of Phoenix Pavement Management Program, March 1, 2019.*

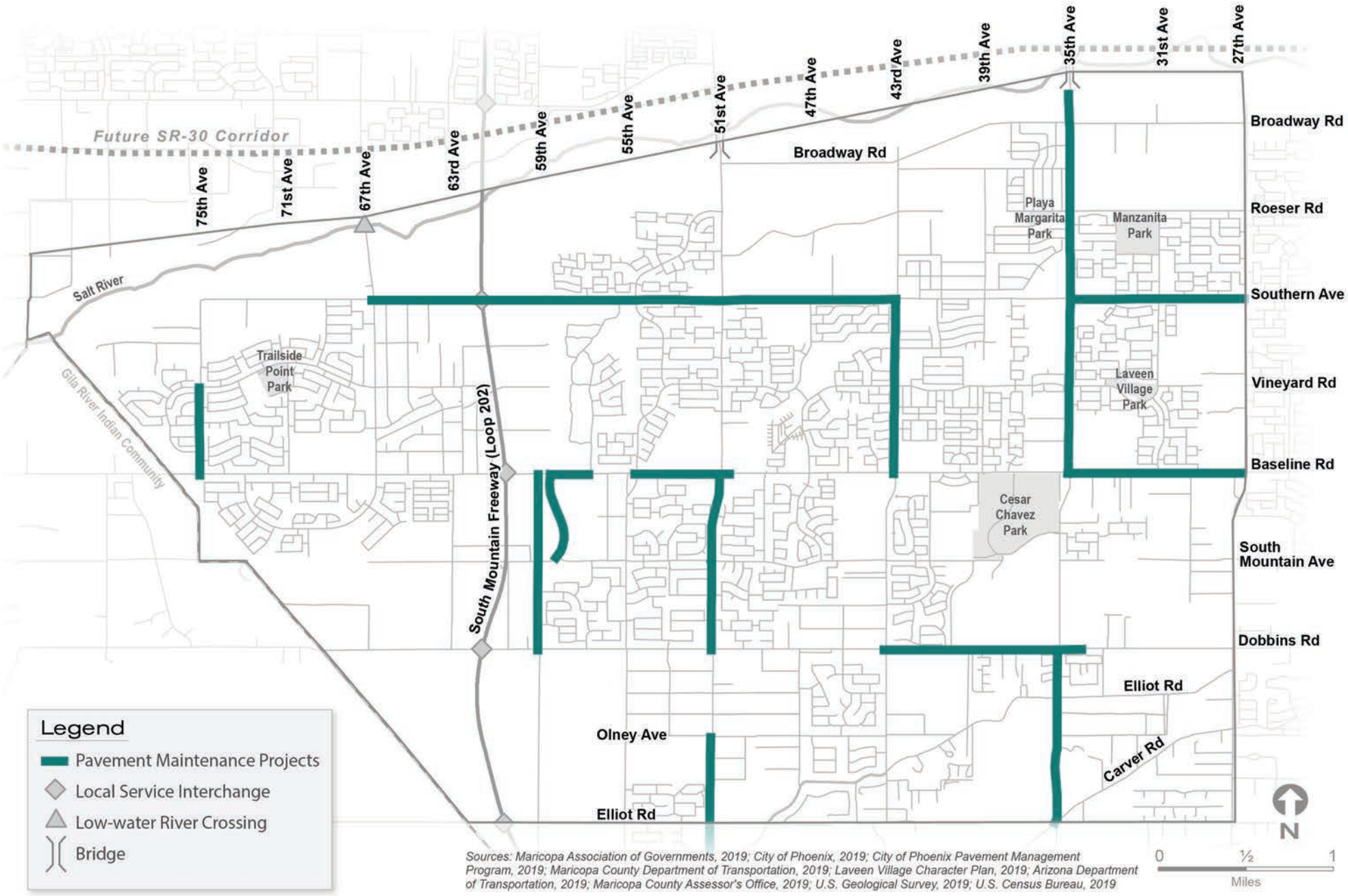
Findings

One new, east-west freeway, designated as SR-30, will run parallel to I-10 near the northern Study Area boundary. Initially, SR-30 will terminate at a system interchange with Loop 202 near Broadway Road, with local service interchanges located at 67th and 83rd avenues. SR-30 will open with six general purpose lanes and a 50-foot median. The construction timetable will depend on funding availability.

Although the Loop 202 will help moderate traffic volumes on some existing major roads, up to 30,000 vehicles a day are forecast for portions of Southern Avenue and Baseline Road in 2040. Parts of Dobbins Road will also experience substantial traffic increases over current levels. Afternoon peak hour volumes in excess of 3,000 vehicles are also expected by 2040 on five east-west and north-south arterial streets.

The City of Phoenix has programmed major improvement projects on 2 segments of Baseline Road from 2020 through 2023, as well as 18 pavement maintenance projects on arterials in the Study Area. MCDOT has programmed near-term roadway projects on portions of 45th Avenue, 35th Avenue, 31st Drive, Broadway Road, Southern Avenue, Dobbins Road, and Olney Avenue.

Figure 3.8 *Phoenix Pavement Maintenance Projects, 2020 – 2022*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; City of Phoenix Pavement Management Program, 2019; Maricopa County Department of Transportation, 2019; Laveen Village Character Plan, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Future Public Transit Improvements

As part of T2050 (City of Phoenix, 2015), new or improved local bus service is proposed along numerous arterial streets, (Figure 3.9 and Table 3.7). The improvements will vary from route to route. Approximately 19 miles of route extensions, including a new route on Dobbins Road and 15 miles of other improvements are planned in the Study Area. All or part of each new route or extension, except the Route 67 extension, also appears in the map of "Super Grid" bus system improvements in the 2040 MAG Regional Transportation Plan issued in 2017.

Table 3.7 *Potential Transit Improvements in Laveen Study Area*[1]

Route	Improvement, Extension, or New Route Segment	Approximate Miles in Study Area
35: 35th Ave	Improve entire route	3
43: 43rd Ave[2]	Extend, Buckeye Rd-Dobbins Rd	3
45: Broadway Rd	Extend, 19th Ave-51st Ave	3
51: 51st Ave	Improve, Baseline Rd-southern city limit	4
61: Southern Ave	Improve existing route east of 43rd Ave	2
	Extend, 43rd Ave-75th Ave	4
67: 67th Ave[3]	Extend, Lower Buckeye Rd-Baseline Rd	2
77: Baseline Rd	Improve, 27th Ave-75th Ave	6
93: Dobbins Rd[4]	New route, 16th St-59th Ave	4

[1]All future extensions and other improvements are contingent on demand for transit service and availability of funding from T2050 and other sources.

[2]Requires a detour to 35th Avenue or 51st Avenue bridge over the Salt River.

[3]Requires either improvements to the 67th Avenue crossing or a detour to an all-weather bridge.

[4]Proposed new route; number is hypothetical.

Source: *Phoenix Transportation 2050 Plan, City of Phoenix, 2015; Phoenix.gov\pddsite\Documents\PZ\pdd_pz_pdf_00515.pdf.*

Valley Metro Rail is planning an extension of high-capacity transit (possibly light rail), west from downtown Phoenix to the state capitol and, ultimately, along I-10 to 79th Avenue, north of Laveen. The current vision calls for intermediate stations along I-10 at 35th, 51st, 59th, and 67th Avenues, although the locations remain subject to change. When the line opens, existing bus Routes 35 and 51 would connect it to Laveen.

A new park-and-ride, which could host a Phoenix RAPID route or a shuttle to I-10 express buses, is envisioned for the 59th Avenue station. These improvements could enhance mobility between Laveen and activity centers throughout the region.

Findings

The City of Phoenix (2015) T2050 transportation plan includes local bus route extensions on four north-south streets and three east-west streets in the Study Area. A new local route is proposed on Dobbins Road. Valley Metro Rail plans a future extension of the light rail system along I-10, several miles north of the Study Area, to 79th Avenue. The extension could connect with several bus routes serving the Study Area.

Future Active Transportation Improvements

Programmed Near-Term Projects

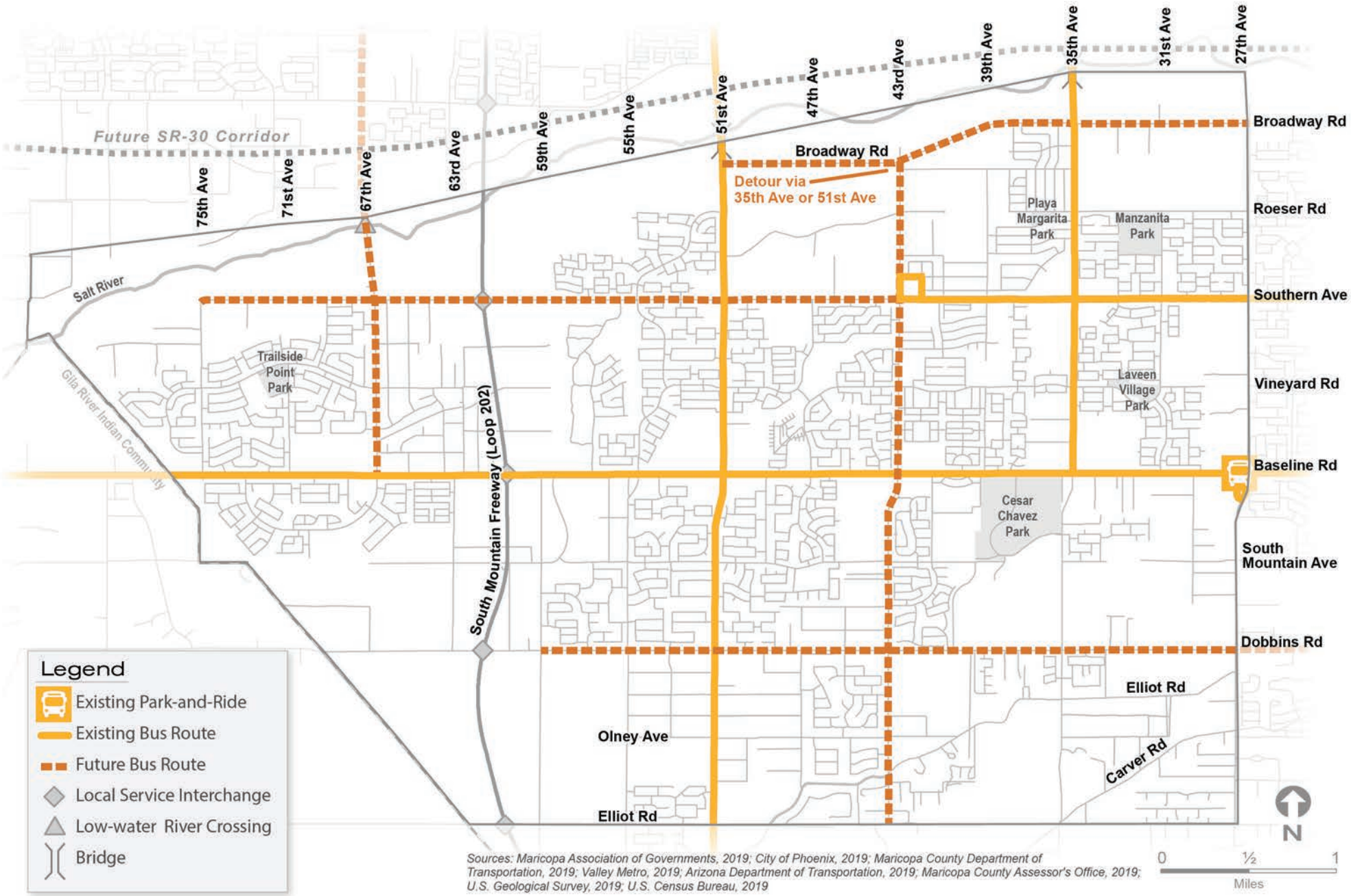
The City of Phoenix has programmed the following projects in the Study Area through fiscal year 2022.

- New bike lanes along Broadway Road from 27th Avenue to 51st Avenue and beyond (completed)
- Intersection improvements to existing bike lanes on Southern Avenue from 51st Avenue to 59th Avenue
- New bike lanes on Dobbins Road from 43rd Avenue to 51st Avenue
- New bike lanes on 35th Avenue for 0.9 miles from Cesar Chavez Park on Ian Drive to Dobbins Road

Planned Long-Term Improvements

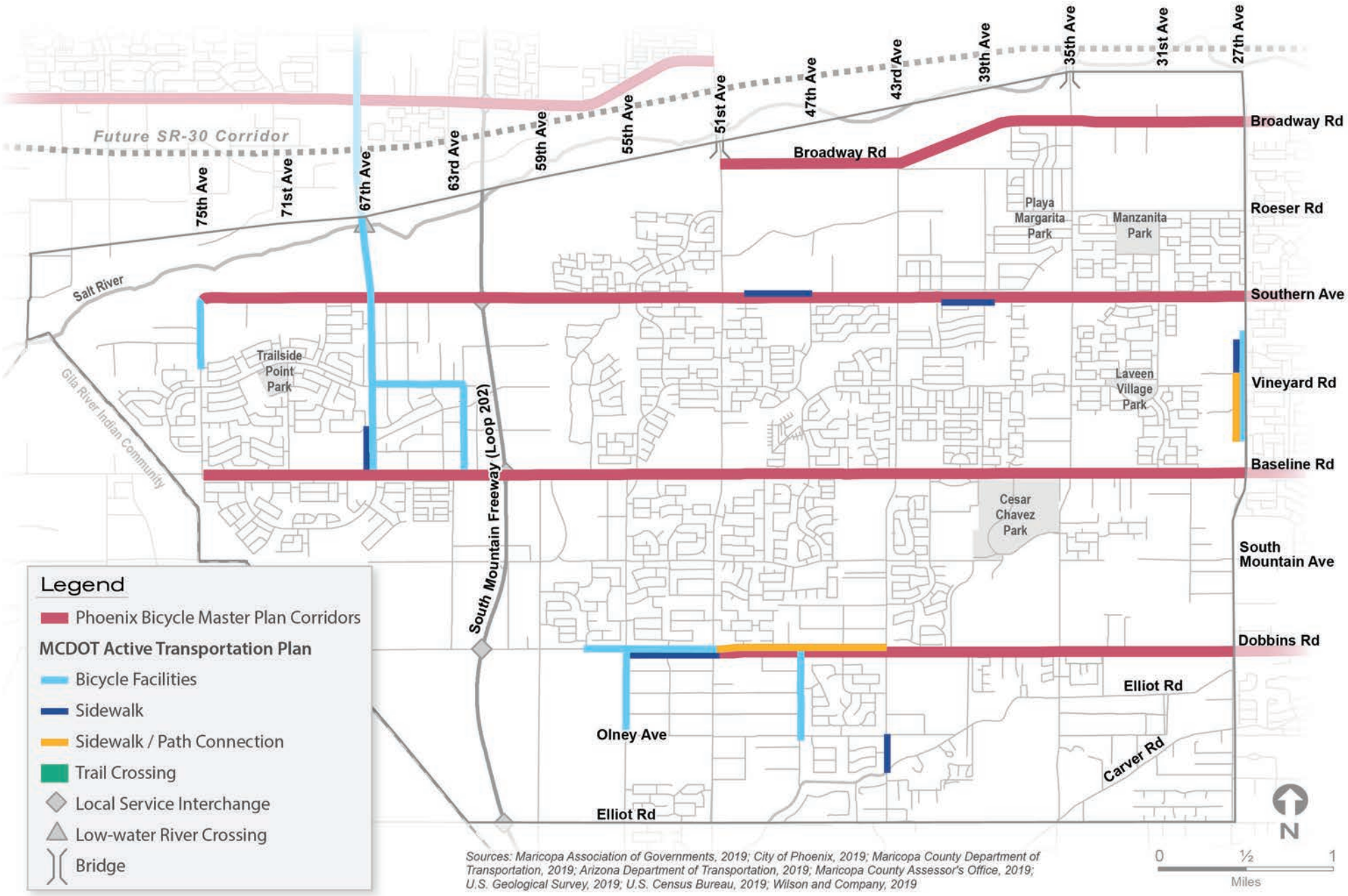
In its 2014 Comprehensive Bicycle Master Plan, the City of Phoenix identified 39 bicycling corridors as candidates for improvements over the 20-year planning period that spans to 2035. The four corridors that lie partially within the Study Area are listed in Table 3.8 and shown in Figure 3.10. Figure 3.10 also shows the needed improvements that are detailed in the MCDOT Active Transportation Plan (2018) and that are listed in Table 3.9.

Figure 3.9 *Planning Public Transportation*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Valley Metro, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019

Figure 3.10 *Planned Phoenix and MCDOT Active Transportation*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Arizona Department of Transportation, 2019; Maricopa County Assessor's Office, 2019; U.S. Geological Survey, 2019; U.S. Census Bureau, 2019; Wilson and Company, 2019

Table 3.8 *Corridors in Phoenix Comprehensive Bicycle Master Plan*

Street	From	To	Recommended Improvements
Baseline Rd	75th Ave	48th St	Complete bike lanes 71st Ave-55th Ave; extend lanes to 67th, 51st, 47th, 43rd, 41st, 39th, 35th, and 27th Ave intersections
Southern Ave	75th Ave	48th St	Complete bike lanes 75th Ave-55th Ave, 51st Ave-27th Ave; extend lanes to 35th Ave intersection
Dobbins Rd	51st Ave	20th St	Complete bike lanes throughout (partially programmed by City of Phoenix for near-term construction in Laveen)
Broadway Rd	99th Ave	48th St	Complete bike lanes throughout (partially programmed by City of Phoenix for near-term construction in Laveen)

Source: *Comprehensive Bicycle Master Plan, City of Phoenix, 2014.*

Table 3.9 *Needed Improvements Identified in MCDOT Active Transportation Plan*

Road or Intersection	Segment or Location	Identified Need
75th Ave	Southern Ave-north of Leodra Ln	Bicycle facility
67th Ave	Salt River	Trail crossing
67th Ave	Baseline Rd-Raymond St	Bicycle facility
67th Ave	Baseline Rd-south of Fremont Rd	Sidewalk, both sides
63rd Ave / Vineyard Rd	67th Ave-Baseline Rd	"Low stress" bicycle facility
55th Ave	Dobbins Rd-Olney Ave	"Low stress" bicycle facility
47th Ave	Dobbins Rd-Olney Ave	"Low stress" bicycle facility
43rd Ave	Olney Ave-Elliot Rd	Sidewalk, east side
41st Ave	Southern Ave-south of Huntington Dr	Sidewalk, both sides
27th Ave	Harvest Groves Ln-north of Vineyard Rd	Sidewalk / path connection, both sides
27th Ave	North of Vineyard Rd-south of St Anne Ave	Sidewalk west side
27th Ave	North of Baseline Rd-Carson Rd	Sidewalk / path connection, both sides
27th Ave	South of Nancy Ln-north of Baseline Rd	Bicycle facility
Southern Ave	47th Ave-east of 50th Ave	Sidewalk, both sides
Southern Ave	39th Ave- 41st Ave	Sidewalk, both sides
Dobbins Rd	West of 51st Ave-56th Glen	Bicycle facility
Dobbins Rd	West of 51st Ave-55th Ave	Sidewalk, south side
Dobbins Rd	East of 51st Ave-43rd Ave	Sidewalk / path, both sides
Carver Rd	43rd Ave-Carver Rd	Bicycle facility
Vineyard Rd / 67th Ave	N/A	Sidewalk, southeast and northeast corners
Dobbins Rd / 43rd Ave	N/A	Sidewalk, southwest and northwest corners
Olney Ave / 43rd Ave	N/A	Sidewalk, southeast corner

Source: *Maricopa County Department of Transportation Active Transportation Plan, 2018; http://gis.maricopa.gov/atp; accessed March 2020.*

Findings

The City of Phoenix has programmed near-term improvements to bike lanes on Broadway Road, Southern Avenue, Dobbins Road, and 35th Avenue. The City's Comprehensive Bicycle Master Plan (2014) identifies planned long-term improvements involving bike lanes on the four major east-west mile streets in the Study Area. The MCDOT Active Transportation Plan (2018) shows 22 potential improvements to various pedestrian and bicycle facilities along major roadways and other streets.

4. Travel Demand Modeling

Travel Demand Modeling – Methods and Results

Travel demand modeling is essential for understanding how well a transportation system is operating from a traveler's point of view and for evaluating the advantages and disadvantages of potential network improvements, including impacts on efficiency, mobility, and connectivity across different modes of travel. Travel demand modeling is a key component of the Laveen South Mountain Transportation Study in determining the roadway networks that are needed to meet planning objectives and sustain projected population growth and land use development in and around the community.

This chapter reviews the parameters of the MAG Travel Demand Model (TDM); its role in delineating travel network performance, in general; and its role in identifying effective improvements for the Study Area, relative to horizon years 2030, 2035, and 2040, specifically.

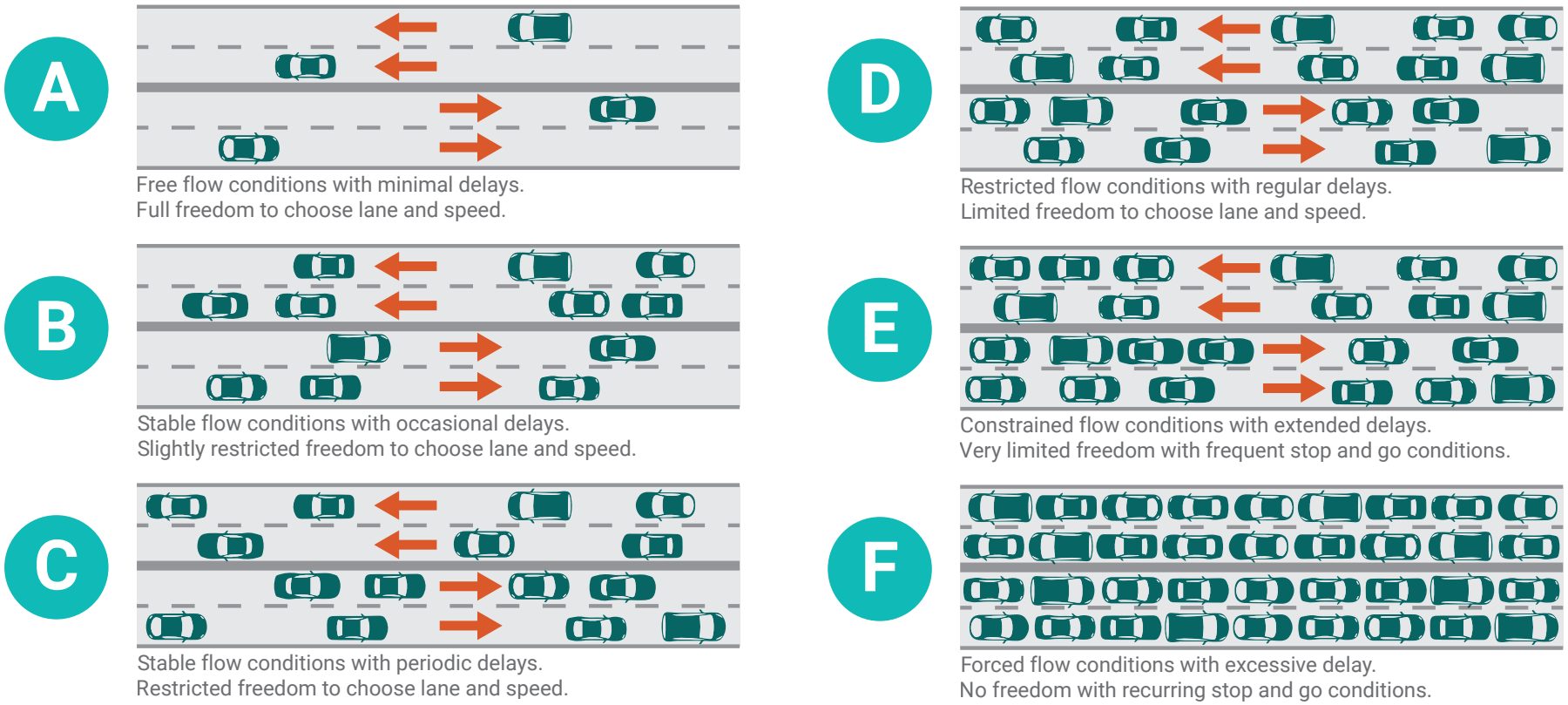
Model Parameters

The TDM is a systems analysis performance program for analyzing and forecasting travel demand and levels of service provided by the transportation system spanning Maricopa County and parts of Pinal County. The model is based on existing roadway facilities and their respective capacities; current traffic volumes, as reported by MAG member agencies every two to four years; and current levels of service, or extent of congestion and intersection queue lengths. The model also integrates forecasted variables relevant to specific analyses, including population and other socioeconomic projections and planned and programmed infrastructure improvements (https://www.azmag.gov/Portals/0/Documents/pdf/cms.resource/07-Travel-Demand_Modeling-LIVSHITS54300.pdf?ver=2017-04-06-132012-820).

MAG performed all model runs for the LSMTS using planned and programmed variables as discussed below, relative to each horizon year.

As part of traffic forecasting, the TDM generates Volume-to-Capacity (V/C) Ratios that can be used as calculated or converted into the standardized levels of service (LOS) defined by the Highway Capacity Manual (HCM) (Transportation Research Board, 2016). LOS is a qualitative measure of operating conditions commonly used to specify the performance of network components, including roadway segments, intersections, and interchanges. The HCM distinguishes seven performance levels using the letters A-F and F-, with LOS "A" representing the best operating conditions and "LOS F-," the worst (Figure 4.1).

Figure 4.1 *Level of Service*



Volume-to-Capacity Ratios were converted to and used in conjunction with LOS assignments to identify roadway deficiencies, model improved network scenarios, and inform improvement recommendations. The V/C ratios were also converted into universal, descriptive measures of traffic conditions for the purposes of public presentations and discussions. These universal measures include "uncongested," "congested," and "severely congested."

Table 4.1 shows the correlations between TDM V/C ratios, LOS measures, the universal descriptions, and the colors that are used to represent them in each of the LSMTS scenario network maps. Note that each LOS corresponds to a range of V/C ratios.

Table 4.1 *MAG Volume-to-Capacity Ratios and Corresponding HCM Levels of Service (LOS) and Universal Traffic Condition Measures*

Volume-to-Capacity Ratios and Corresponding Traffic Conditions			
V/C Range	**LOS**	**Universal Measure**	**Color Indicator**
0.00-0.50	A	Uncongested	Green
0.51-0.60	B	Uncongested	Green
0.61-0.72	C	Uncongested	Green
0.73-0.84	D	Congested	Yellow
0.85-1.00	E	Severely Congested	Orange
1.01-1.24	F	Severely Congested	Red
1.25 +	F-	Severely Congested	Burnt Orange

Source: *Maricopa County Association of Governments, 2020; Transportation Research Board Highway Capacity Manual, 2016.*

The sections that follow detail the current year (2020) baseline model and other horizon year models, including their respective network configurations with assumed improvements, traffic volumes, and performance during peak periods.

Baseline (2020) Model Analysis

The baseline model was built to reflect the existing roadway network and to represent current traffic conditions. An extensive field assessment of the entire Study Area roadway network was conducted to ensure the accuracy of the baseline model in reflecting the current number of lanes so that any discrepancies could be addressed before generating model results. Figure 4.2 illustrates the developed network used to model existing traffic conditions in the Study Area. The resulting traffic volumes from the baseline model run are depicted in Figures 4.3 and 4.4, broken down by morning and afternoon periods respectively. A LOS analysis of the existing conditions is also presented by peak period in Figures 4.5 and 4.6.

Figure 4.2 *2020 Modeled Lanes*

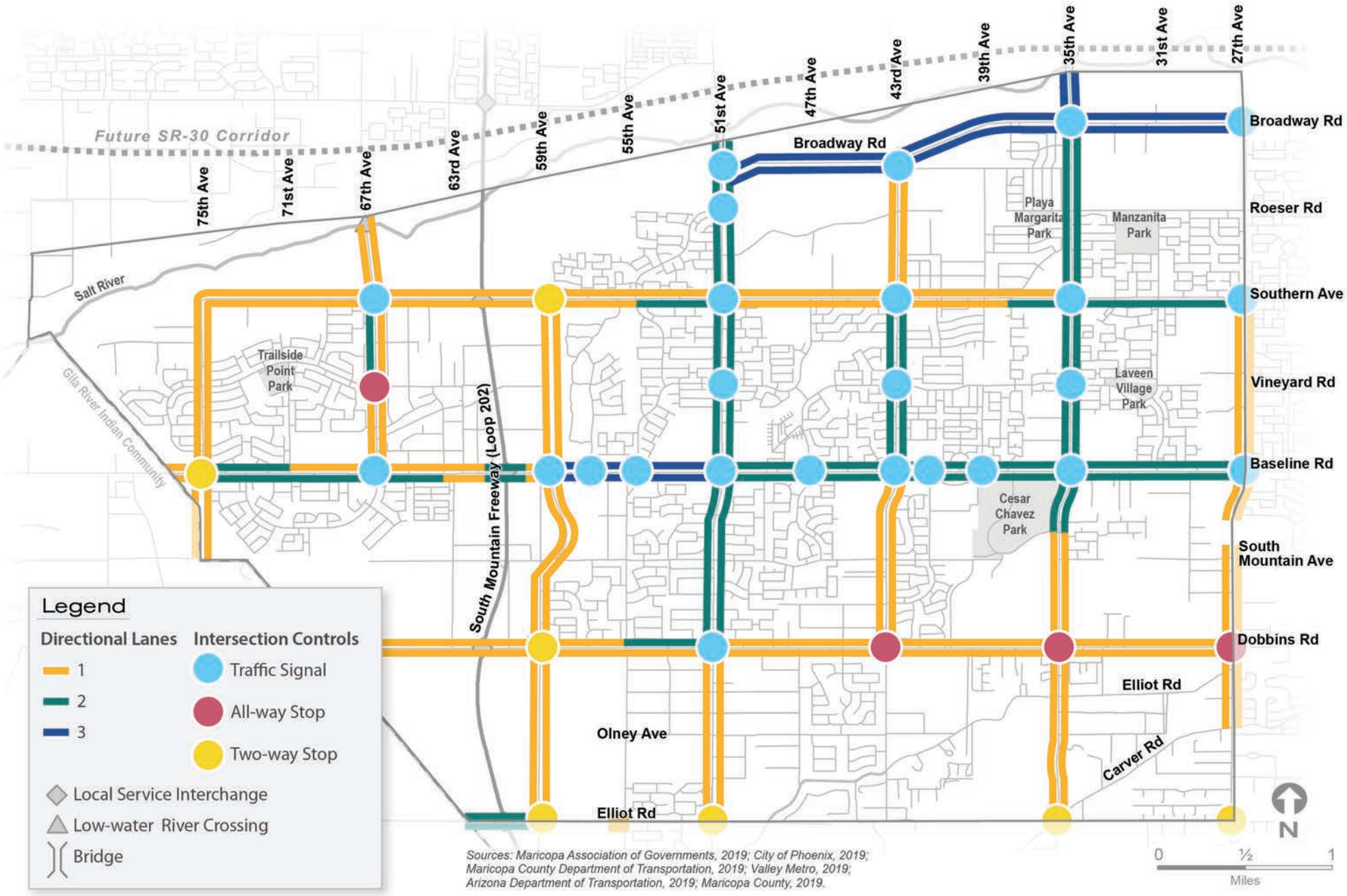


Figure 4.3 *2020 AM Traffic Volume*

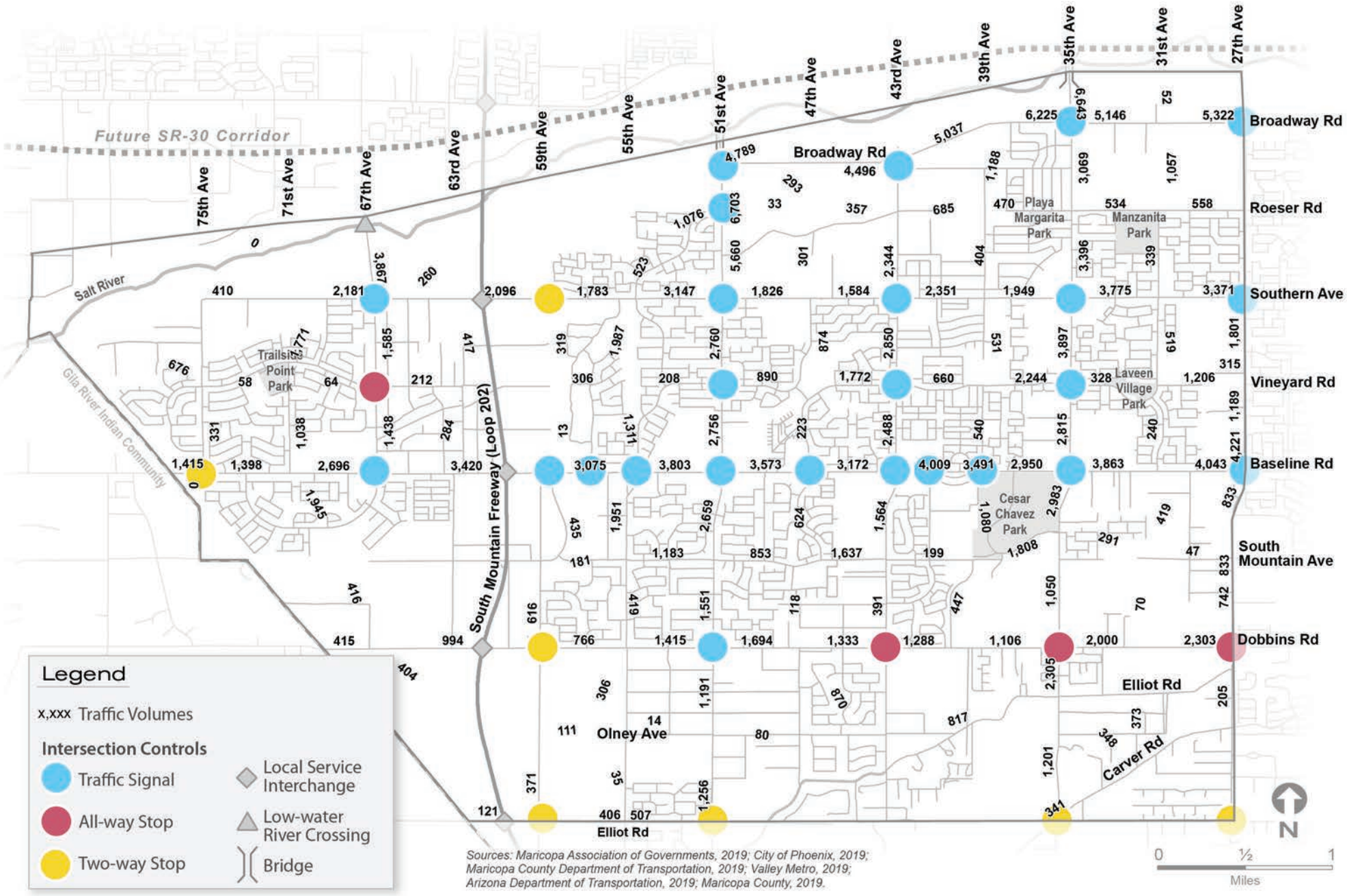


Figure 4.4 *2020 PM Traffic Volume*

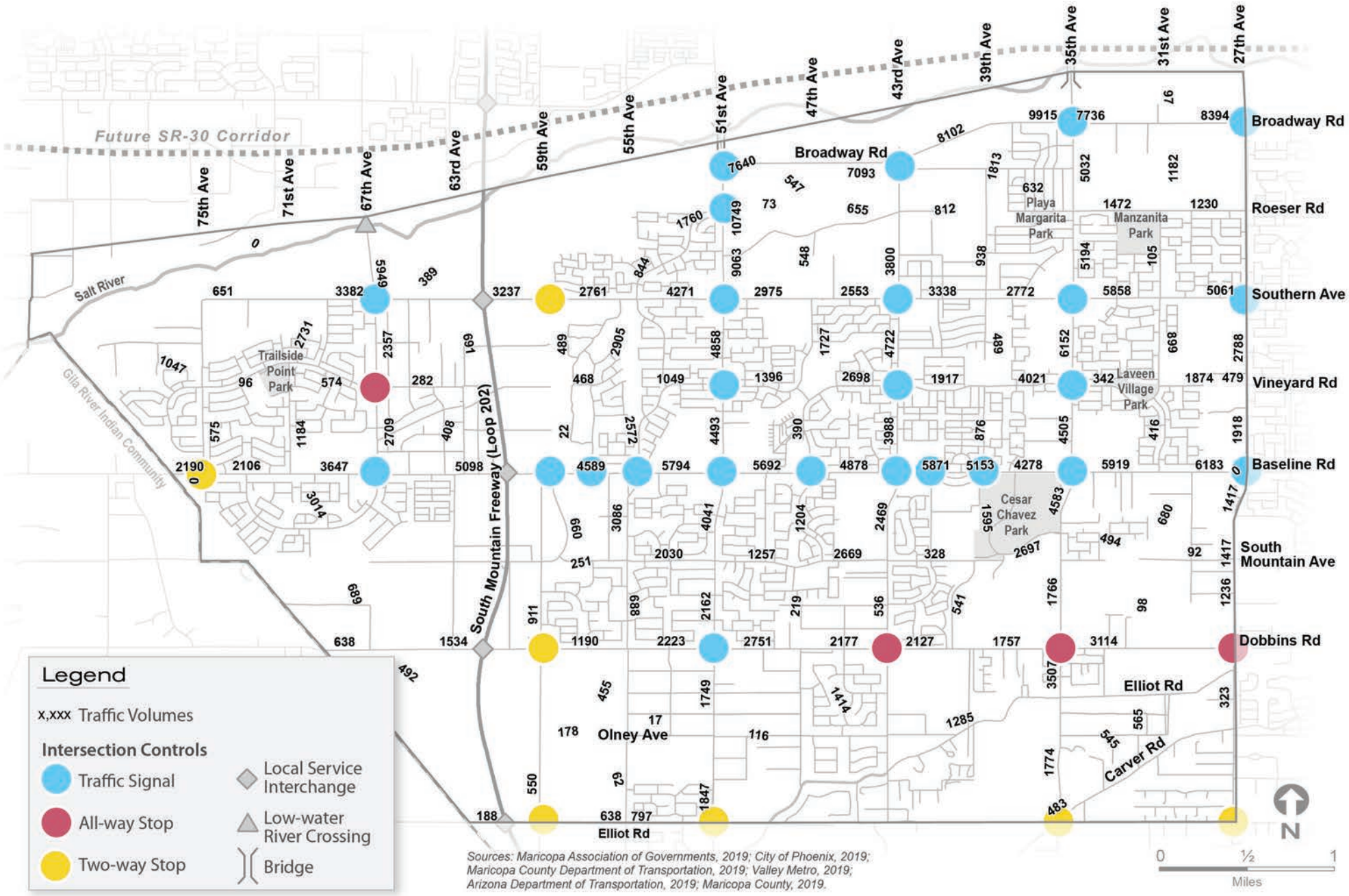


Figure 4.5 *2020 AM Traffic Level of Service*

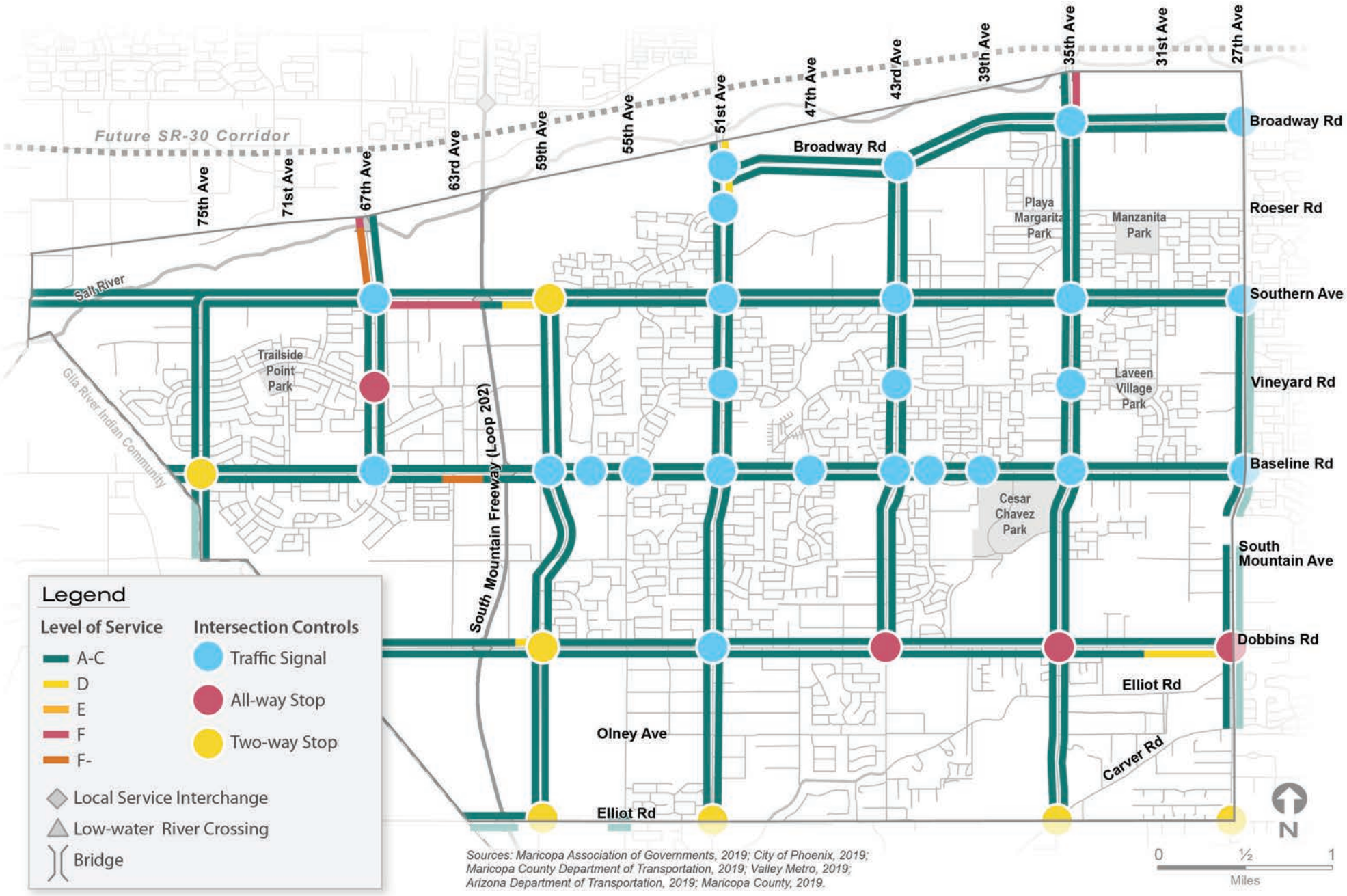
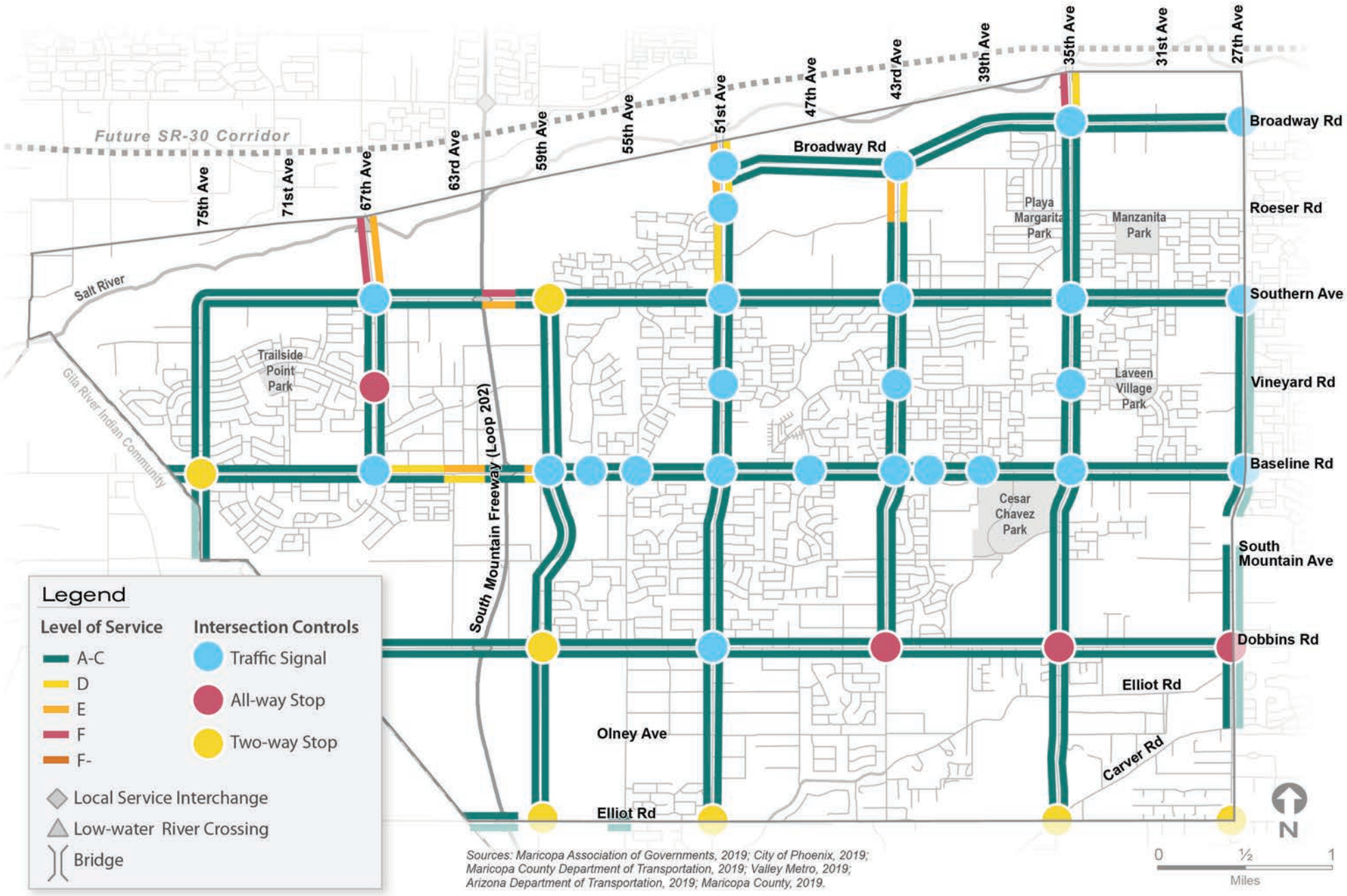


Figure 4.6 *2020 PM Traffic Level of Service*



Sources: Maricopa Association of Governments, 2019; City of Phoenix, 2019; Maricopa County Department of Transportation, 2019; Valley Metro, 2019; Arizona Department of Transportation, 2019; Maricopa County, 2019.

Alternative Improvement Models

Future model network development was based on a collective review of existing conditions, future regional improvements, stakeholder input, and public input. As depicted by the baseline figures, there are few existing local roadway deficiencies in the LSMTS Study Area. Stakeholder review of the future 2040 regional TDM guided many of the improvements identified in all future model scenarios. Two alternatives were initially generated for the 2040 horizon to account for variations in local connectivity, specifically to determine the need for a new traffic interchange at 75th Avenue along the future SR-30 alignment.

The 2040 alternatives were ultimately formulated by identifying the travel demand on north-south facilities crossing the Salt River / SR-30 alignment. The primary objective for identifying two alternatives was to determine which network's north-south capacity could meet demand west and east of the Loop 202 in 2040. Both 2040 alternative networks were essentially the same, with one key dissimilarity: Alternative A included the proposed traffic interchange at 75th Avenue and Alternative B omitted the interchange.

Model run results revealed insignificant differences in traffic assignment and both alternative networks demonstrated adequate capacity, providing the justification for omitting the interchange and selecting Alternative B.

The selection of the improved 2040 network set the framework for identifying the 2030 and 2035 networks, in which improvements were scaled back to meet the demand of those years. A detailed description of each of the network improvements modeled by year is included in the following sections, along with an analysis of traffic performance.

2030 Model Analysis

The 2030 Laveen model was adapted from the MAG 2030 TDM, which encompasses regional network improvements, including the construction of SR-30 west of the Loop 202. Using the baseline Laveen network as the foundation in the Study Area, the improvements listed below were incorporated into the 2030 model network.

Roadway Improvements

- 35th Avenue from SR-30 to the southern boundary – 4-lane corridor
- 51st Avenue from SR-30 to the southern boundary – 4-lane corridor
- Southern Avenue from 27th Avenue to 75th Avenue – 4-lane corridor

Transit Improvements

- A new park-and-ride lot at the Baseline Road / Loop 202 interchange
- RAPID service from the new park-and-ride along the Loop 202 to Downtown Phoenix
- Route 61 (Southern Avenue) extension, from 43rd Avenue to 51st Avenue

Figure 4.7 illustrates the Study Area network modeled in 2030. The resulting traffic volumes from the 2030 model run are depicted in Figures 4.8 and 4.9, broken down by morning and afternoon peak periods. The analysis of AM and PM peak period LOS for 2030 is presented in Figures 4.10 and 4.11. An additional map was generated to convey the worst traffic congestion exhibited by the roadway regardless of time of day, as represented in Figures 4.12. From the LOS figures, the changes to the roadway network generally improve the traffic performance along segments, with the exception of 67th Avenue, which experiences a projected increase in congestion north of Southern Avenue. The increase is presumably due to the new SR-30 interchange improving connectivity and facilitating more vehicular trips along that road segment.

Figure 4.7 *2030 Network Lanes*

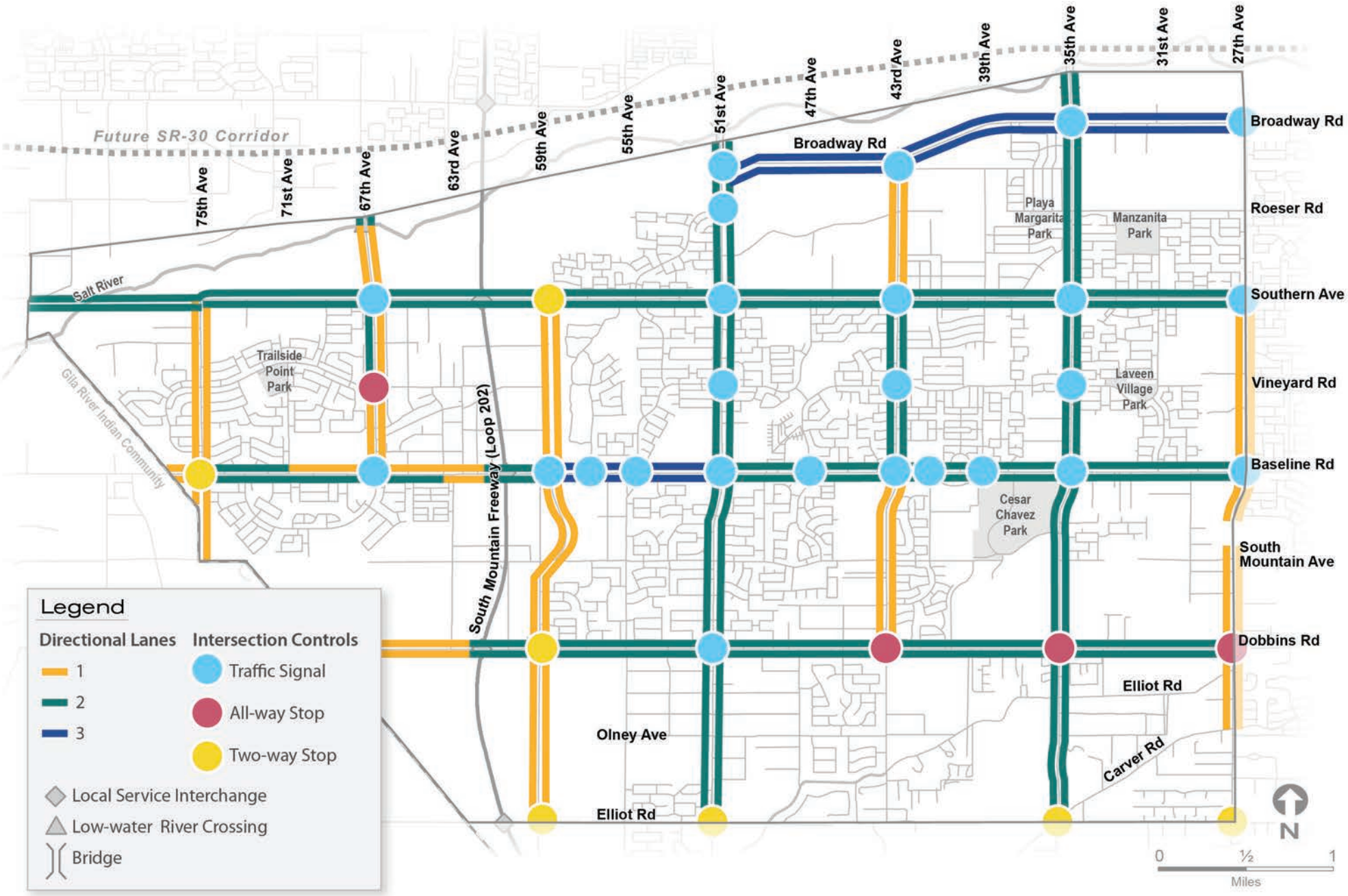


Figure 4.8 *2030 AM Traffic Volume*

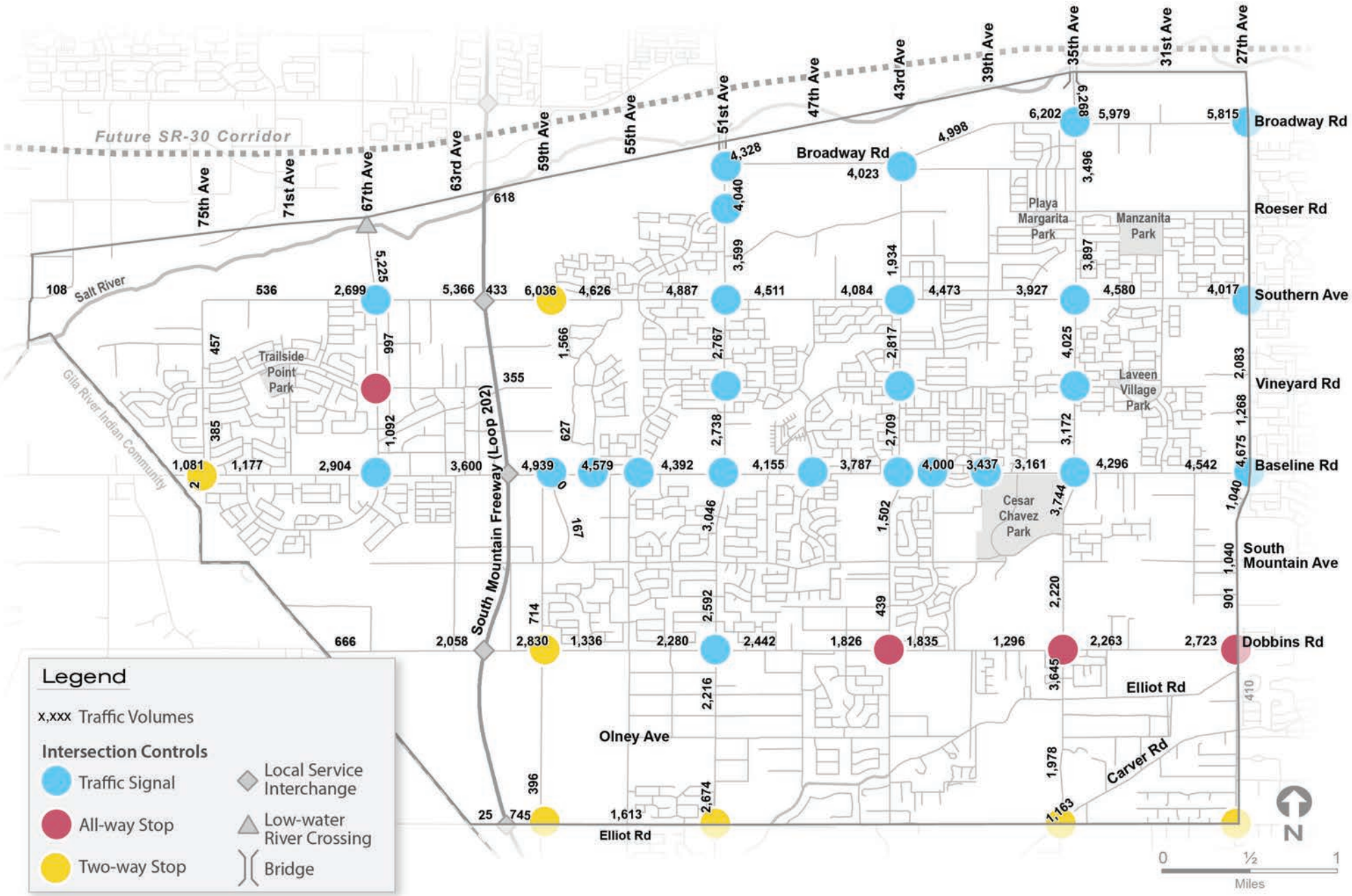


Figure 4.9 *2030 PM Traffic Volume*

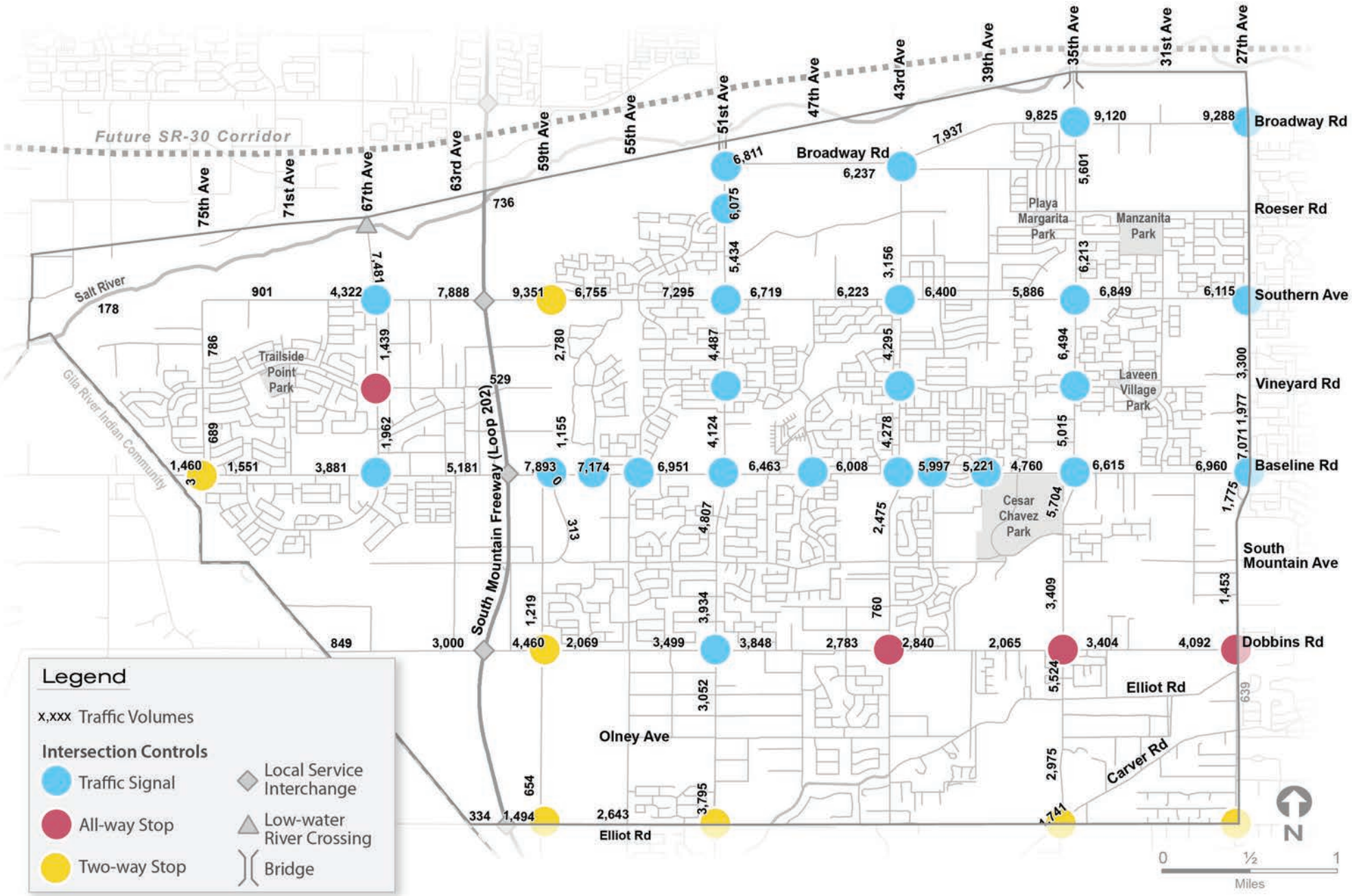


Figure 4.10 *2030 AM Travel Level of Service*

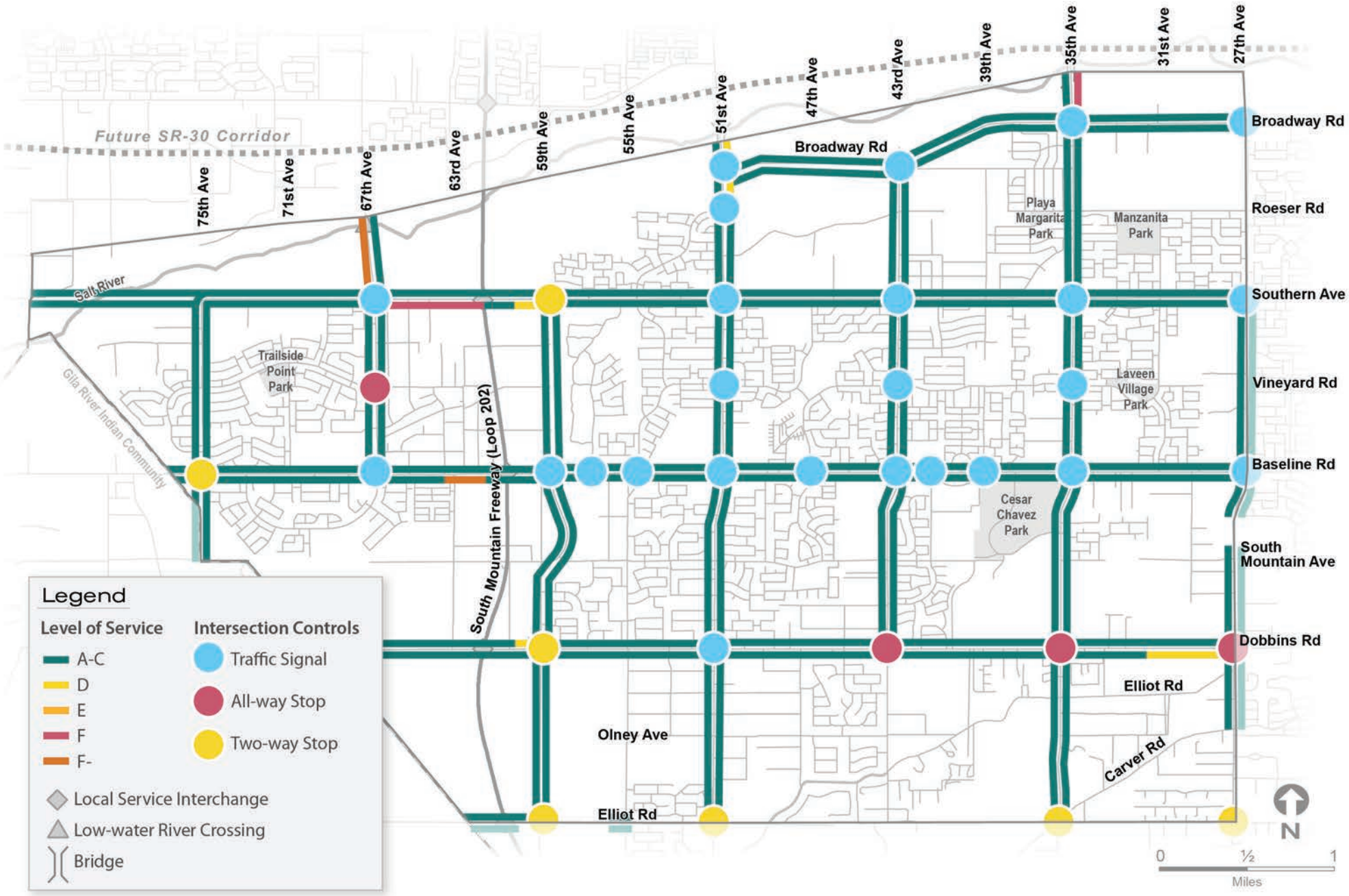


Figure 4.11 *2030 PM Traffic Level of Service2030 PM Traffic Level of Service*

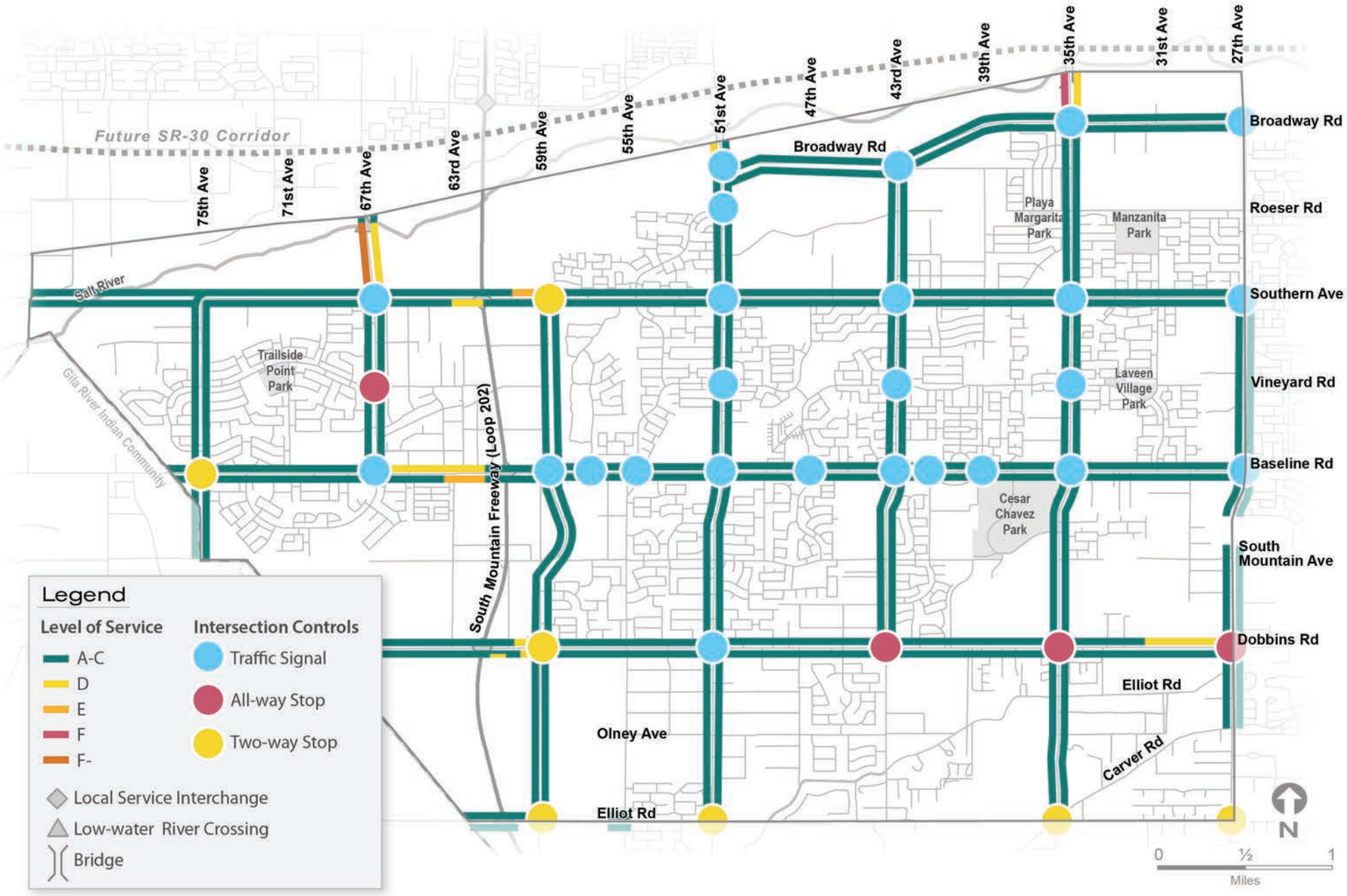
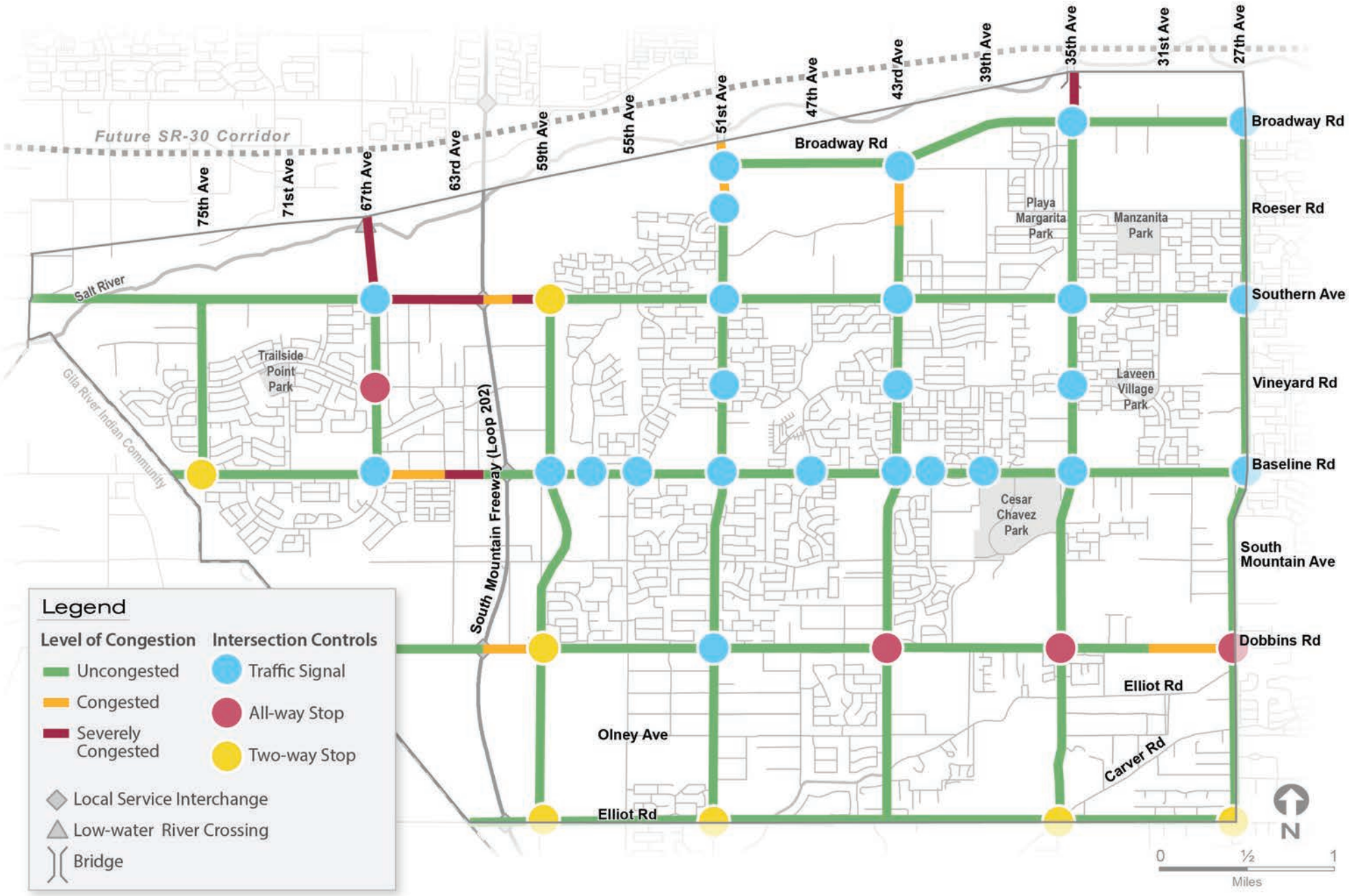


Figure 4.12 *2030 Worst Traffic Conditions*



2035 Model Analysis

The 2035 Laveen model was adapted from the MAG 2035 TDM, which encompasses regional network improvements, including the construction of the future SR-30 extension east of Loop 202. Building off the 2030 Laveen network, the additional improvements listed below were also incorporated in the 2035 model network.

Roadway Improvements

- Dobbins Road from 27th Avenue to the GRIC boundary (just west of 67th Avenue) – 4-lane corridor

Transit Improvements

- Route 45 (Broadway Road) extension, west from 19th Avenue to 35th Avenue
- Route 61 (Southern Avenue) extension, west from 51st Avenue to 67th Avenue
- A "Route 93" local bus route on Dobbins Road from 59th Avenue east to South Central Phoenix
- Route 67 (67th Avenue) extension, from Lower Buckeye Road to Baseline Road

Figure 4.13 illustrates the modeled 2035 Study Area network. The resulting traffic volumes from the 2035 model run are depicted in Figures 4.14 and 4.15, broken down by morning and afternoon peak periods. The analysis of AM and PM peak period LOS for 2035 is presented in Figures 4.16 and 4.17. In addition, Figure 4.18 presents the worst traffic congestion exhibited by the roadway, regardless of time of day.

As observed from the LOS figures, the majority of the 2035 network remains relatively free of deficiencies, such that traffic volumes are distributed evenly across the roadway network with few roadway segments operating over capacity. The road segments identified in the LOS figures with underperforming LOS are facilities that provide access to the SR-30 freeway. A comparative assessment of the 2030 and 2035 LOS analyses indicates that traffic congestion on north-south facilities were redistributed to 51st Avenue and 35th Avenue. Although no additional north-south capacity was introduced west of the Loop 202, 67th Avenue experiences less congestion than in 2030. The decrease is due to the assumed SR-30 eastward extension that allows vehicles to remain on the eastbound freeway to 51st Avenue or 35th Avenue, instead of exiting at 67th Avenue or the Loop 202 and using local streets to reach their destinations.

Figure 4.13 *2035 Network Lanes*

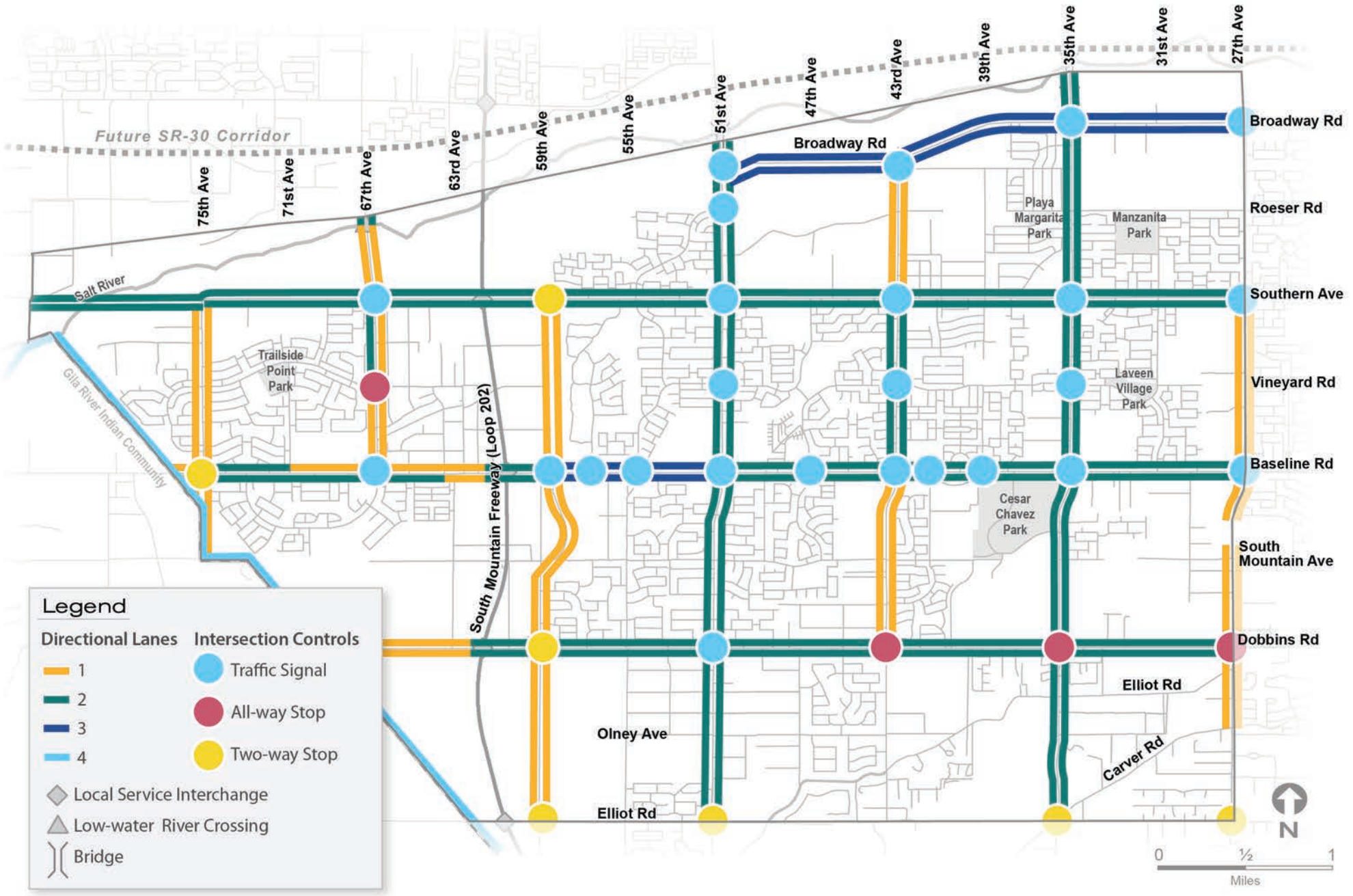


Figure 4.14 *2035 AM Traffic Volume*

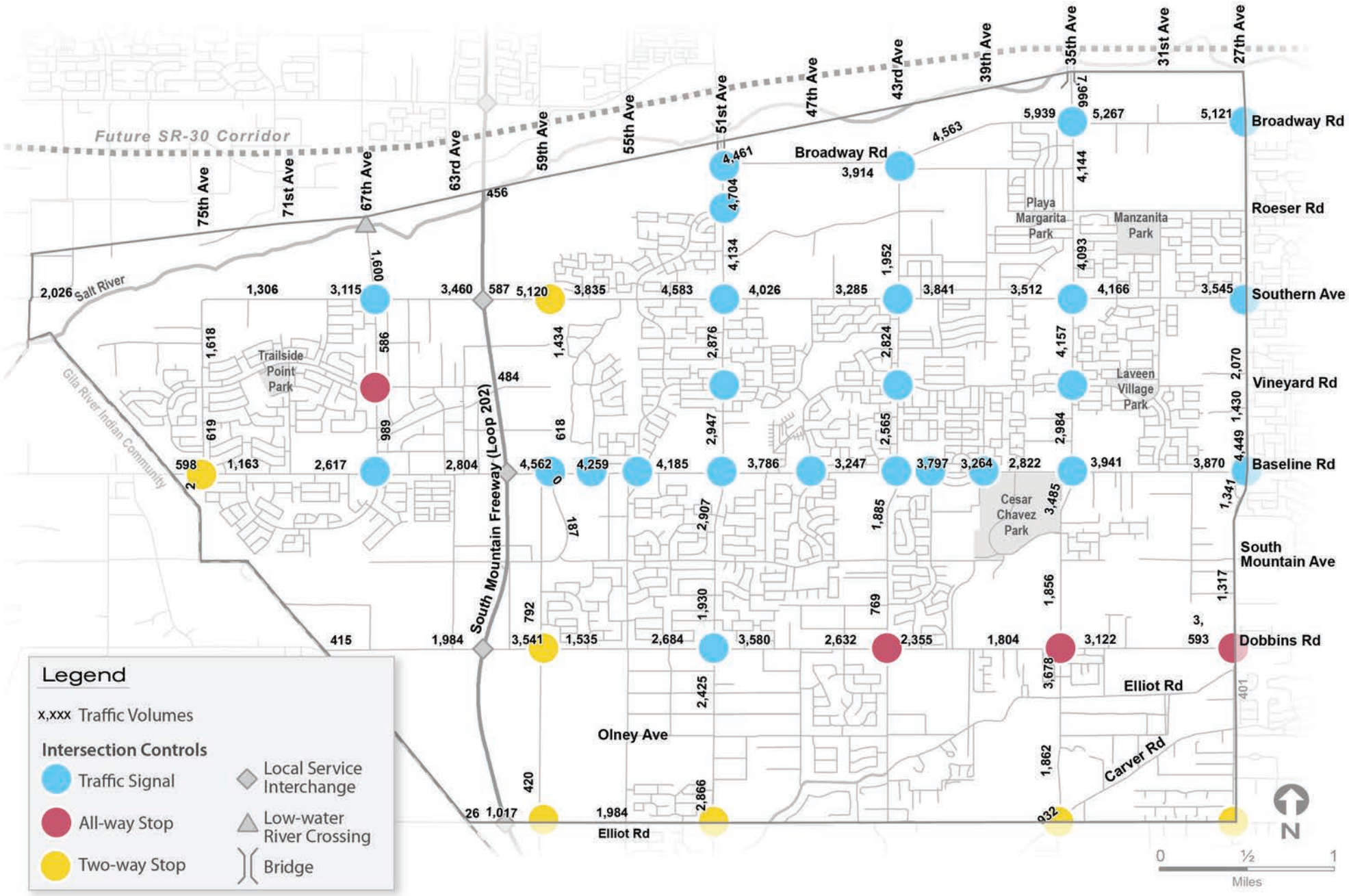


Figure 4.15 *2035 PM Traffic Volume*

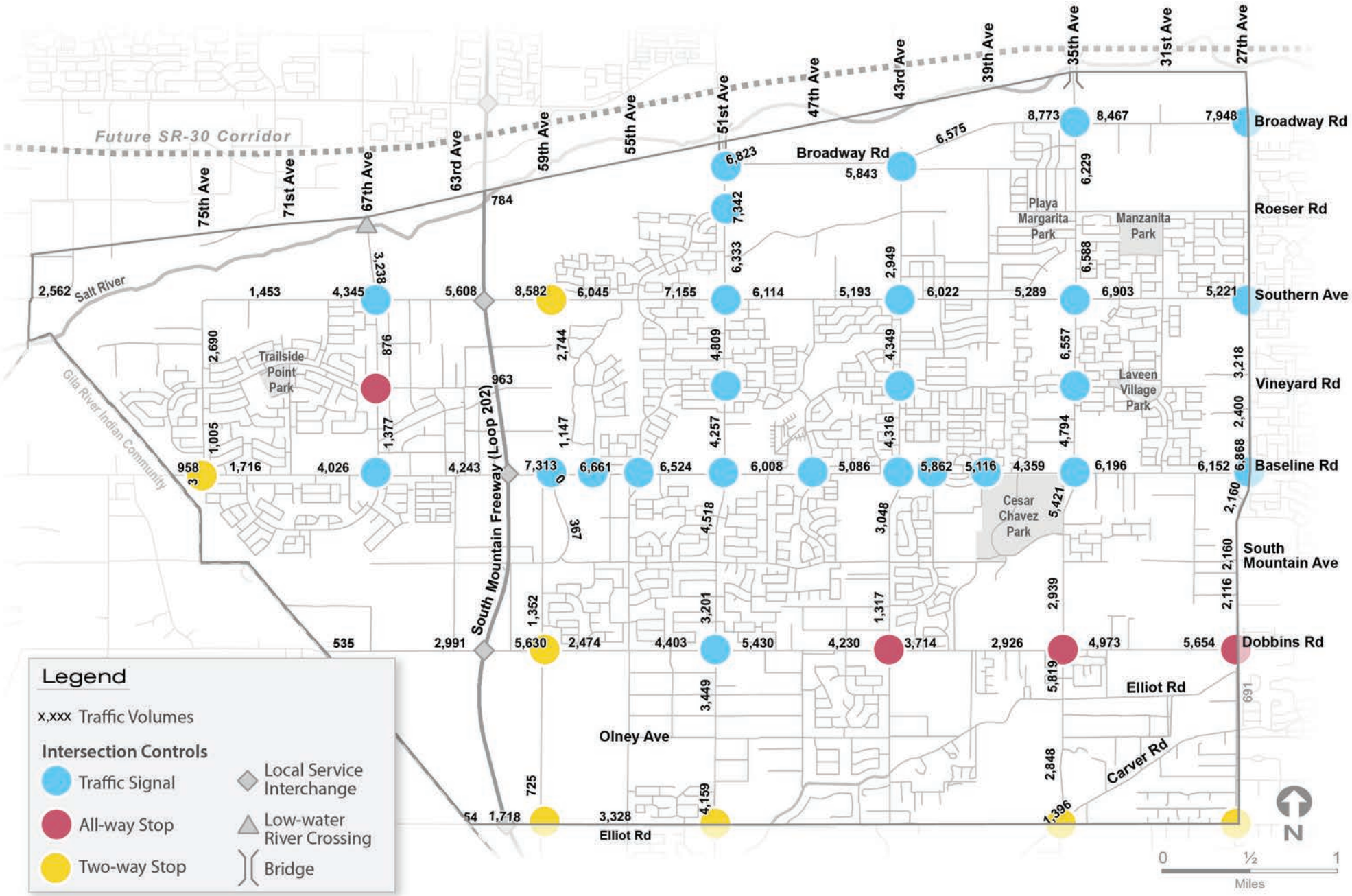


Figure 4.16 *2035 AM Traffic Level of Service*

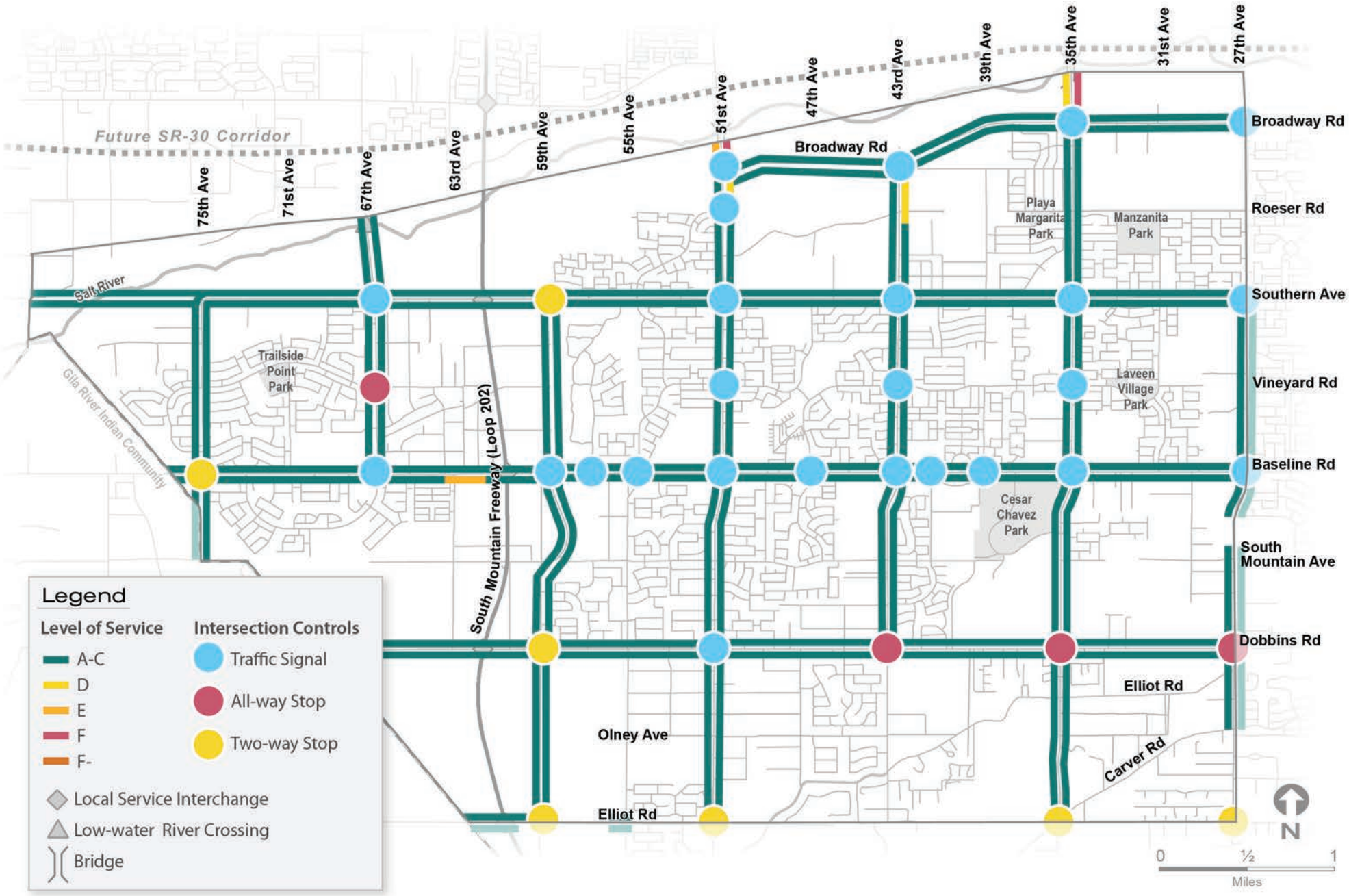


Figure 4.17 *2035 PM Traffic Level of Service*

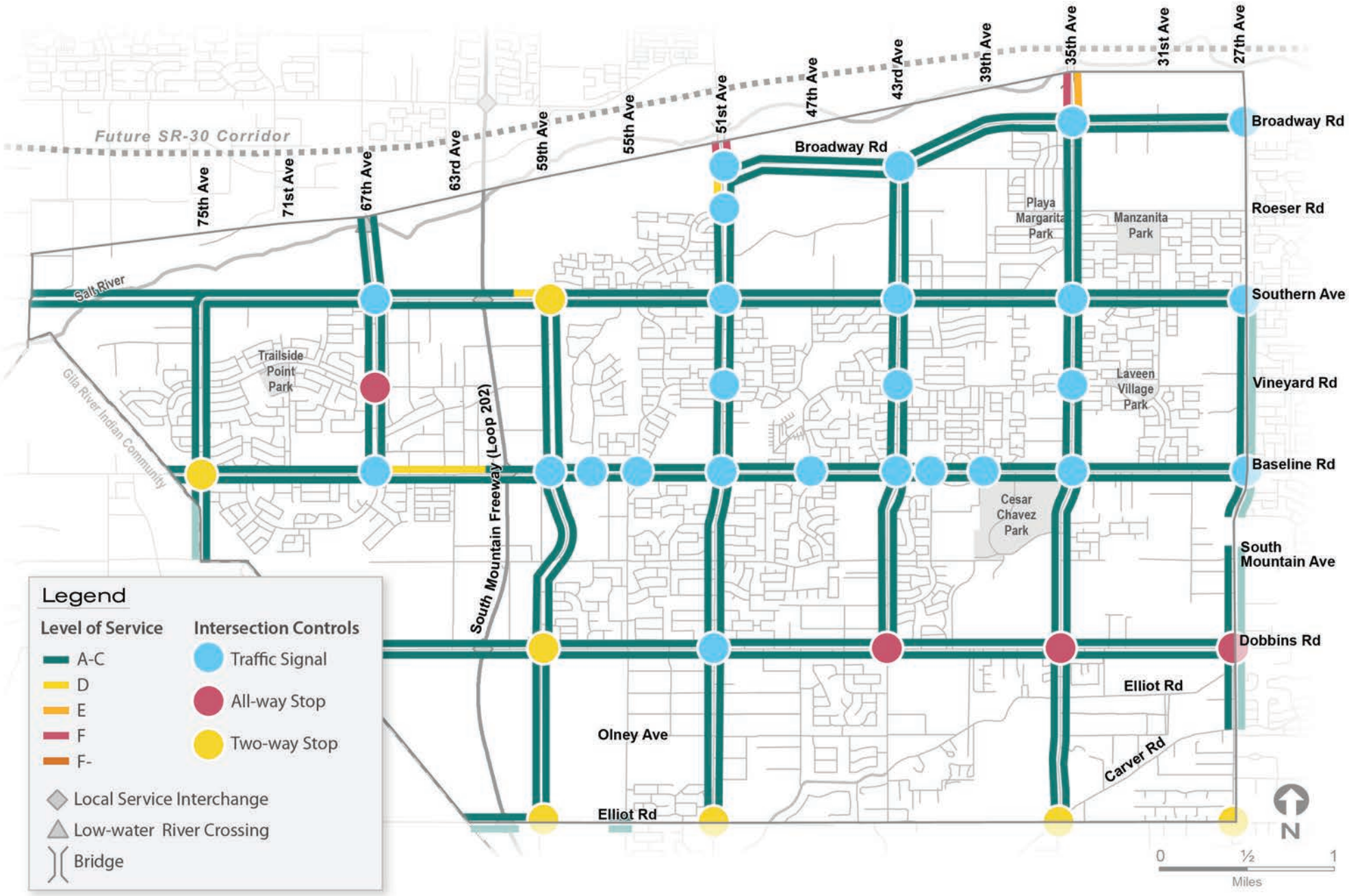
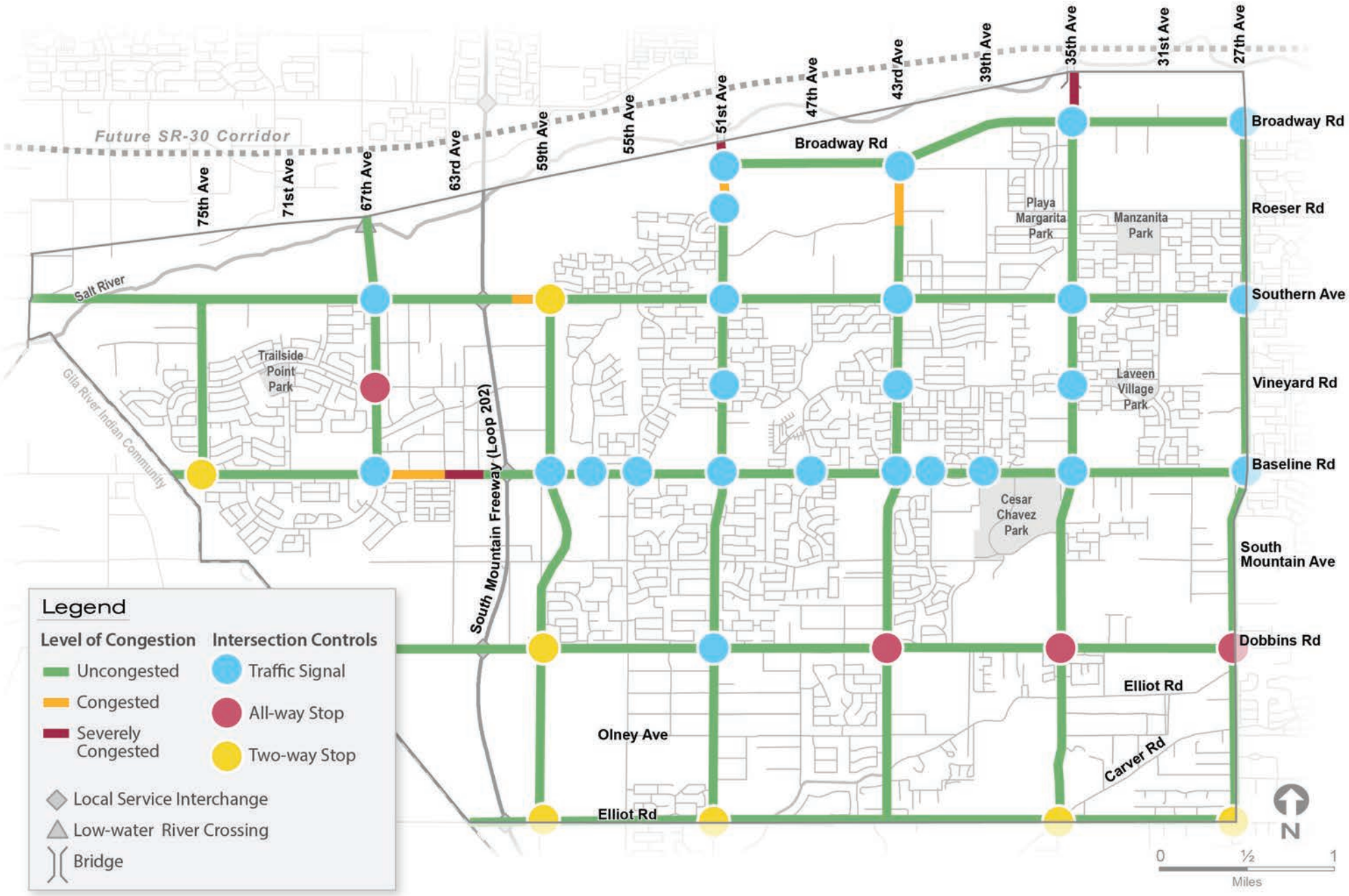


Figure 4.18 *2035 Worst Traffic Conditions*



2040 Horizon Year Model Analysis

As discussed previously, the 2040 Laveen model was originally modified from the MAG 2040 TDM and used for the initial model development strategy. The remaining LSMTS Study Area network improvements incorporated in the 2040 model network are listed below.

Roadway Improvements

- Baseline Road from 27th Avenue to 75th Avenue – improved corridor with four continuous lanes of traffic (no scalloped streets)
- 35th Avenue from the intersection of Broadway Road and Avenida Rio Salado to SR-30 – 6-lane corridor

Transit Improvements

- Route 45 (Broadway Road) extension, from 35th Avenue to 51st Avenue

Figure 4.19 illustrates the Study Area network modeled for 2040. The resulting traffic volumes from the 2040 model run are depicted in Figures 4.20 and 4.21 by morning and afternoon peak periods. The analysis of AM and PM peak period LOS for 2040 is presented in Figures 4.22 and 4.23. As for the 2030 and 2035 analyses, an additional map, Figure 4.24, was generated to convey the worst traffic congestion exhibited on each roadway, regardless of time of day.

Based on a review of the LOS figures, the 2040 network shows improvements from the 2035 network in peak hour traffic conditions on the following facilities.

- Baseline Road between Loop 202 and 67th Avenue, reduced congestion – eastbound in the AM peak period and, conversely, westbound in the PM peak period
- 43rd Avenue immediately south of Broadway Road, reduced congestion – southbound in the PM peak period
- 35th Avenue south of the SR-30, reduced congestion – southbound in both peak periods

While the increase in capacity along 35th Avenue (north of Broadway Road / Avenida Rio Salado connecting to the interchange with SR-30) demonstrates an improvement in roadway performance, the facility continues to operate under a capacity deficit. This results in severe congestion as approaching SR-30, northbound, in the AM peak period. The same roadway segment operates at near-capacity conditions (LOS E) in both directions of travel in the PM peak period.

Figure 4.19 *2040 Network Lanes*

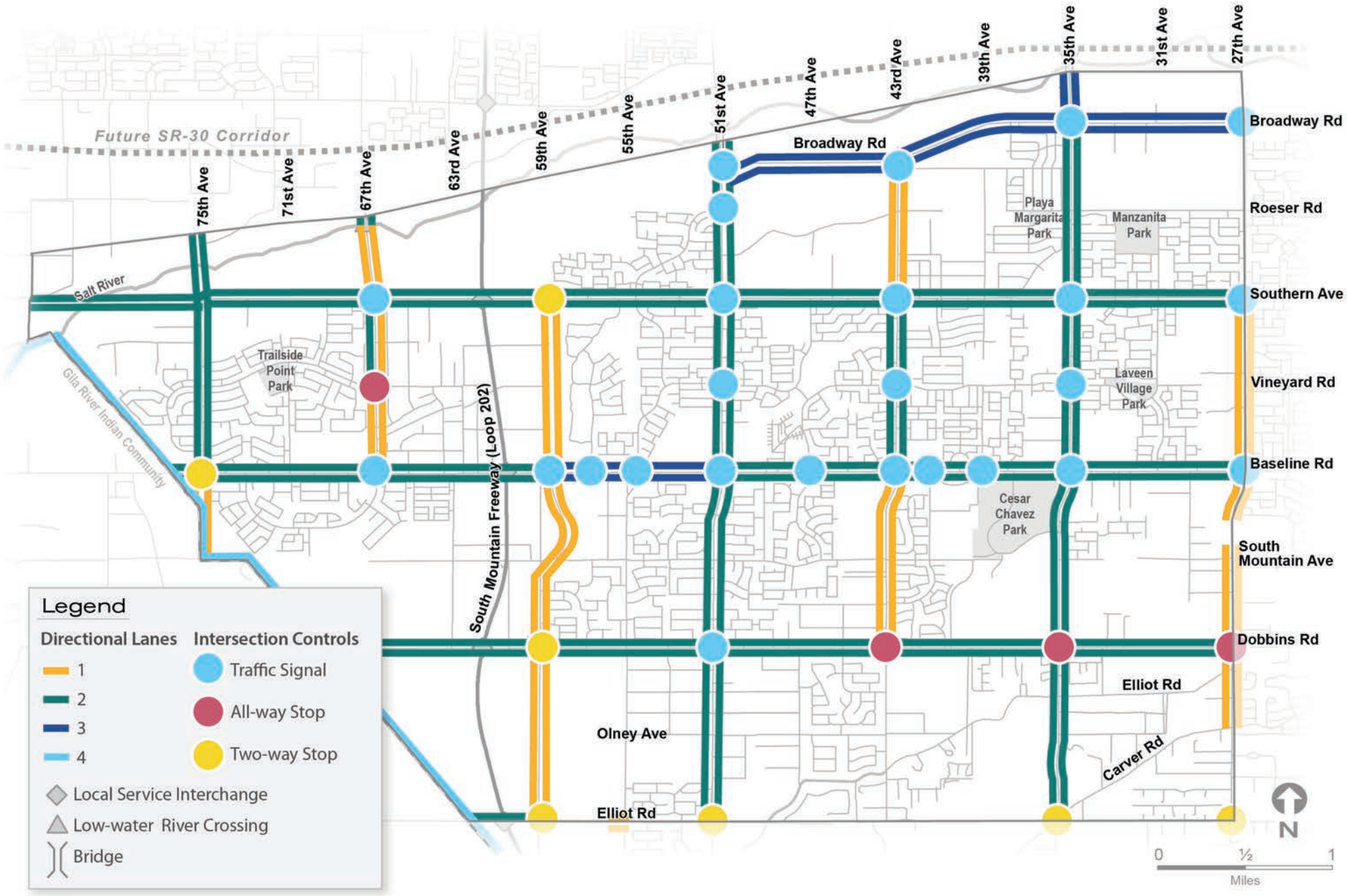


Figure 4.20 *2040 AM Traffic Volume*

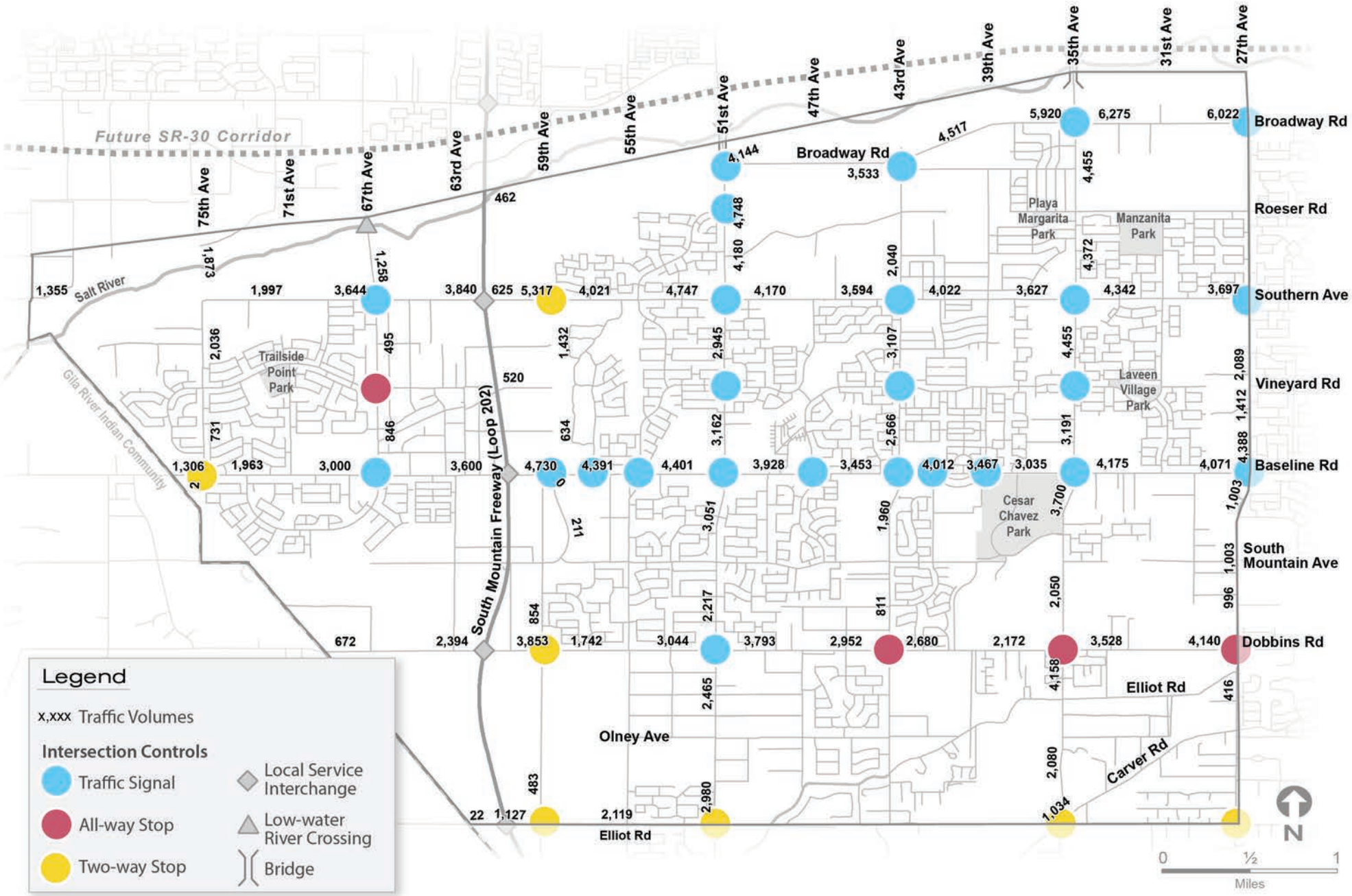


Figure 4.21 *2040 PM Traffic Volume*

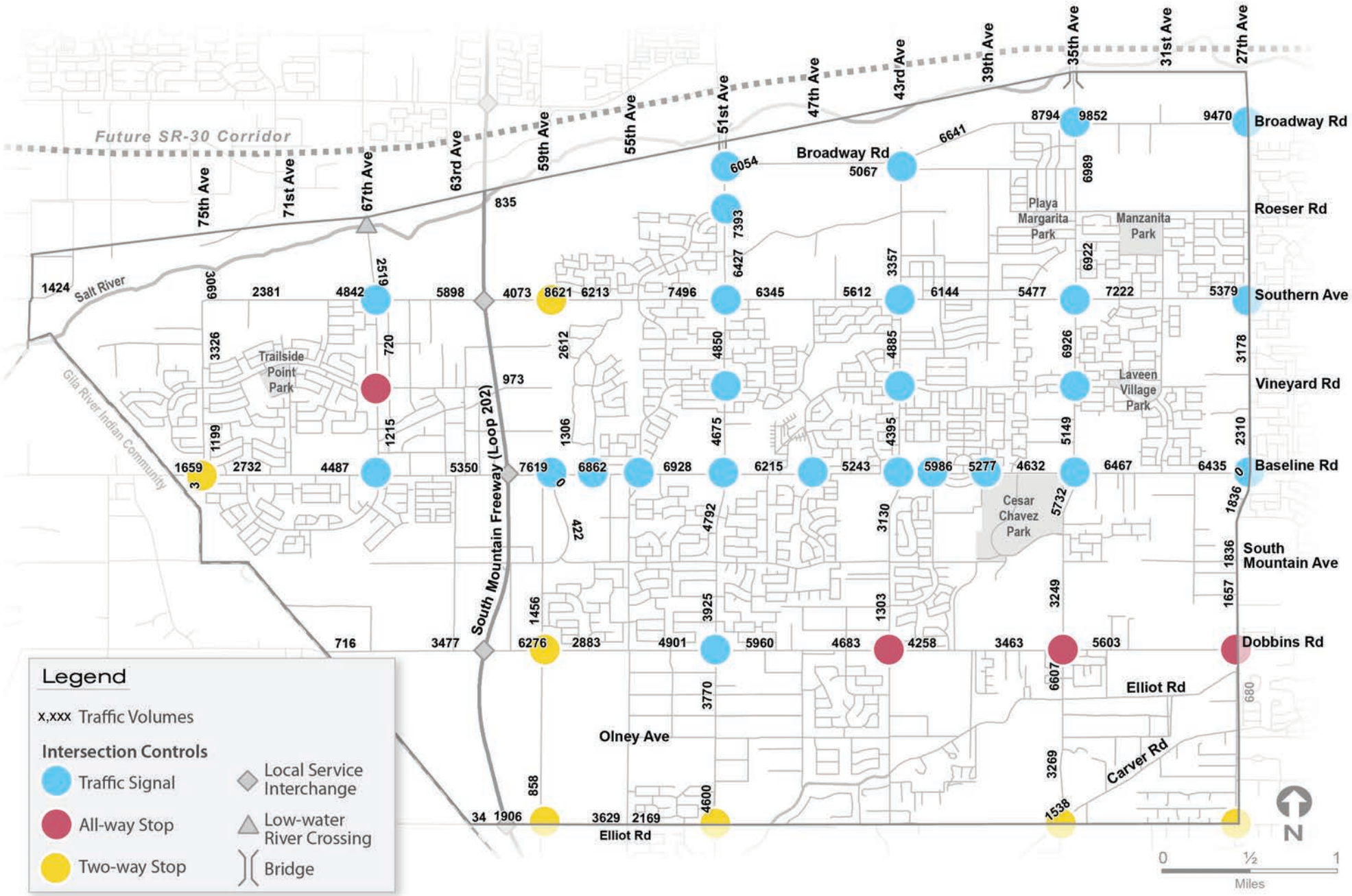


Figure 4.22 *2040 AM Traffic Level of Service*

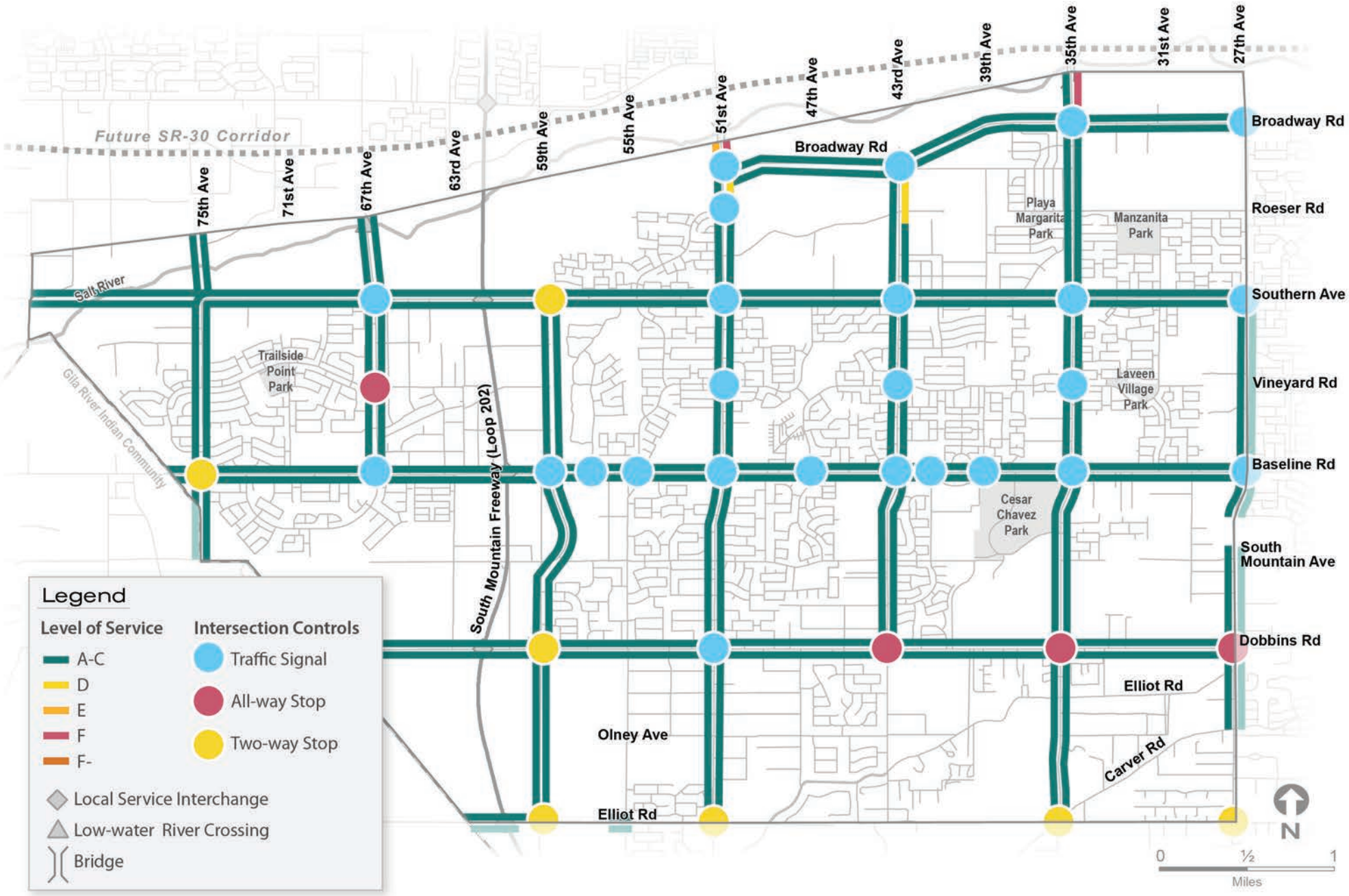


Figure 4.23 *2040 PM Traffic Level of Service*

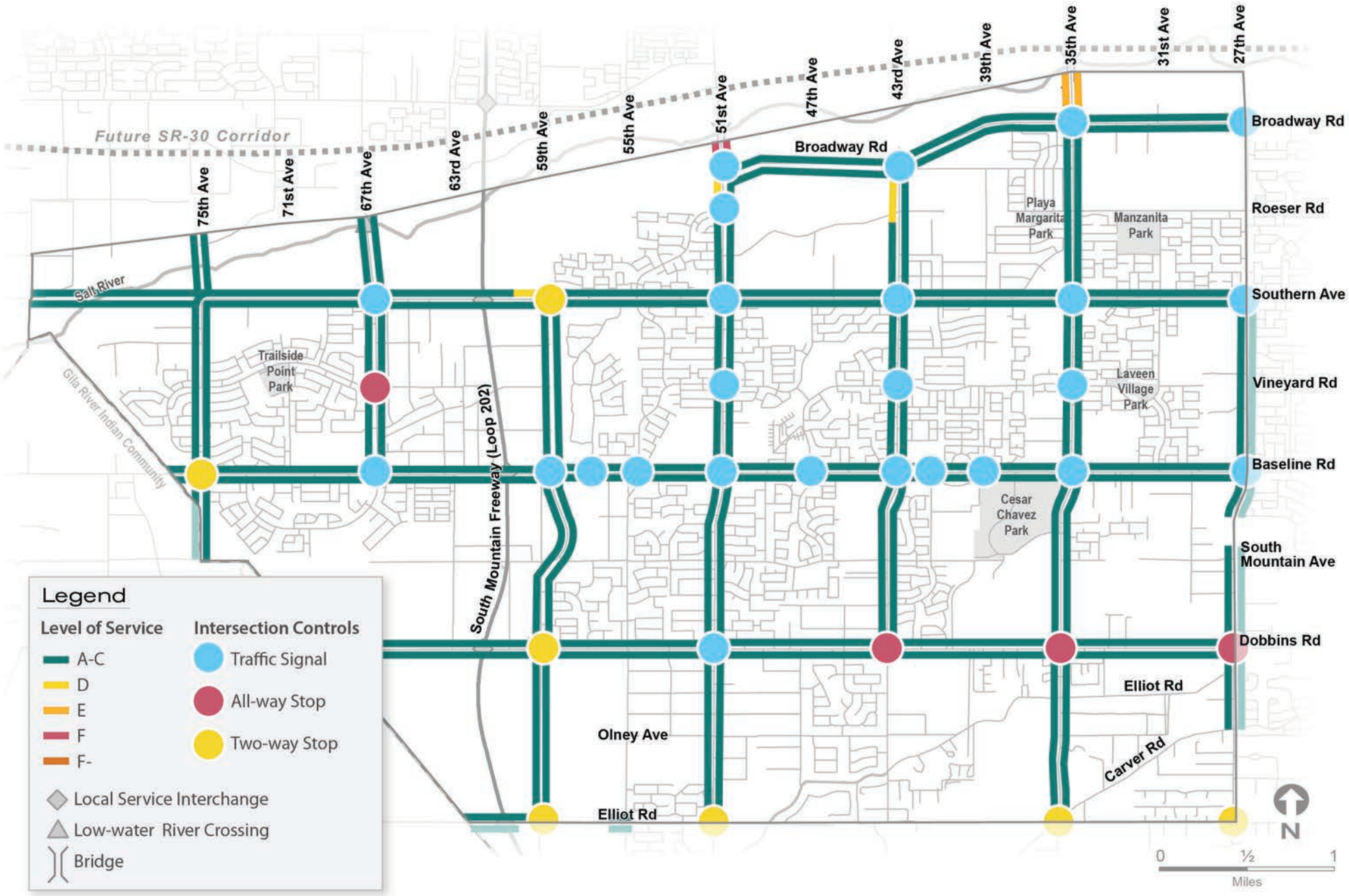
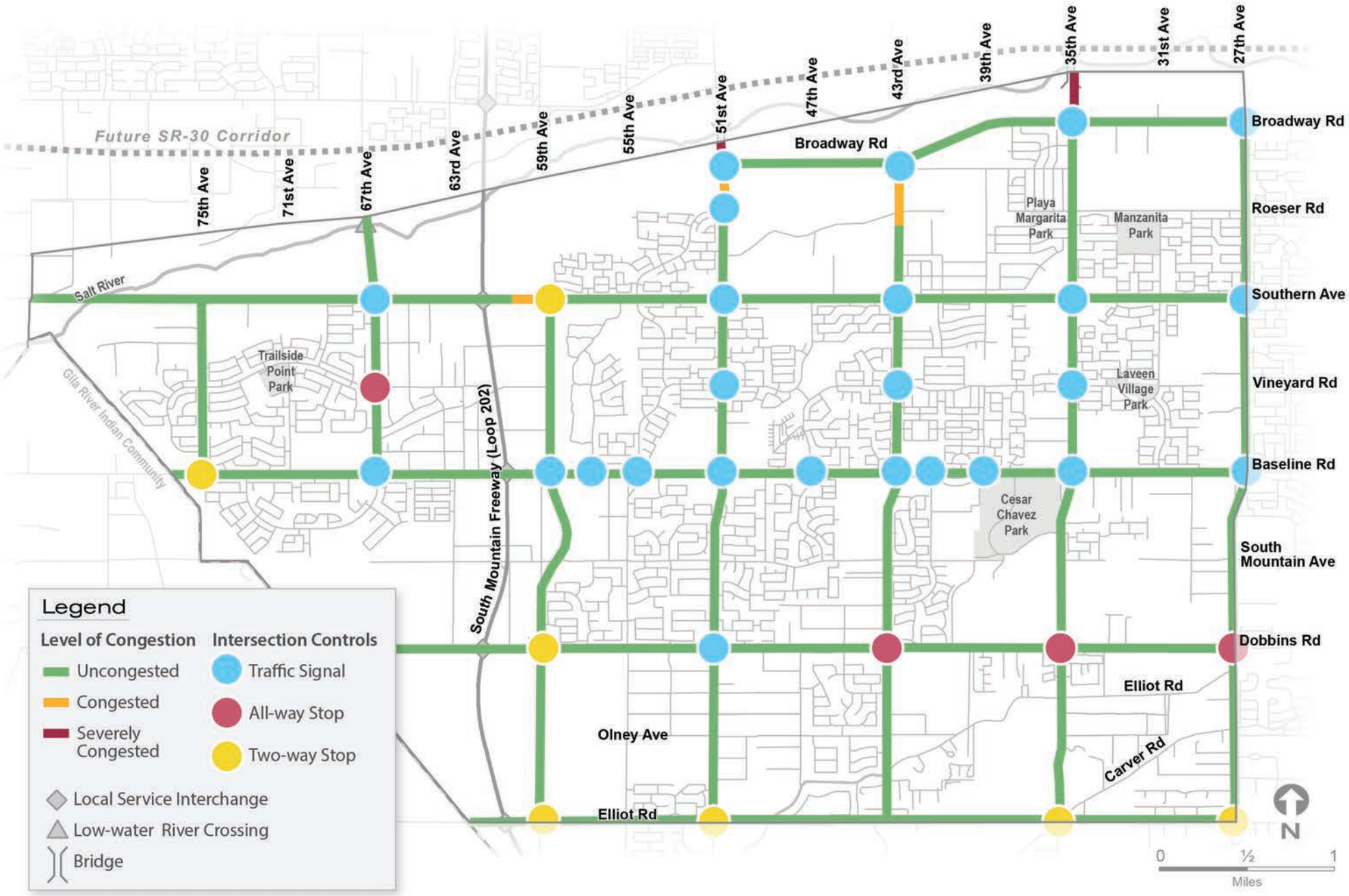


Figure 4.24 *2040 Worst Traffic Conditions*



Findings

A network analysis using the MAG TDM for horizon year 2040 and interim years 2030 and 2035 demonstrated that roadway capacity improvements and public transit improvements may be needed to accommodate forecast traffic volumes. Those improvements include the following.

- By 2030, four through lanes will be required on 35th, 51st, and Southern Avenues where they extend throughout the Study Area.
- Also by 2030, a new park-and-ride lot will be warranted at the Baseline Road / Loop 202 interchange, along with a one-mile extension of the Southern Avenue bus route.
- By 2035, Dobbins Road will need to be widened to four through lanes throughout the Study Area. A new bus route is proposed on Dobbins Road, and extensions are proposed for three existing routes.
- By horizon year 2040, four through lanes will be required on Baseline Road for the extent of the Study Area, and six through lanes will be needed on 35th Avenue from SR-30 to the intersection of Broadway Road and Avenida Rio Salado. The Broadway Road bus route is proposed for extension to 51st Avenue.
- It should be noted that while transit improvements are a component of the TDM analysis, changes such as modifications to schedules and routes have minimal impact on the overall results of the TDM. Therefore, revisions to public transit based on stakeholder and public input will not meaningfully affect the roadway performance conditions discussed in this section.

5. Recommended Transportation Improvements

Multimodal Recommendations and Implementation

This chapter provides specific recommendations for transportation improvements that can meet the present and future travel needs of residents and visitors to the LSMTS Study Area. The recommendations mostly pertain to the east-west and north-south streets that form part of the regional grid of major roadways carrying most non-freeway traffic. They are presented by roadway corridor, by type or mode, and by suggested time period in both tabular format and in a series of maps. In order to further maximize the functionality of this part of the LSMTS, planning-level cost estimates and implementation time frames are also provided for each recommended improvement. Although these recommendations emerged from the analysis of existing and future conditions and the network modeling presented earlier, public input was and will remain essential for the identification of improvements most relevant to local residents. Efforts to garner input and resulting insights from the LSMTS are summarized in Appendix B. The City of Phoenix and MCDOT will continue to coordinate engagement efforts and involve both the general public and the Laveen Village Planning Committee as projects are programmed for design and construction.

General Multimodal Recommendations

This section provides an overview of the types of improvements, the time frames for their implementation, and the methods used for estimating the cost of specific recommendations for the LSMTS Study Area. The proposed transportation projects are categorized and summarized as follows.

- Roadways – Primarily capacity improvements to meet travel demand forecast by the MAG model
- Safety – Infrastructure improvements to and studies of various roadways and intersections
- Public Transit – Service improvements and new facilities
- Active Transportation – Improvements to serve bicyclists and pedestrians

General Roadway Recommendations

Almost all of the recommended roadway improvements would increase capacity on a key regional connector: Southern Avenue, Baseline Road, Dobbins Road, 51st Avenue, or 35th Avenue. These capacity improvements are deemed necessary in light of the findings from analysis of the MAG TDM output for years 2030, 2035, and 2040. Each potential project involves widening a roadway from two or three traffic lanes to four through lanes — two per direction — to meet forecast demand for one of these horizon years. A notable exception is a short segment of 35th Avenue at the north end of the Study Area, which would be widened from four to six lanes by 2040. Depending on the location, these projects could involve some combination of improved drainage, safety measures, landscaping, and/or access for persons with disabilities, in addition to a widened cross-section. The general roadway recommendations further include one pavement project on South 43rd Avenue.

General Safety Recommendations

Safety recommendations have emerged from public input and the analysis of crashes and fatal crashes that occurred from 2013 through 2017. Many of the safety recommendations require data collection, such as automated traffic counts, turning movement counts, and queue lengths, for the locations and corridors identified in Chapter 2, Table 2.7. The data obtained can be used to analyze key factors that contribute to accidents, including signal timing, signal progression, and left turn phasing, to name a few. Many of the safety recommendations at locations of fatal crashes involve low- to moderate-cost solutions that may increase traveler awareness of surroundings, educate travelers on the "rules of the road," or alter operating conditions in order to help improve safety without costly investments such as road realignments and curb or median modifications.

More costly safety improvements should align with roadway capacity improvements in accordance with the implementation schedule. This could include construction of medians on corridors with two lanes in each direction. Greater separation of opposing traffic streams could help to reduce the number of sideswipes and head-on crashes. Raised medians will help manage access, which could improve safety by reducing angle and left turn crashes. Roadways that have merge / diverge areas as they approach or depart intersections are recommended for widening to the full number of lanes as indicated in the implementation schedule.

General Public Transit Recommendations

Potential recommendations for public transportation improvements were first identified in the City of Phoenix' New and Improved Local and RAPID/Commuter Bus Service Plan (Phoenix Transportation Plan 2050, City of Phoenix, 2015) and through public input. Final recommendations that can benefit Laveen residents and strengthen connections to Central Phoenix and the East Valley were selected in collaboration with Phoenix's Public Transit Department and MAG's planning partners. These recommendations include extending local bus routes, introducing new local and RAPID routes, and constructing and operating a major transit facility.

General Active Transportation Recommendations

The purpose of the active transportation improvements recommended for the Study Area is to provide safe connectivity along arterials for pedestrians and bicyclists. Approximately 80 percent (80%) of the recommended active transportation improvements, including studies, were suggested by Study Area residents at the public open houses.

Many active transportation facilities currently exist along neighborhood streets and along major roads. The improvements proposed for major streets may influence the future development of bike lanes and other infrastructure in Laveen neighborhoods. Many collector streets may constitute good, low-stress, low-volume active transportation routes now or in the future. The LSMTS, in support of other planning and policy documents, lays the foundation for expanding the active transportation network throughout the Study Area.

Future Time Frames of Recommended Improvement Projects

Each roadway and public transit improvement has been assigned to one of three future years: 2030, 2035, or 2040. Each safety and active transportation improvement has been identified as a near-term, mid-term, or long-term recommendation. These more general time frames do not necessarily coincide with the 2030, 2035, and 2040 horizon years for roadway and transit improvements.

Projects that are recommended for implementation in the near-term tend to be simple and relatively inexpensive improvements that can be initiated as soon as funding becomes available. They typically address immediate needs and often fill critical gaps. Mid-term projects are less urgent than near-term; are expected to cost substantially more; or would require longer lead time. Long-term projects are the least urgent; will have the least impact on current or expected safety issues; and/or are the most complex or expensive.

Whether a specific target year has been identified or not, assignment to a future time frame depends on a number of factors, including:

- Urgency of need (per forecast traffic volumes, level of service, and/or number and severity of recent crashes);
- Ability to meet a need that has been identified in any adopted short- or long-range planning document;
- Opportunity to fix one or more problems quickly and inexpensively;
- Availability of funding;
- Filling gaps in facilities or services, especially in key travel corridors;
- Opportunity to coordinate multimodal solutions by implementing related transportation projects in tandem;
- Potential to address different types of issues, such as roadway capacity and drainage, in a single effort; and
- Public interest and support, as expressed at the LSMTS open houses.

It is important to recognize that funding is not assured or earmarked for any of these improvements, including those recommended for 2030 or the near term. Neither the City of Phoenix nor MCDOT is able to commit funds for future transportation projects beyond those in adopted capital improvement programs or transportation improvement programs for the next three to five years. Both local and federal transportation funds can fluctuate from year to year depending on revenue and changes in priorities.

Roadways and Public Transit

Recommended roadway capacity improvements were assigned to 2030, 2035, or 2040 based on the modeling results that indicate when additional capacity will be needed on major roads in the Study Area. The one recommended pavement rehabilitation project is needed soon due to poor surface conditions. Public transit improvements were also assigned to 2030, 2035, or 2040 according to current plans and staff input from the City of Phoenix Public Transit Department. The recommendations also considered public input from the three open houses held in 2019 and 2020.

Safety

Safety improvements were identified as near-, mid-, or long-term according to the critical nature of the improvement and the ease of implementation relative to funding.

Active Transportation

Active transportation improvements were identified as near-, mid-, or long-term according to considerations including but not limited to:

- Proximity to heavily traveled streets where inadequate active transportation facilities may create hazards for pedestrians and cyclists;
- Recommended roadway capacity improvements that could attract more motor vehicles, thereby increasing conflicts with bicycles and pedestrians if no action is taken;
- Providing some sort of active transportation facility where none exists today;
- Better connecting activity centers;
- The need to separate cyclists from pedestrians;
- Opportunities for relatively inexpensive projects to fill current gaps and connect existing facilities;
- Inclusion of a proposed facility in the City of Phoenix Comprehensive *Bicycle Master* Plan (2014) or the MCDOT *Active Transportation Plan (2018);* and
- Public input from the three open houses.

Cost Estimation Methods

This section describes the methods used to estimate the planning-level cost of each recommended transportation improvement in the Laveen South Mountain Study Area. "Planning-level" means that listed costs provide only a general guide for future planning when projects are prioritized and programmed. More detailed engineering estimates will be required in order to begin design work. All costs are reported in constant 2020 dollars. Roadway capacity, pavement improvements, bike lanes, sidewalks, and multj-use paths are itemized in accordance with the ADOT construction cost estimate methodology that includes estimated materials, incidentals and soft costs. Public transit costs consist in capital cost (the cost of new infrastructure) and the cost of operating vehicles, which includes labor, fuel, maintenance, depreciation, and other expenses that continue as long as the service is provided. The capital estimates assume that the City already has sufficient buses available and will not need to purchase more. Safety studies or evaluations at intersections and along corridors are identified as anticipated consultant costs. Some evaluations and study costs are lumped together in instances where they are typically performed simultaneously. A more detailed explanation of the methods used in calculating cost for each mode or type of improvement appears in Appendix C.

Detailed Recommendations by Corridor

- The tables and figures in this section show the recommended roadway, safety, public transit, and active transportation improvements for ten major roadway corridors in the Study Area: Broadway Road, Southern Avenue, Baseline Road, and Dobbins Road (from north to south); and 75th, 67th, 51st, 43rd, 35th, and 27th Avenues (from west to east). The recommendations within each corridor are organized by improvement type (roadway, safety, etc.) and implementation time frame. The tables provide a general description of the recommended action, the project location, the project expanse (in miles), the proposed implementation time frame (2030, 2035, or 2040 for roadways and transit; near-, mid-, or long-term for safety and active transportation), and costs. As noted, all estimated planning-level costs are reported in 2020 dollars. The recommendations are also depicted by corridor in one or more maps, depending on how many different modes of transportation are targeted for improvement. The maps reference the implementation time frames assigned each recommendation and provide a list of project boundaries so that readers can easily identify recommended projects and follow the proposed changes to the network, segment by segment, from west to east and north to south, corridor by corridor.

Broadway Road

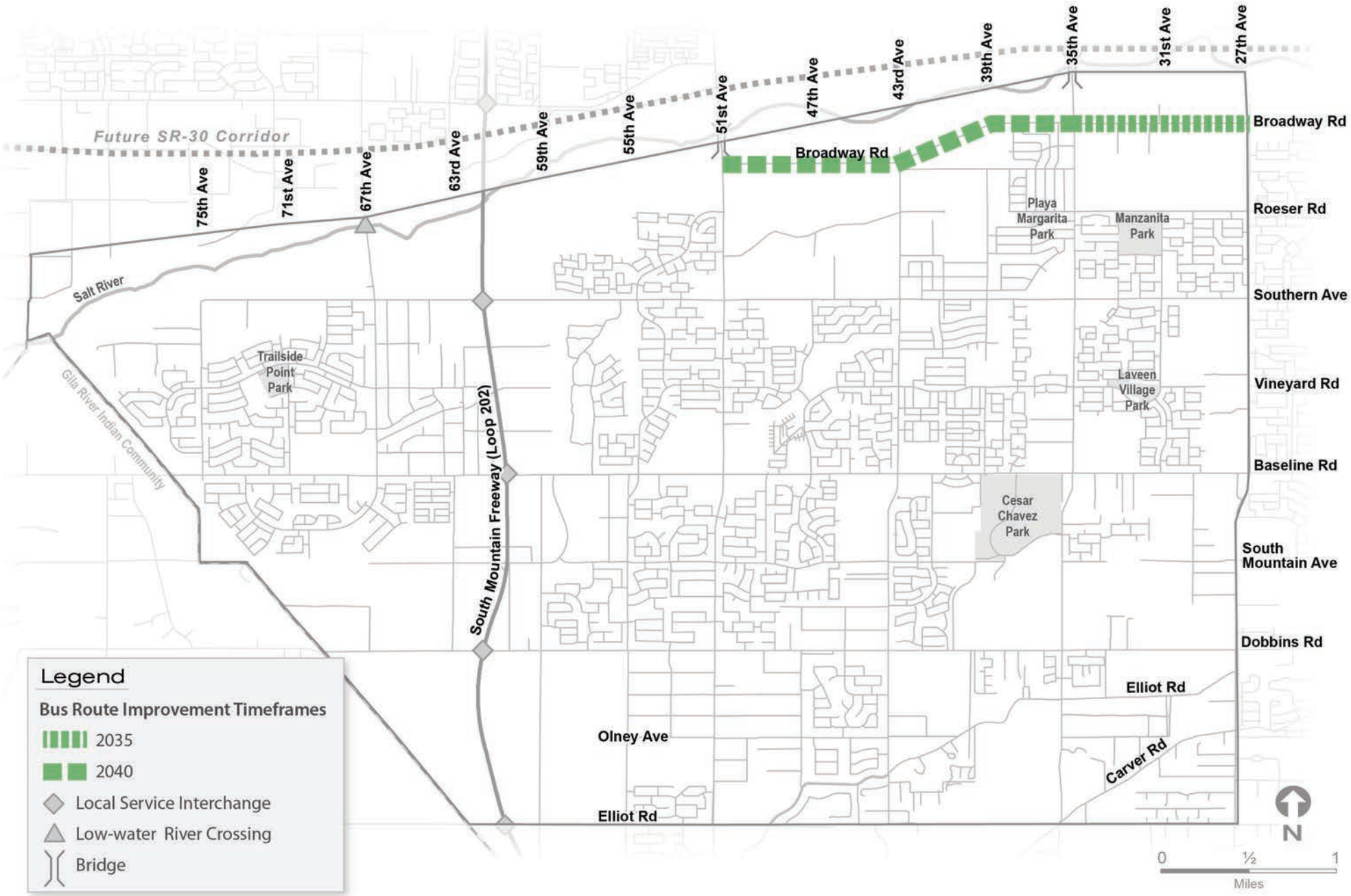
An extension of Route 45 (Broadway to 51st Avenue) is recommended in two phases, as Table 5.1 and Figure 5.1 show.

Table 5.1 *Broadway Road Corridor: Recommended Multimodal Improvements*

Transit Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Extend Route 45 local bus	19th Ave (east of Study Area)	35th Ave	1.0[1]	2035	$1,621,000[1]
Extend Route 45 local bus	35th Ave	51st Ave	2.0	2040	$1,232,000

[1] *Includes only those portions of the project area that is in the Study Area*

Figure 5.1 *Broadway Road Corridor: Recommended Transit Improvements*



Southern Avenue

Southern Avenue is a continuous arterial street connecting the Cities of Phoenix, Tempe, and Mesa. Table 5.2 shows that five miles of Southern Avenue would be widened to four lanes from the existing two or three. Public transit recommendations include the extension of local bus Route 61 from its current terminus at 43rd Avenue to 67th Avenue in two separate phases. Several segments of sidewalks and bike lanes are also promoted in order to create a continuous active transportation route along the corridor. Roadway projects are recommended for 2030, while active transportation improvements are proposed for the near-term or mid-term. See Table 5.2 and Figures 5.2 through 5.10, below.

While a one-mile extension of Southern Avenue west from 75th Avenue to 83rd Avenue was included in the future year modeling runs discussed in Chapter 4, the extension is not recommended due to feasibility issues and significant impacts to adjacent areas.

Table 5.2 *Southern Avenue Corridor: Recommended Multimodal Improvements*

Roadway Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Capacity (widen from 2 lanes to 4)	75th Ave	55th Ave	2.5	2030	$22,210,000
Capacity (widen from 3 lanes to 4)	55th Ave	51st Ave	0.5	2030	$3,050,000
Capacity (widen from 2 lanes to 4)	51st Ave	37th Ave	1.8	2030	$14,000,000
Safety Improvements					
Description		**Intersection / Corridor**		**Proposed Period**	**Planning Level Cost**
Evaluate allowed U turn movements		51st Ave / Southern Ave		Near	$5,000
Evaluate signal timing		51st Ave / Southern Ave		Near	$5,000
Evaluate access control (median openings) for driveways		51st Ave / Southern Ave		Mid	$5,000
Restripe for additional turn lanes, if analysis supports		51st Ave / Southern Ave		Mid	$2,500
Evaluate signal pole placement		51st Ave / Southern Ave		Long	$5,000
Evaluate signal timing		43rd Ave / Southern Ave		Near	$5,000
Evaluate visibility and sight distance		39th Ave / Southern Ave		Near	$5,000
Evaluate allowed U turn movements		35th Ave / Southern Ave		Near	$5,000
Evaluate signal timing		35th Ave / Southern Ave		Near	Included in U turn analysis
Evaluate visibility / sight distance		35th Ave / Southern Ave		Near	$5,000
Evaluate access control (median openings) for driveways		35th Ave / Southern Ave		Mid	$5,000
Evaluate need for traffic signal		33rd Ave / Southern Ave		Mid	$3,000
Evaluate street lighting		33rd Ave / Southern Ave		Mid	$5,000
Install traffic signal, if analysis supports		33rd Ave / Southern Ave		Long	$300,000
Evaluate signal timing		27th Ave / Southern Ave		Near	$5,000
Evaluate signal progression – determine corridor cycle length and coordinated signal offset		Southern Ave Corridor		Mid	$30,000
Evaluate presence and condition of sidewalk and street lighting		Southern Ave Corridor		Mid	$5,000
Transit Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Extend Route 61 local bus	43rd Ave	51st Ave	1.0	2030	$2,626,000
Extend Route 61 local bus	51st Ave	67th Ave	2.0	2035	$3,242,000
Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)[1]**	**Proposed Period**	**Planning Level Cost**
Sidewalks	75th Ave	69th Ave	1.6	Long	$511,000
Bike lanes	75th Ave	59th Ave	4.0	Long	$1,798,000
Sidewalks	67th Ave	63rd Ave	1.0	Near	$320,000
Sidewalks	61st Ave	59th Ave	0.6	Near	$195,000
Bike lanes	51st Ave	47th Ave	1.0	Near	$445,000
Sidewalks	50th Ave	47th Ave	0.8	Near	$260,000
Sidewalks	42nd Ave	35th Ave	1.8	Mid	$575,000

[1] *Total length on both sides of street*

Figure 5.2 *Southern Avenue Corridor: Recommended Roadway Improvements*

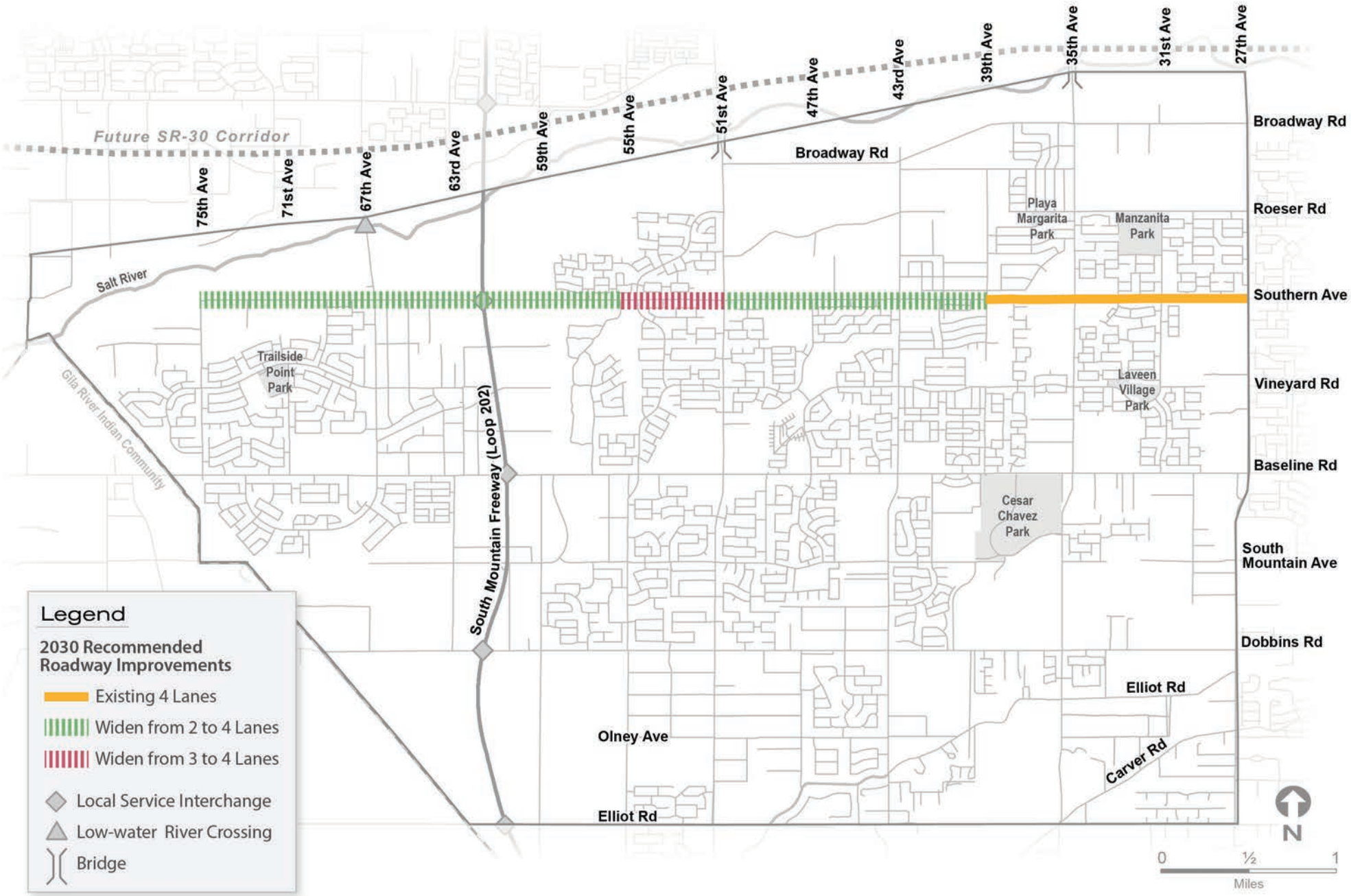


Figure 5.3 *51st Ave / Southern Ave: Recommended Safety Improvements*

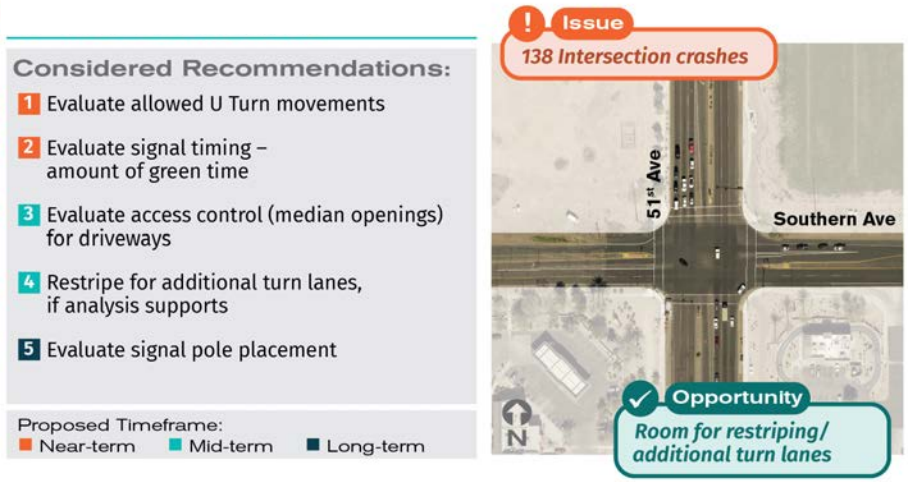


Figure 5.4 *43rd Ave / Southern Ave: Recommended Safety Improvements*

Figure 5.5 *39th Ave / Southern Ave: Recommended Safety Improvements*

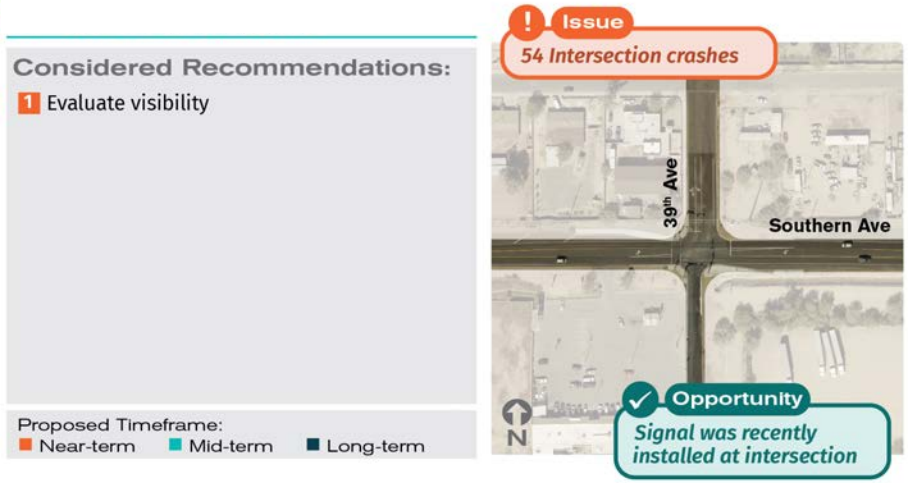


Figure 5.6 *35th Ave / Southern Ave: Recommended Safety Improvements*

Figure 5.7 *33rd Ave / Southern Ave: Recommended Safety Improvements*

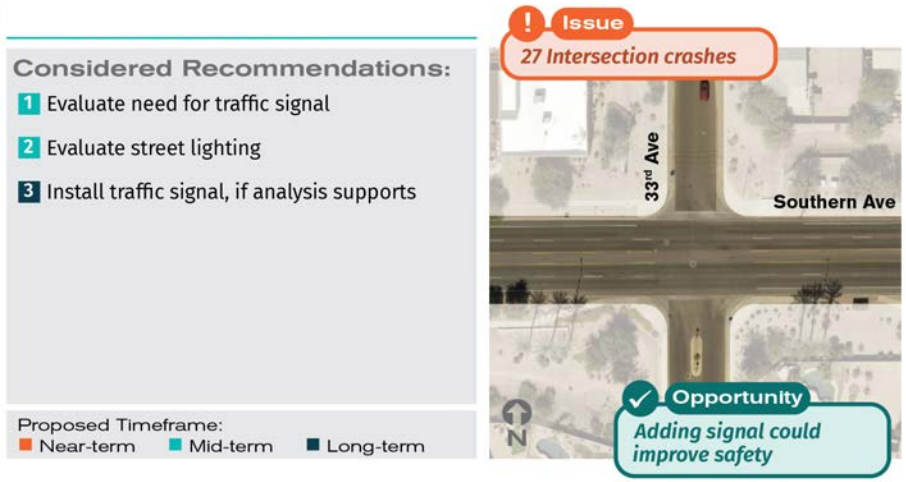


Figure 5.8 *27th Ave / Southern Ave: Recommended Safety Improvements*

Figure 5.9 *Southern Avenue Corridor: Southern Avenue Corridor: Recommended Transit Improvements*

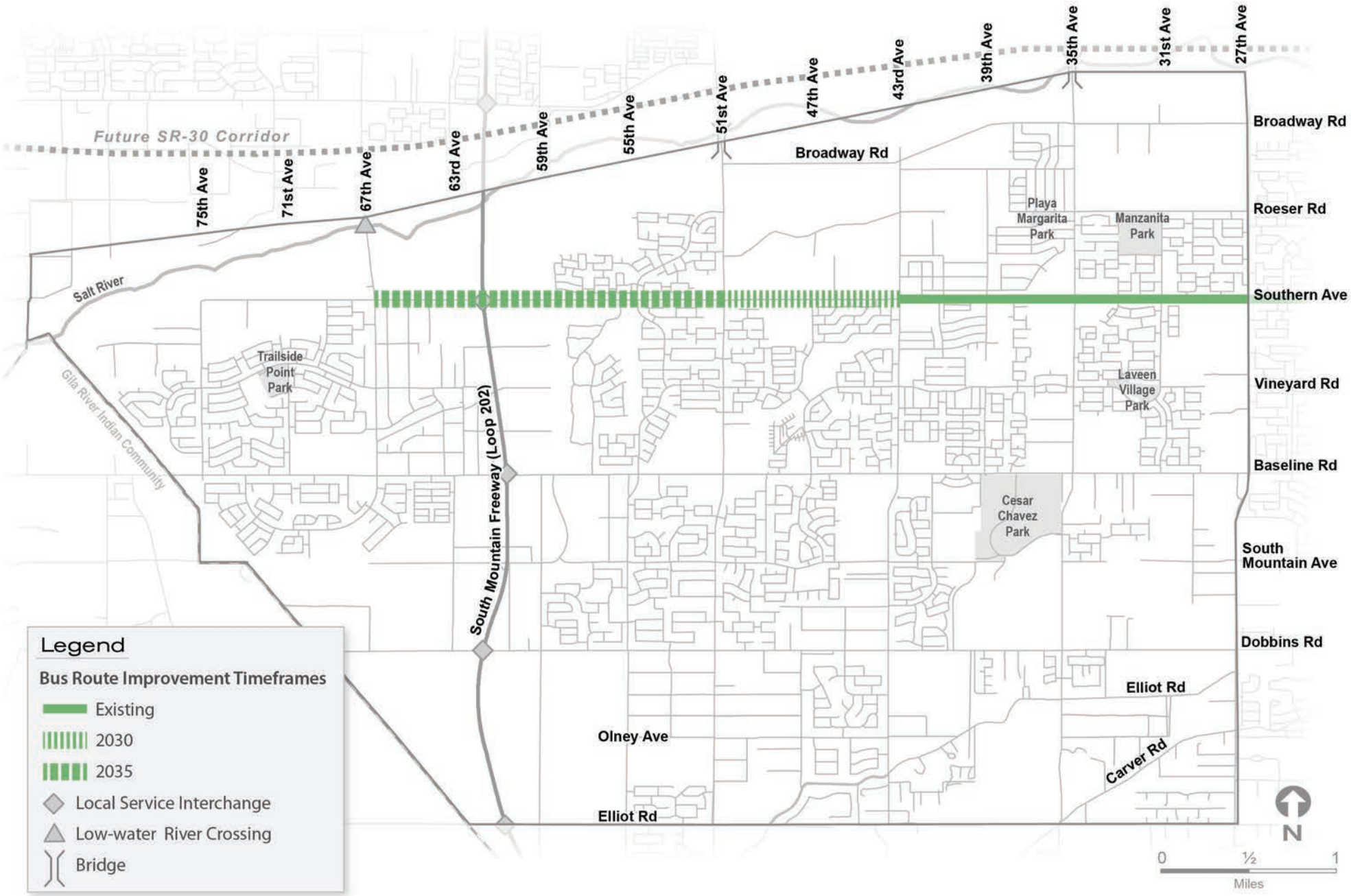
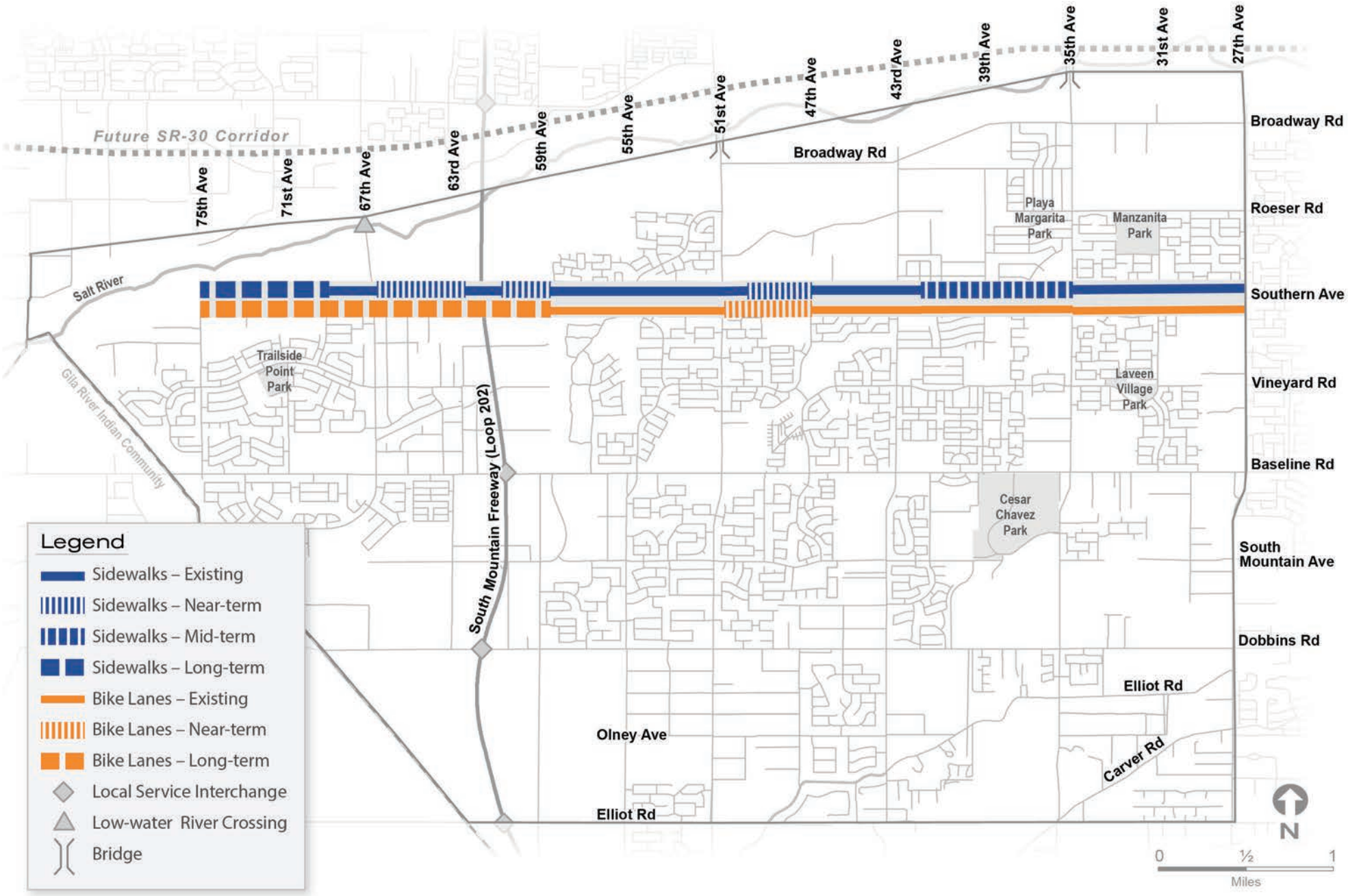


Figure 5.10 *Southern Avenue Corridor: Recommended Active Transportation Improvements*



Baseline Road

Baseline Road is another regional east-west arterial that passes through the heart of Laveen. Widening Baseline to at least four lanes throughout the Study Area is recommended. The City of Phoenix is planning a new RAPID route and a new park-and-ride near the Baseline Road / Loop 202 interchange to serve freeway commuters between Laveen and Central Phoenix. That improvement is promoted here, as are sidewalk and bike lane projects that would fill in gaps in these systems (see Table 5.3 and Figures 5.11 through 5.24).

Table 5.3 *Baseline Road Corridor: Recommended Multimodal Improvements*

Roadway Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Capacity (widen from 3 lanes to 4)	71st Ave	63rd Ave	1.0	2040	$8,300,000
Capacity (widen from 2 lanes to 4)	63rd Ave	West side of Loop 202	0.2	2040	$1,680,000
Capacity (widen from 3 lanes to 4)	East side of Loop 202	59th Ave	0.2	2040	$1,710,000

Safety Improvements			
Description	**Intersection / Corridor**	**Proposed Period**	**Planning Level Cost**
Install electronic "Your Speed" signs	59th Ave / Baseline Rd	Near	$15,000
Increase enforcement – temporarily increase police monitoring of speed	59th Ave / Baseline Rd	Near	By request
Conduct vehicle speed analysis	59th Ave / Baseline Rd	Near	$5,000
Evaluate access control (median openings) for driveways	55th Ave / Baseline Rd	Mid	$5,000
Evaluate street lighting	55th Ave / Baseline Rd	Mid	$5,000
Conduct pedestrian volume analysis and install crosswalk if needed	55th Ave / Baseline Rd	Mid	$5,000
Evaluate access control (median openings) for driveways	53rd Ln / Baseline Rd	Mid	$5,000
Evaluate need for traffic signal	53rd Ln / Baseline Rd	Mid	$5,000
Install traffic signal, if supported by analysis	53rd Ln / Baseline Rd	Long	$300,000
Evaluate allowed U turn movements	51st Ave / Baseline Rd	Near	$5,000
Evaluate signal timing	51st Ave / Baseline Rd	Near	Included in U turn analysis
Evaluate access control (median openings) for driveways	51st Ave / Baseline Rd	Mid	$5,000
Restripe for additional turn lanes, if supported by analysis	51st Ave / Baseline Rd	Mid	$2,500
Evaluate signal pole placement	51st Ave / Baseline Rd	Long	$5,000
Evaluate signal timing	47th Ave / Baseline Rd	Near	$3,000
Install electronic "Your Speed" signs	47th Ave / Baseline Rd	Near	$15,000
Increase enforcement – temporarily increase police monitoring of speed	47th Ave / Baseline Rd	Near	By request
Evaluate allowed U turn movements	43rd Ave / Baseline Rd	Near	$5,000

Safety Improvements

Description	Intersection / Corridor	Proposed Period	Planning Level Cost
Evaluate signal timing	43rd Ave / Baseline Rd	Near	Included in U turn analysis
Evaluate visibility and sight distance	43rd Ave / Baseline Rd	Near	$5,000
Evaluate signal timing	41st Ave / Baseline Rd	Near	$3,000
Evaluate signal pole placement	41st Ave / Baseline Rd	Long	$5,000
Evaluate signal timing	39th Ave / Baseline Rd	Near	$3,000
Evaluate allowed U turn movements	35th Ave / Baseline Rd	Near	$5,000
Evaluate signal timing	35th Ave / Baseline Rd	Near	Included in U turn analysis
Evaluate access control (median openings) for driveways	35th Ave / Baseline Rd	Mid	$5,000
Evaluate street lighting	31st Ave / Baseline Rd	Near	$5,000
Conduct pedestrian volume analysis and install crosswalk if needed	31st Ave / Baseline Rd	Mid	$5,000
Evaluate allowed U turn movements	27th Ave / Baseline Rd	Near	$5,000
Evaluate signal timing	27th Ave / Baseline Rd	Near	Included in U turn analysis
Evaluate visibility and sight distance	27th Ave / Baseline Rd	Near	$5,000
Evaluate signal pole placement	27th Ave / Baseline Rd	Long	$5,000
Evaluate signal progression; determine corridor cycle length and coordinated signal offset	Baseline Rd Corridor	Mid	$55,000
Evaluate presence and condition of sidewalk and street lighting	Baseline Rd Corridor	Mid	$5,000

Transit Improvements

Description	From	To	Length (Miles)	Proposed Period	Planning Level Cost
New RAPID route	New Baseline Rd / Loop 202 park-and-ride	Downtown Phoenix (outside Study Area)	2.0[1]	2030	$1,361,000[1]
New park-and-ride	On east side of Baseline Rd / Loop 202 interchange		N/A	2030	$8,000,000

[1]*Includes only those portions of the project area that is in the Study Area*

Active Transportation Improvements

Description	From	To	Length (Miles)[1]	Proposed Period	Planning Level Cost
Bike lanes	68th Ave	59th Ave	2.2	Mid	$950,000
Sidewalks	63rd Ave	57th Ave	1.6	Mid	$510,000

[1]*Total length on both sides of street*

Figure 5.11 *Baseline Road Corridor: Recommended Roadway Improvements*

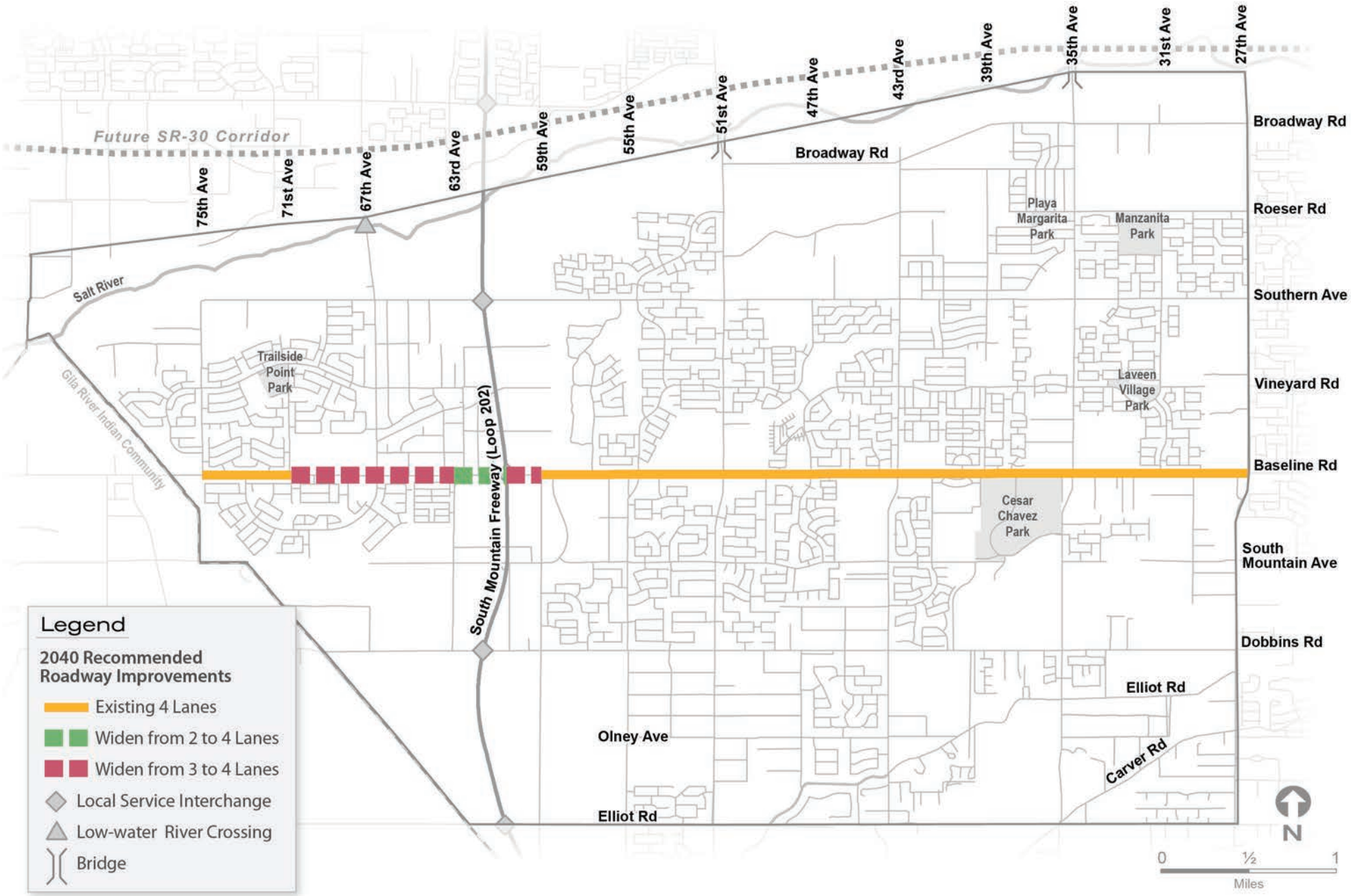


Figure 5.12 *59th Ave / Baseline Rd: Recommended Safety Improvements*

Figure 5.13 *55th Ave / Baseline Rd: Recommended Safety Improvements*

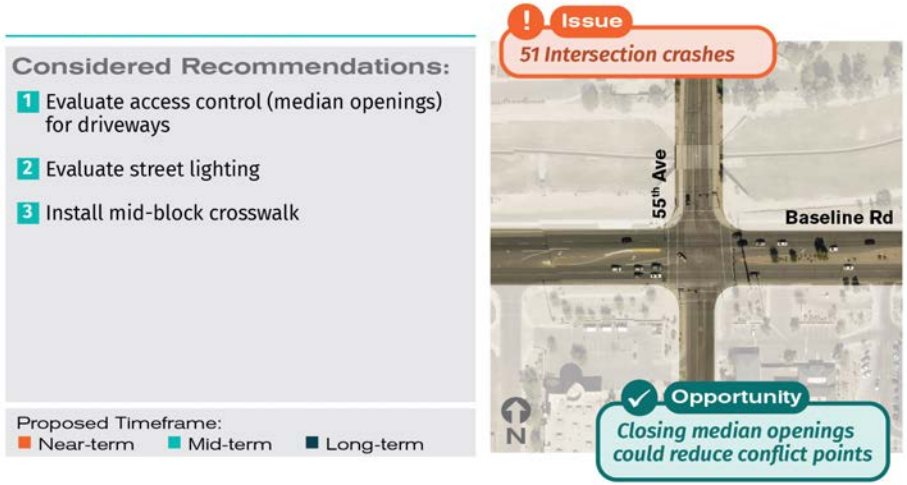


Figure 5.14 *53rd Ln / Baseline Rd: Recommended Safety Improvements*

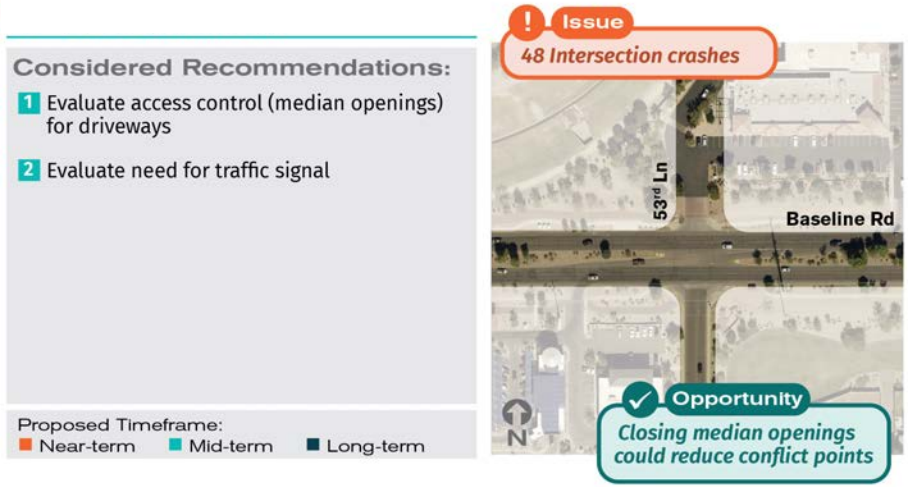


Figure 5.15 *51st Ave / Baseline Rd: Recommended Safety Improvements*

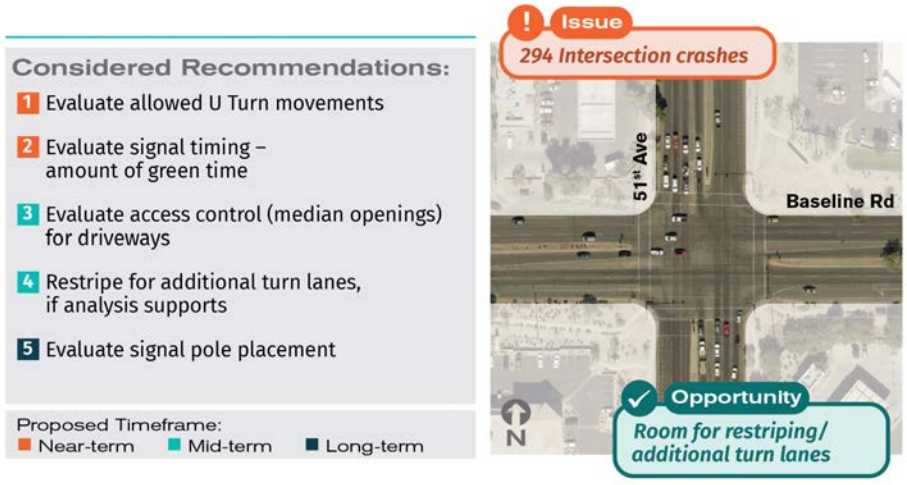


Figure 5.16 *47th Ave / Baseline Rd: Recommended Safety Improvements*

Figure 5.17 *43rd Ave / Baseline Rd: Recommended Safety Improvements*

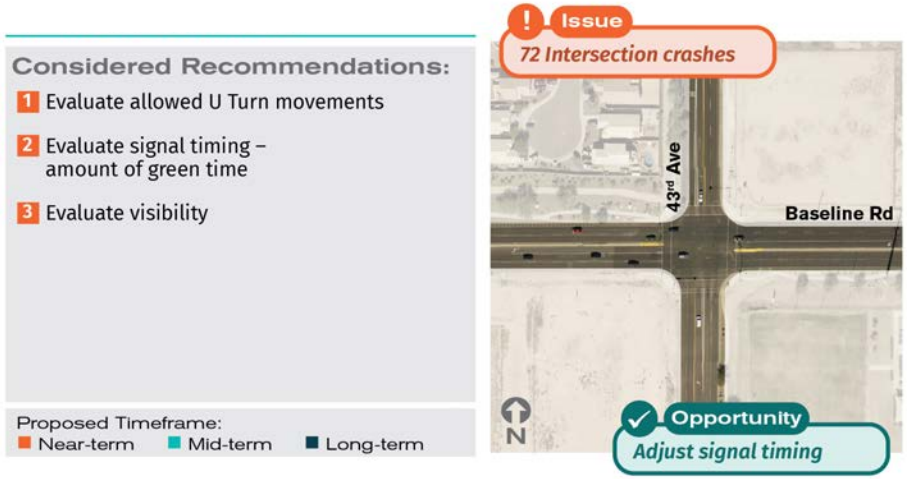


Figure 5.18 *41st Ave / Baseline Rd: Recommended Safety Improvements*

Figure 5.19 *39th Ave / Baseline Rd: Recommended Safety Improvements*

Figure 5.20 *35th Ave / Baseline Rd: Recommended Safety Improvements*

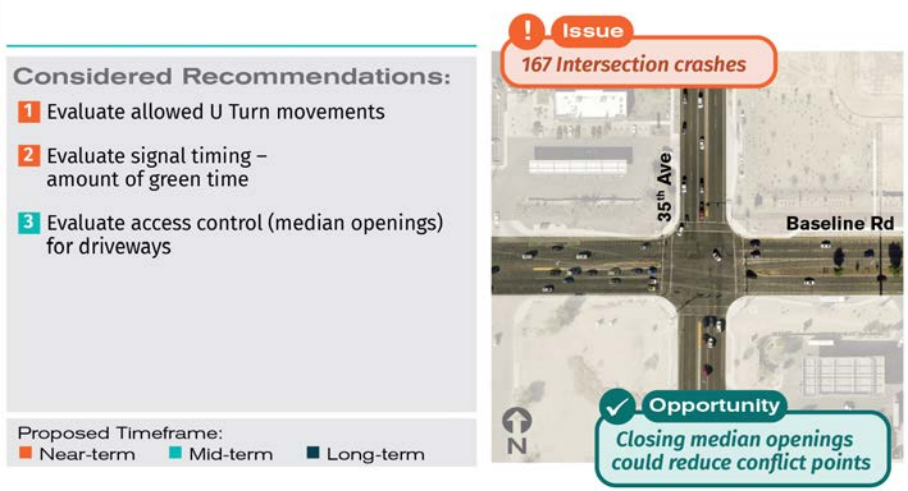


Figure 5.21 *31st Ave / Baseline Rd: Recommended Safety Improvements*

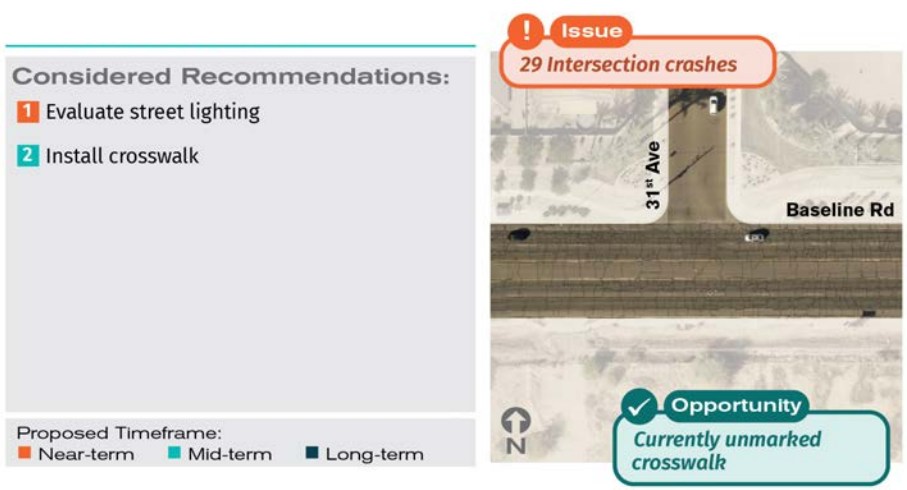


Figure 5.22 *27th Ave / Baseline Rd: Recommended Safety Improvements*

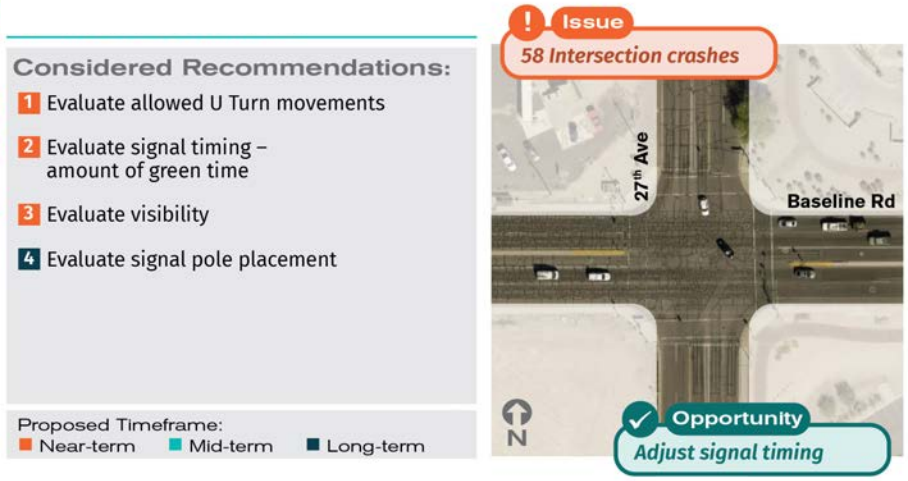


Figure 5.23 *Baseline Road Corridor: Recommended Transit Improvements*

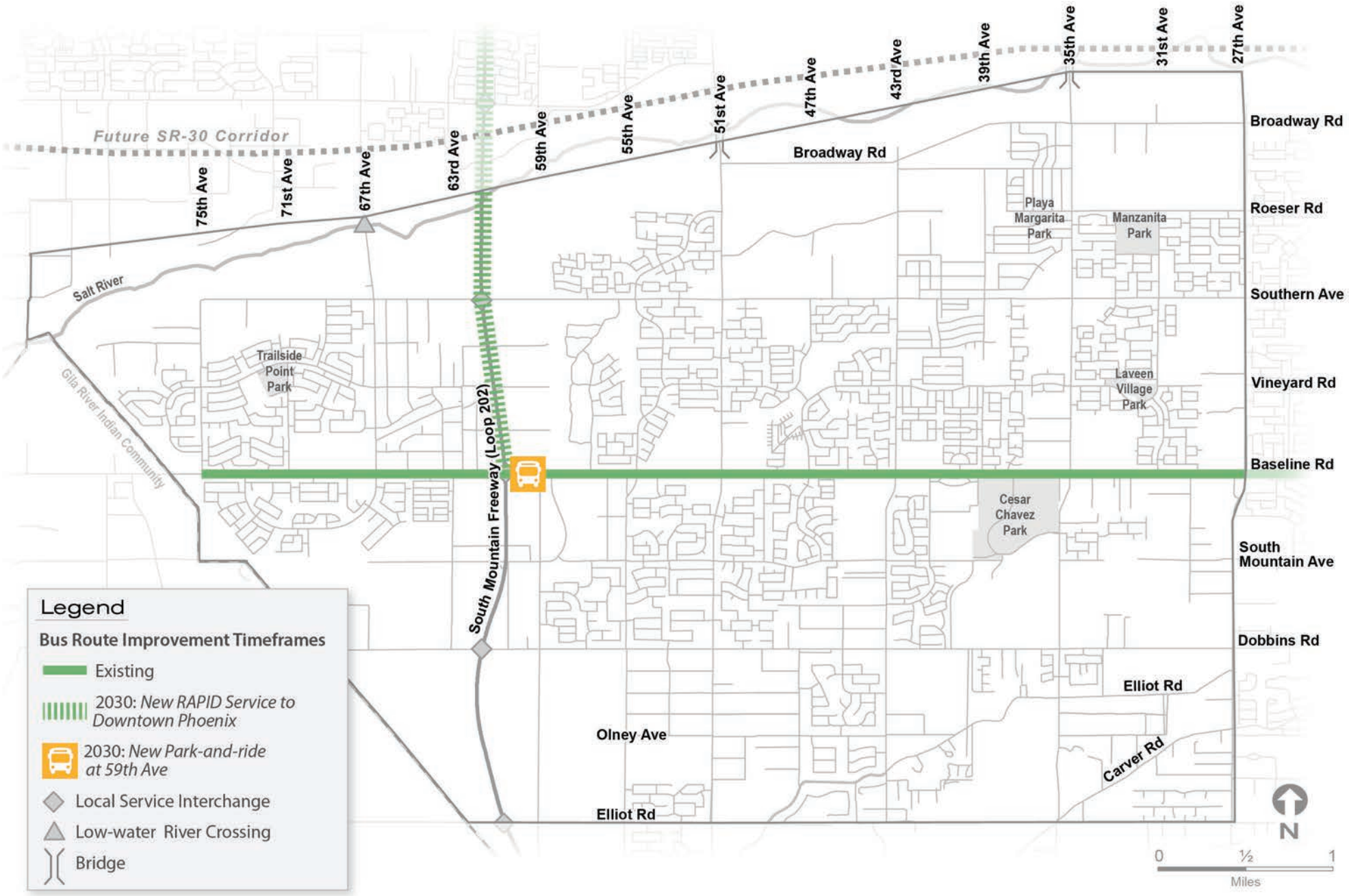
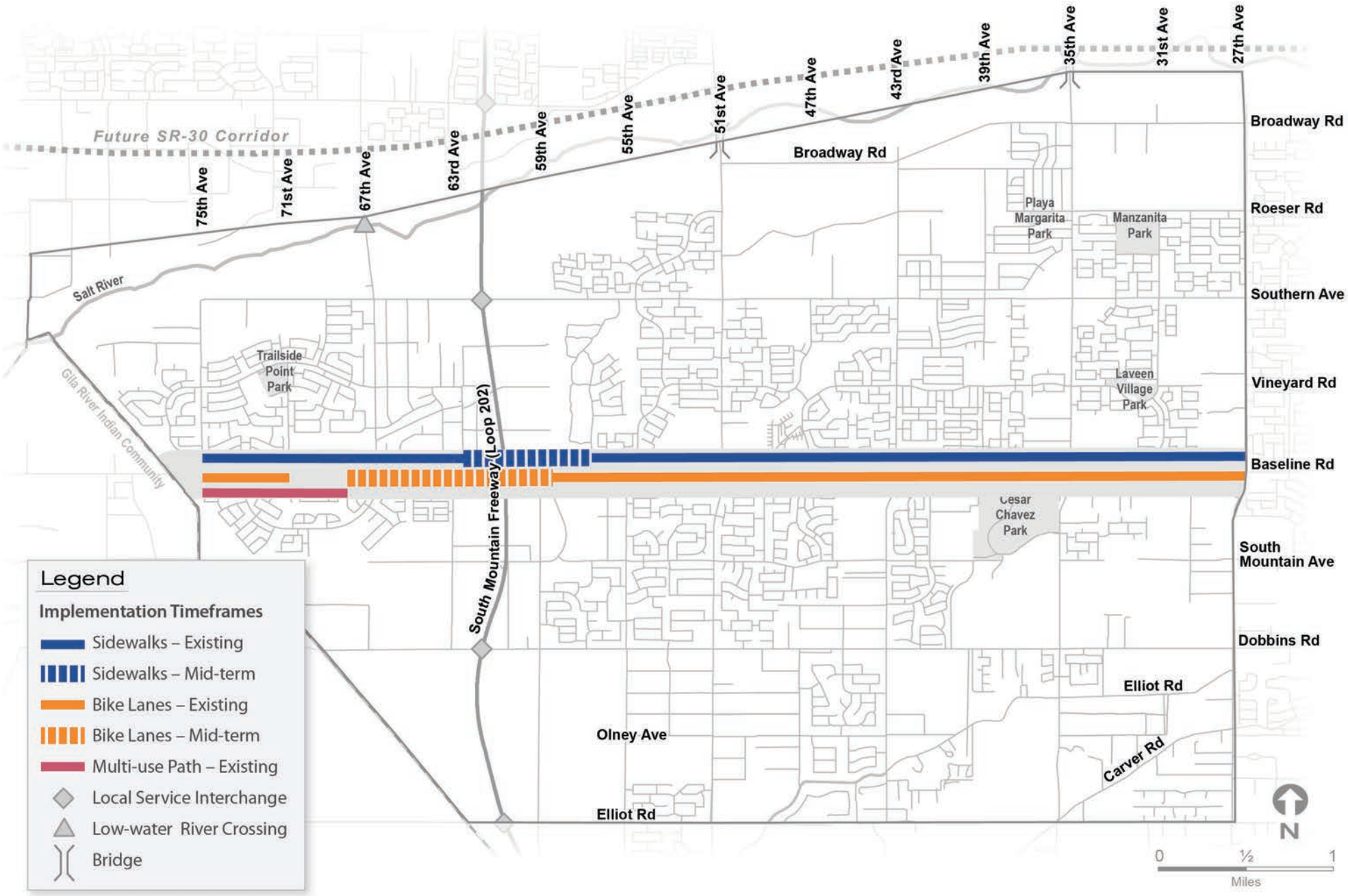


Figure 5.24 *Baseline Road Corridor: Recommended Active Transportation Improvements*



Dobbins Road

Dobbins Road will experience a significant increase in traffic before 2035, but this growth can be accommodated by expanding the mostly two-lane street using a context-sensitive, four-lane design. The City of Phoenix is committed to maintaining the roadway as a scenic corridor with majestic mountain views for automobile users, as well as pedestrians and cyclists. A multi-use path subject to scenic corridor design guidelines that ensure the road's unique character and vistas are maintained is recommended as a mid-term project to provide active transportation opportunities along the entire corridor and across Laveen. A new local bus route is also proposed for Dobbins Road by 2040 (see Table 5.4 and Figures 5.25 through 5.27).

Table 5.4 *Dobbins Road Corridor: Recommended Multimodal Improvements*

Roadway Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Capacity (widen from 2 lanes to 4)	West Study Area boundary	55th Ave	2.0	2035	$13,000,000
Capacity (widen from 3 lanes to 4)	55th Ave	48th Dr	0.5	2035	$4,000,000
Capacity (widen from 2 lanes to 4)	48th Dr	27th Ave	3.0	2035	$24,000,000
Transit Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
New "Route 93," local Dobbins Rd bus route	59th Ave	16th St (east of Study Area)	4.0[1]	2035	$6,483,000[1]
Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Multi-use path	Maricopa Trail	58th Ave	0.8	Long	$1,100,000
Multi-use path	52nd Ave	27th Ave	3.1	Mid	$4,400,000

[1]*Includes only those portions of the project area that are in the Study Area*

Figure 5.25 *Dobbins Road Corridor: Recommended Roadway Improvements*

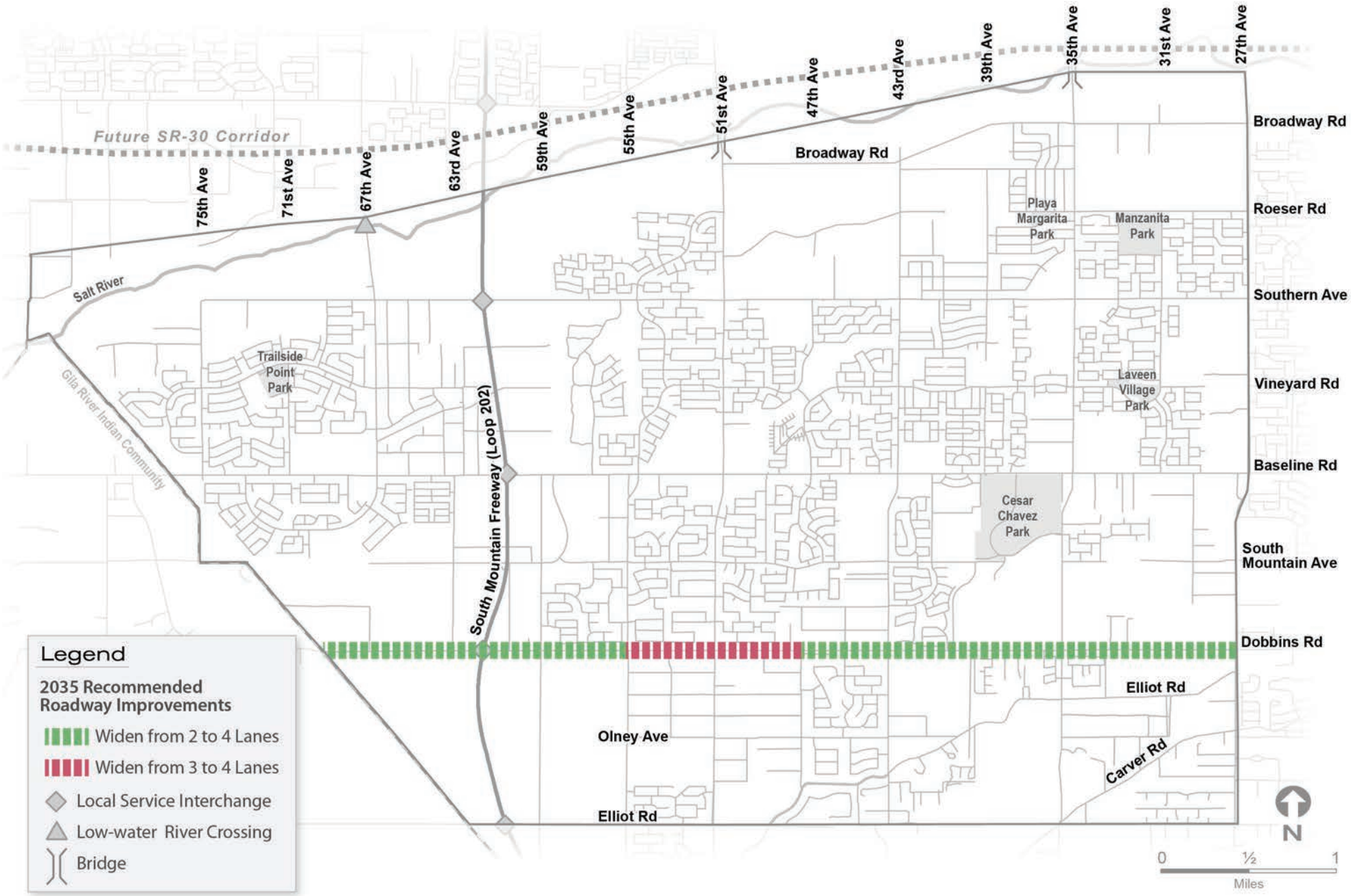


Figure 5.26 *Dobbins Road Corridor: Recommended Transit Improvements*

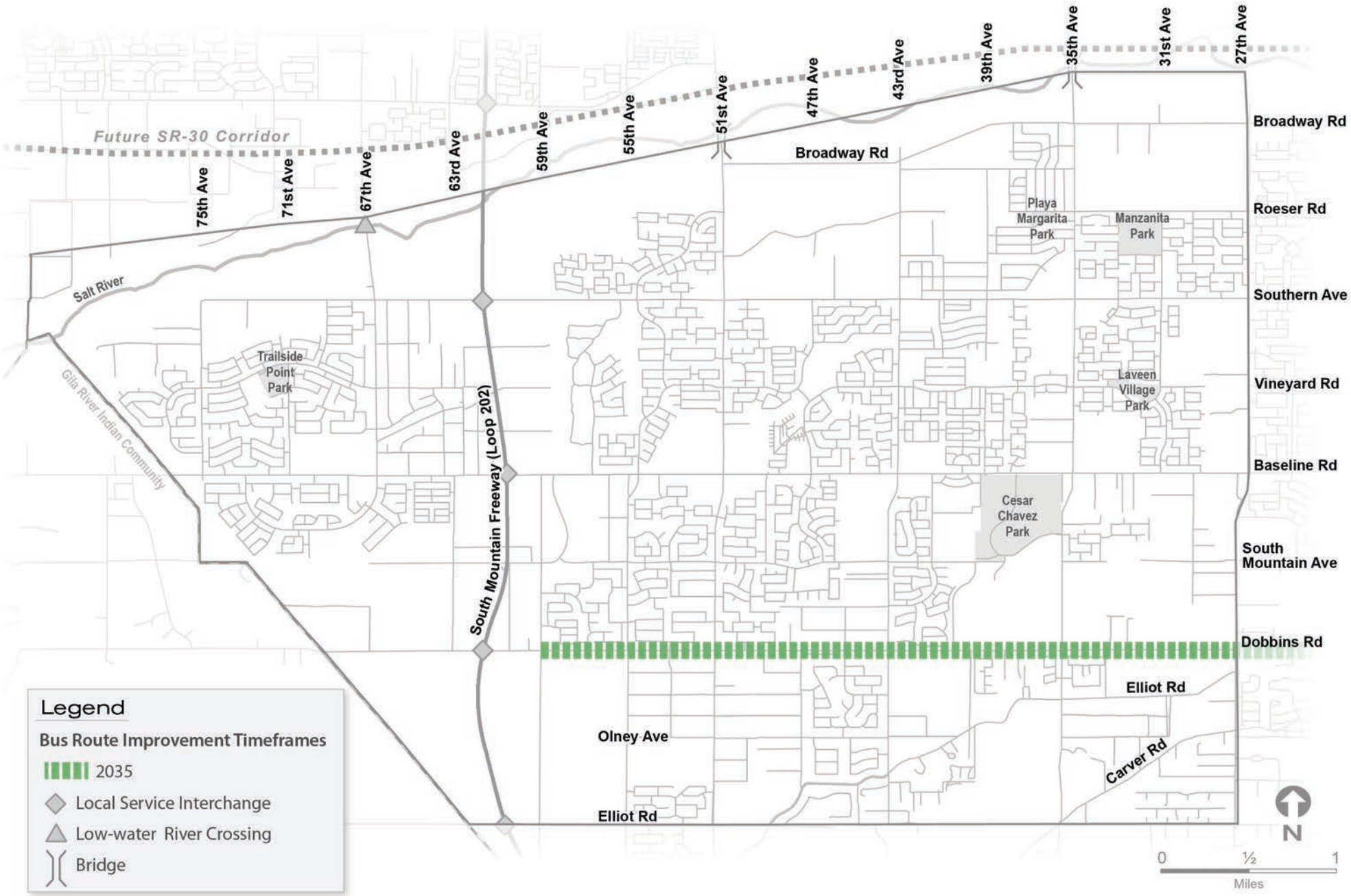
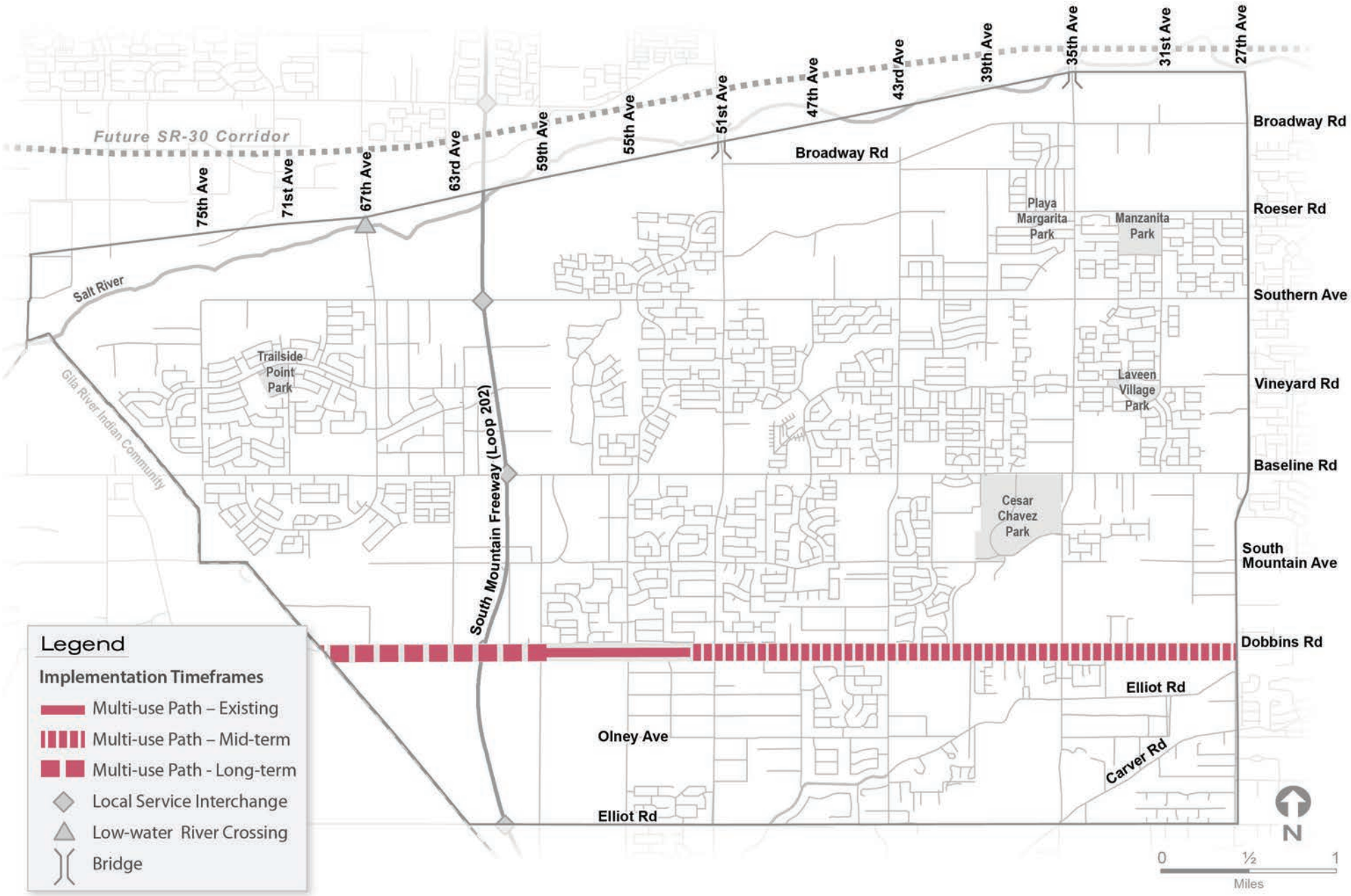


Figure 5.27 *Dobbins Road Corridor: Recommended Active Transportation Improvements*



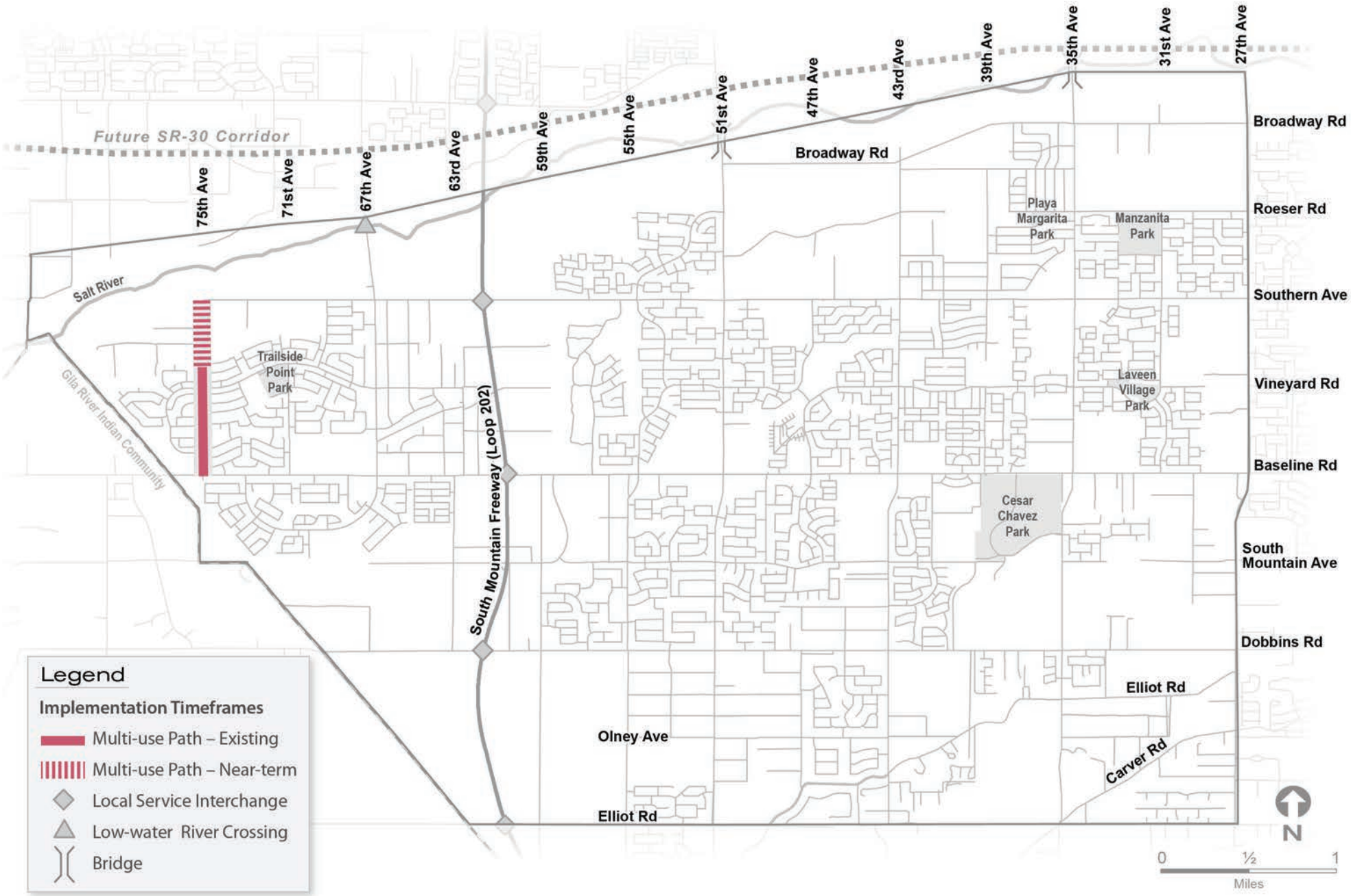
75th Avenue

75th Avenue already has a short, multi-use path segment that could be continuous from Southern Avenue to Baseline Road. The path would thereby connect to an existing path along Baseline, while serving Trailside Point Park and Trailside Park School (Table 5.5 and Figure 5.28).

Table 5.5 *75th Avenue Corridor: Recommended Multimodal Improvements*

Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Multi-use path	Southern Ave	Leodra Ln	0.4	Near	$550,000

Figure 5.28 *75th Avenue Corridor: Recommended Active Transportation Improvements*



67th Avenue

Attendees of both in-person and virtual open houses supported a new multi-use path across the Salt River at the existing low-water street crossing. This is recommended here as a mid-term improvement, along with two other path segments that would create a continuous active transportation connection, south, as far as Baseline Road. A southward extension of the existing bus Route 67 from Lower Buckeye Road to Baseline Road is also recommended (see Table 5.6 and Figures 5.29 and 5.30).

Table 5.6 *67th Avenue Corridor: Recommended Multimodal Improvements*

Transit Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Extend Route 67 local bus	Lower Buckeye Rd (north of Study Area)	Baseline Rd	2.0[1]	2035	$3,242,000[1]

[1]*Includes only those portions of the project area that are in the Study Area*

Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Multi-use path	Salt River (north side)	Salt River (south side)	0.2	Mid	$620,000
Multi-use path	Salt River (south side)	Southern Ave	0.3	Mid	$1,100,000
Multi-use path	Fremont Rd	Baseline Rd	0.3	Mid	$450,000

Figure 5.29 *67th Avenue Corridor: Recommended Transit Improvements*

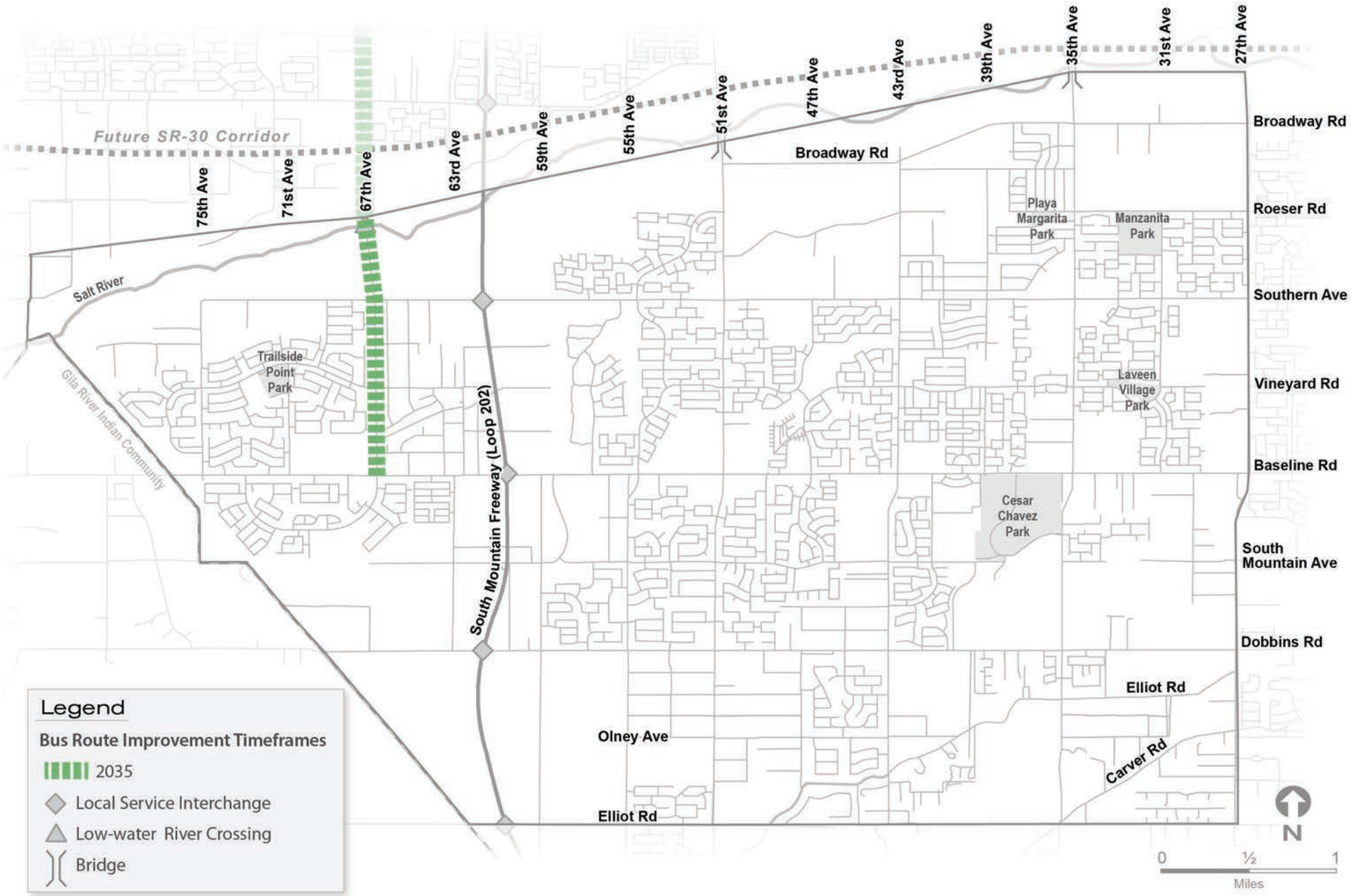
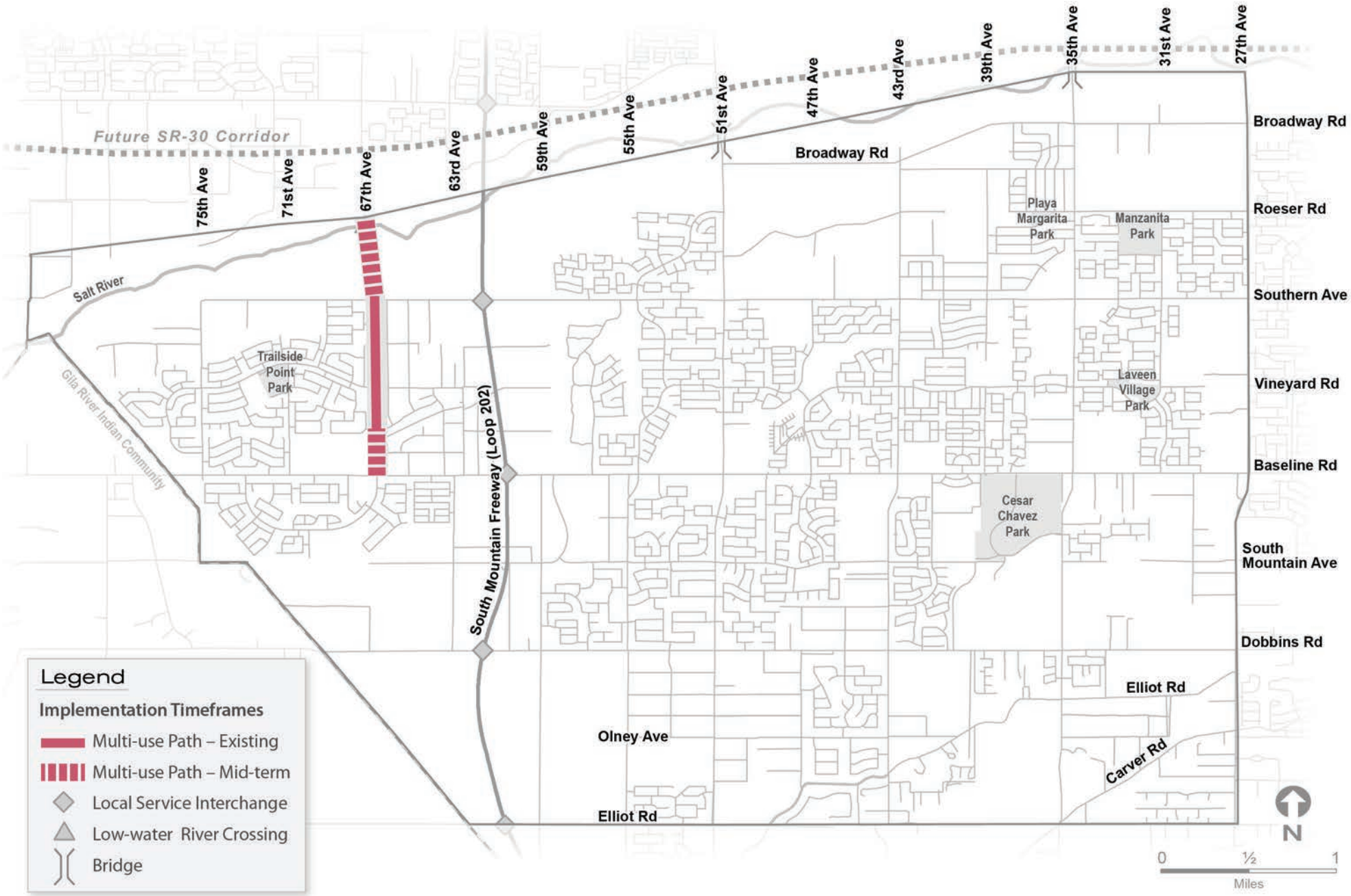


Figure 5.30 *67th Avenue Corridor: Recommended Active Transportation Improvements*



51st Avenue

51st Avenue is one of the two most critical north-south streets traversing the Study Area in bridging the Salt River that separates Laveen from much of Phoenix. It served as a regional I-10 bypass for commercial vehicles crossing the Gila River Indian Community prior to ADOT opening the Loop 202 in 2019. It already has four through lanes, plus sidewalks and bike lanes that extend from the river to Dobbins Road. This study recommends extending the four-lane capacity and active transportation features south, approximately one mile to the Study Area boundary at Elliot Road (see Table 5.7 and Figures 5.31 through 5.35). These are proposed as 2030 and near-term improvements, respectively, because of travel demand forecasts and the importance of the roadway.

Table 5.7 *51st Avenue Corridor: Recommended Multimodal Improvements*

Roadway Improvements

Description	From	To	Length (Miles)	Proposed Period	Planning Level Cost
Capacity (widen from 2 lanes to 4)	Dobbins Rd	Elliot Rd	1.0	2030	$8,000,000

Safety Improvements

Description	Intersection/Corridor	Proposed Period	Planning Level Cost
Evaluate signal timing	51st Ave / Vineyard Rd	Near	$5,000
Evaluate visibility / sight distance	51st Ave / South Mountain Ave	Near	$5,000
Evaluate need for traffic signal	51st Ave / South Mountain Ave	Mid	$3,000
Intersection geometry improvements	51st Ave / South Mountain Ave	Mid	$985,000
Install traffic signal, if analysis supports	51st Ave / South Mountain Ave	Long	$300,000
Evaluate signal progression to determine corridor cycle length and coordinated signal offset	51st Ave Corridor	Mid	$30,000
Evaluate bicycle lane locations and bicycle lane width; restripe / reinstall if not present	51st Ave Corridor	Long	$10,000

Active Transportation Improvements

Description	From	To	Length (Miles)[1]	Proposed Period	Planning Level Cost
Sidewalks	La Mirada Dr	Elliot Rd	1.8	Near	$575,000
Bike lanes	La Mirada Dr	Elliot Rd	1.8	Near	$815,000

[1]*Total length on both sides of street*

Figure 5.31 *51st Avenue Corridor: Recommended Roadway Improvements*

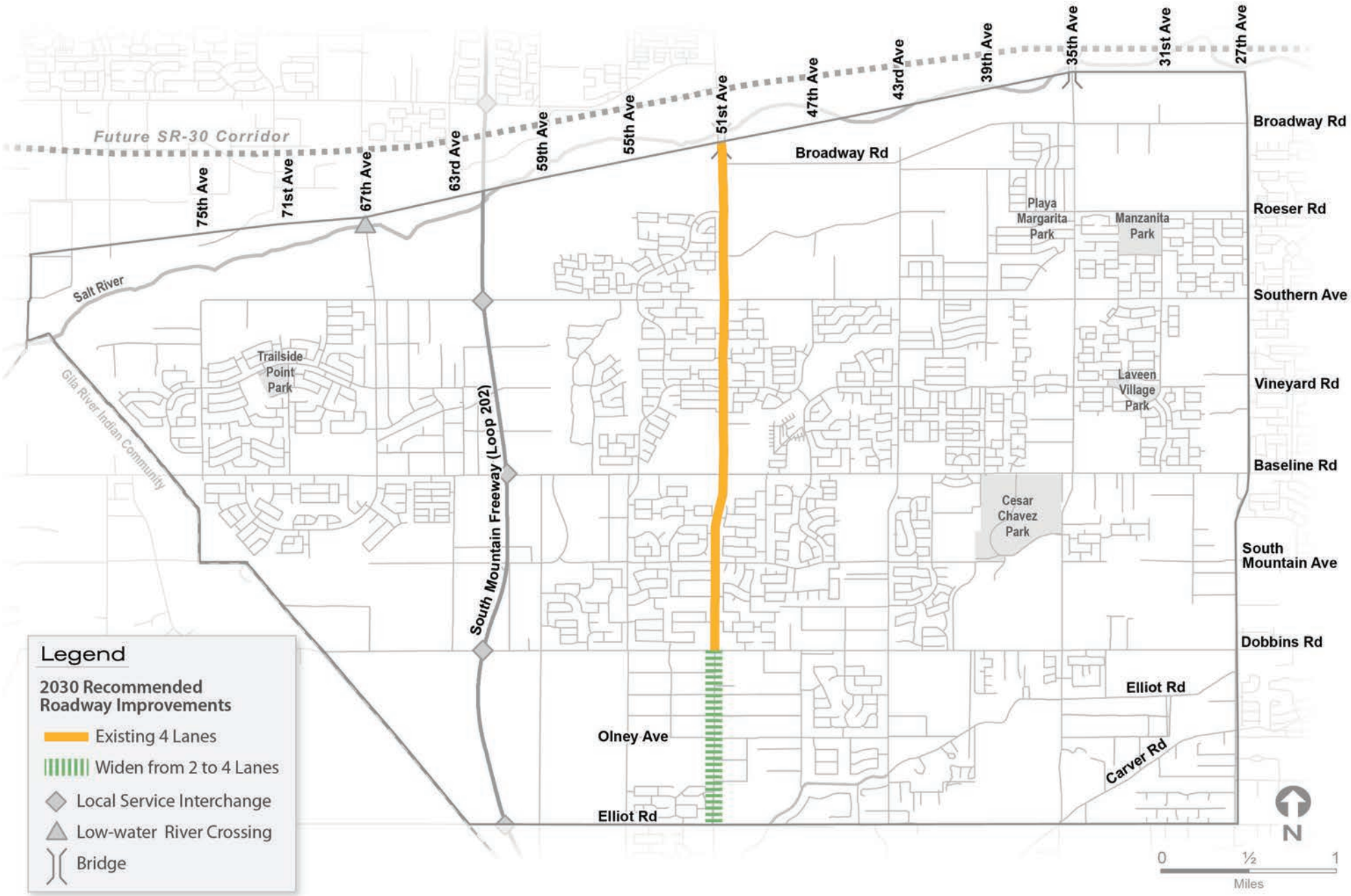


Figure 5.32 *51st Ave / Vineyard Rd: Recommended Safety Improvements*

Figure 5.33 *51st Ave / South Mountain Ave: Recommended Safety Improvements*

Figure 5.34 *51st Avenue Corridor: Recommended Transit Improvements*

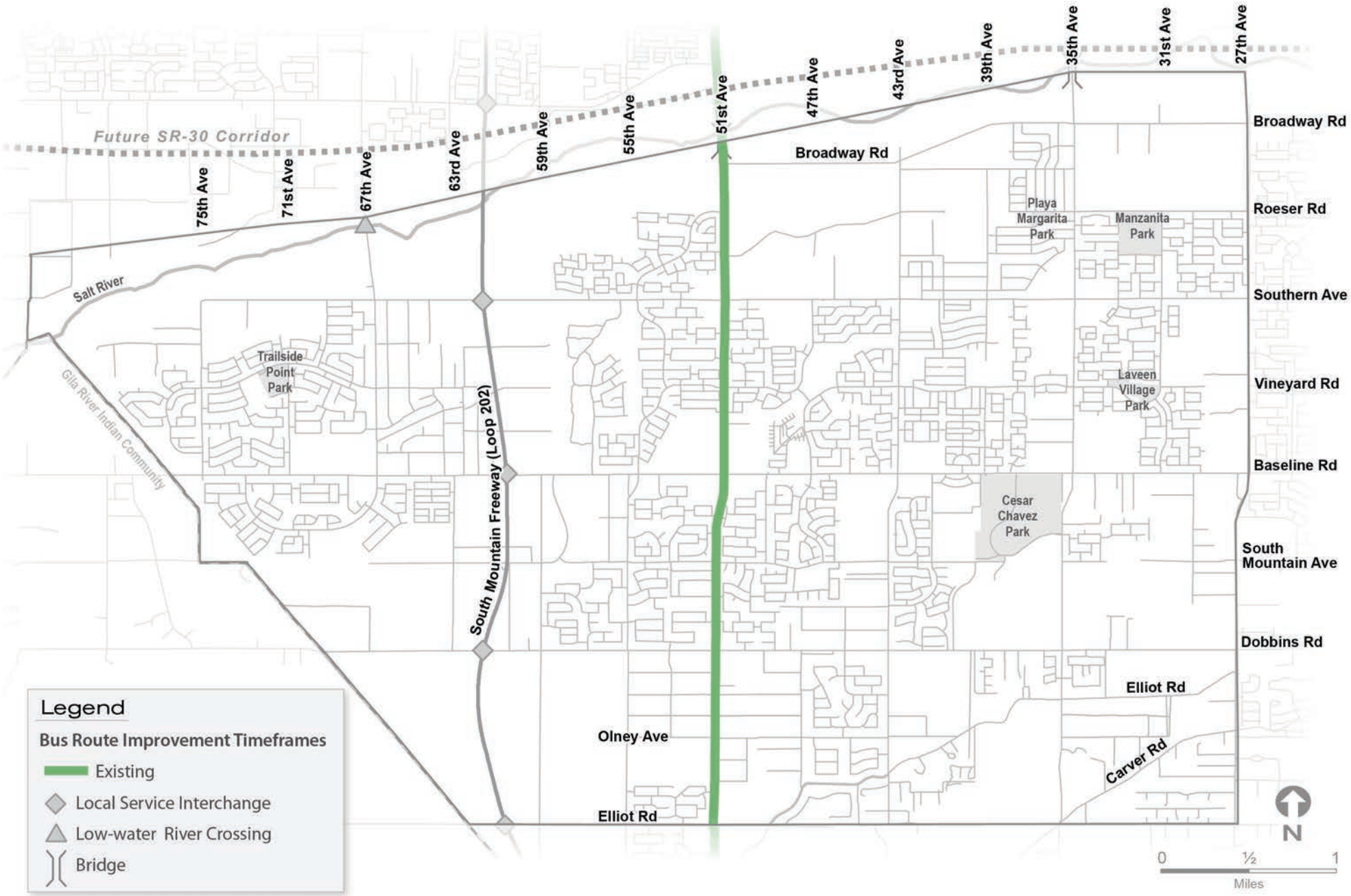
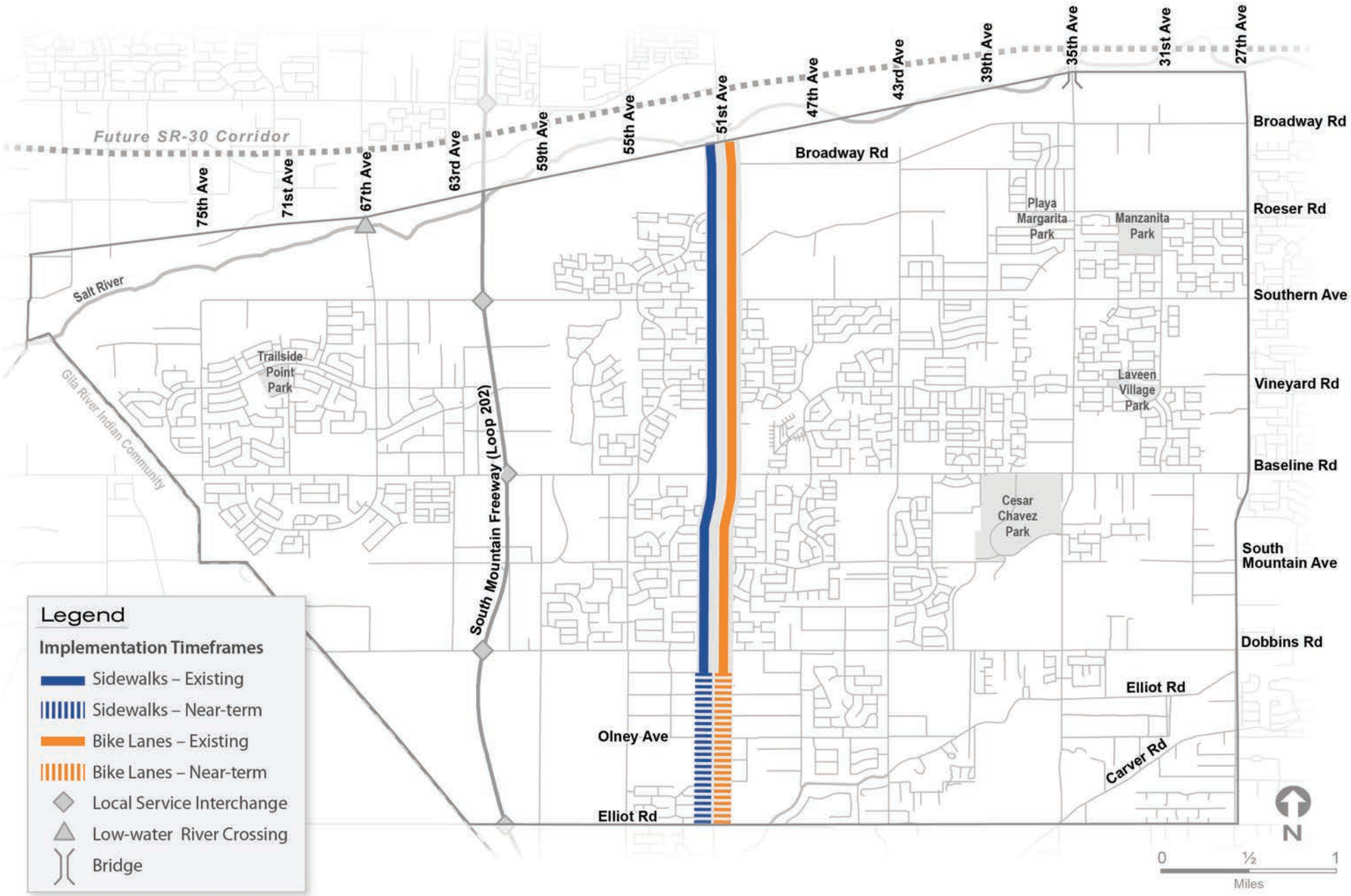


Figure 5.35 *51st Avenue Corridor: Recommended Active Transportation Improvements*



43rd Avenue

43rd Avenue runs north-south through most of the Study Area but does not cross the Salt River. Except for a four-lane segment from Southern Avenue to Baseline Road in the heart of the Study Area, it has only two lanes. No capacity improvement needs are anticipated however, pavement preservation is recommended for a segment between Dobbins Road and Olney Avenue that is in poor condition. Six and one-half miles of sidewalks and bike lanes are also proposed for mid- and long-term implementation on different segments throughout the Study Area (see Table 5.8 and Figures 5.36 and 5.37).

Table 5.8 *43rd Avenue Corridor: Recommended Multimodal Improvements*

Roadway Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Pavement (currently in poor condition)	Dobbins Rd	Olney Ave	0.5	2030	$3,200,000
Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)[1]**	**Proposed Period**	**Planning Level Cost**
Bike lanes	North Study Area boundary	Southern Ave	3.0	Mid	$1,640,000
Sidewalks	North Study Area boundary	Baseline Rd	5.0	Mid	$1,585,000
Sidewalks	South Mountain Ave	Ceton Dr	3.0	Long	$955,000
Bike lanes	Dobbins Rd	Ceton Dr	2.0	Long	$955,000

[1]*Total length on both sides of street*

Figure 5.36 *43rd Avenue Corridor: Recommended Roadway Improvements*

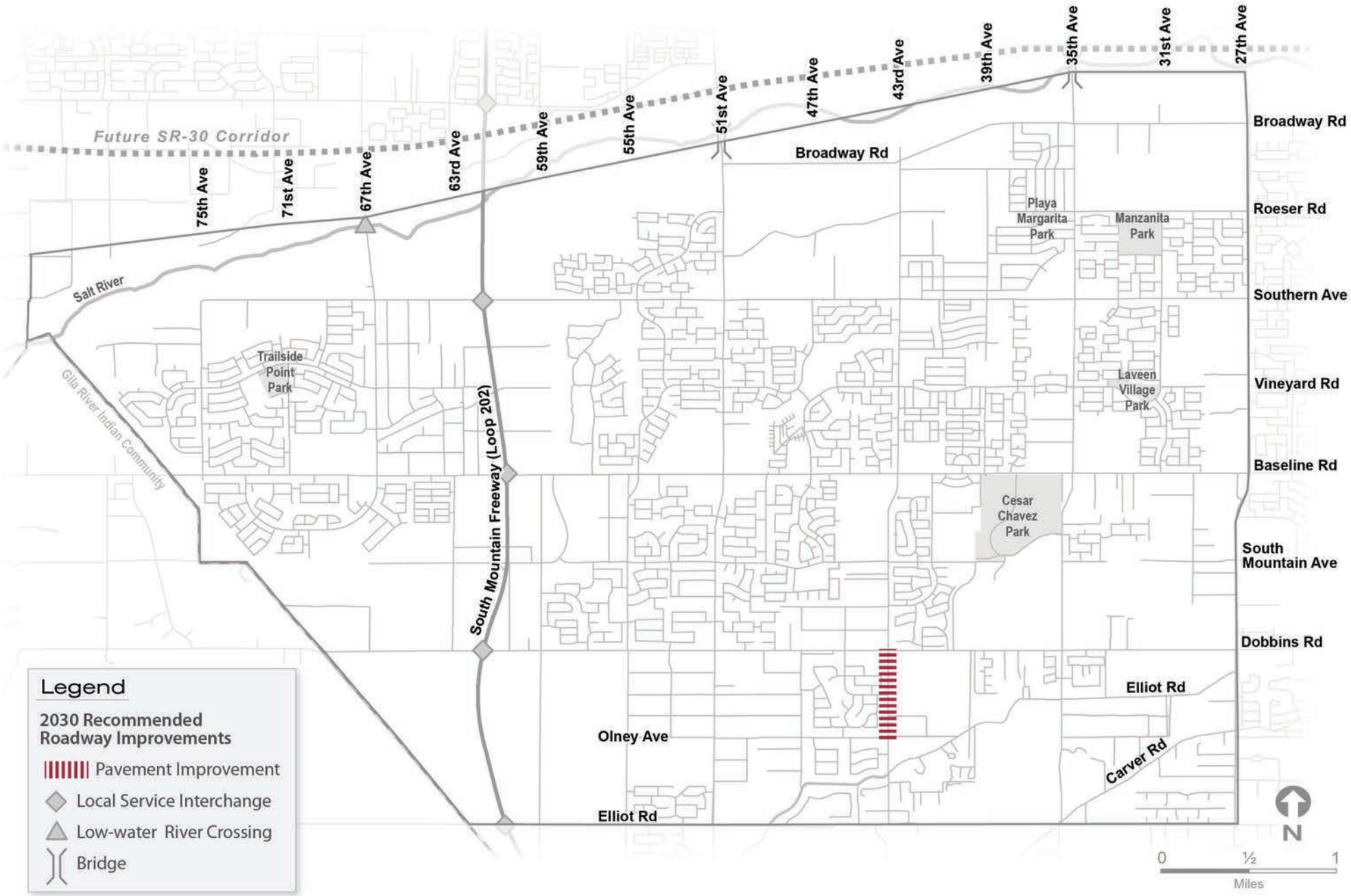
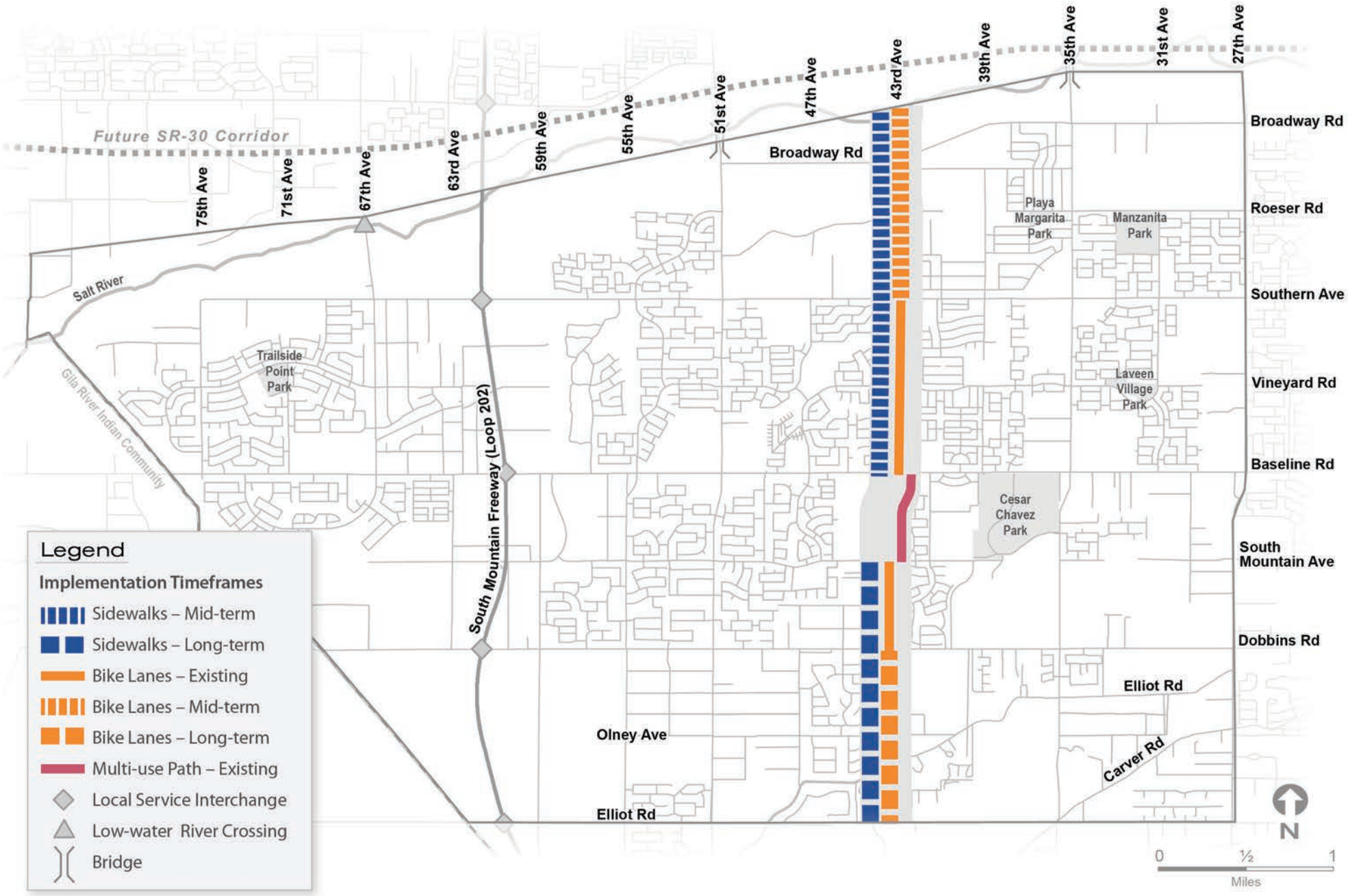


Figure 5.37 *43rd Avenue Corridor: Recommended Active Transportation Improvements*



35th Avenue

Like 51st Avenue, 35th Avenue spans the Salt River and so carries relatively high traffic volumes. The street currently has four lanes as far south as Ian Drive, at the south edge of Cesar Chavez Park, and for a few blocks south of Dobbins Road. Continuation of the four-lane section south to Carver Road by 2030 and the development of a six-lane section at the north end of the Study Area by 2040 are both recommended (see Table 5.9 and Figure 5.38).

Active transportation facilities are critical along 35th Avenue because the road connects four city parks and a public library. Enhancing access via sidewalks, bike lanes, and a multi-use path are recommended as near-, mid-, and long-term improvements, respectively (Table 5.9 and Figures 5.39 through 5.41). In addition, open house participants requested a pedestrian safety study of the unsignalized crossing of 35th Avenue at Cesar Chavez Park.

Table 5.9 *35th Avenue Corridor: Recommended Multimodal Improvements*

Roadway Improvements

Description	From	To	Length (Miles)	Proposed Period	Planning Level Cost
Capacity (widen from 2 lanes to 4)	Ian Dr	Carver Rd	1.8	2030	$14,700,000
Capacity (widen from 4 lanes to 6)	SR-30	Broadway Rd / Avenida Rio Salado	0.5	2040	$17,700,000

Safety Improvements

Description	Intersection/Corridor	Proposed Period	Planning Level Cost
Evaluate allowed U turn movements	35th Ave / Broadway Rd	Near	$5,000
Evaluate signal timing	35th Ave / Broadway Rd	Near	Included in U turn analysis
Restripe for additional turn lanes, if supported by analysis	35th Ave / Broadway Rd	Mid	$4,000
Evaluate signal pole placement	35th Ave / Broadway Rd	Long	$5,000
Evaluate visibility and sight distance	35th Ave / Dobbins Rd	Near	$5,000
Evaluate need for traffic signal	35th Ave / Dobbins Rd	Mid	$3,000
Intersection geometry improvements	35th Ave / Dobbins Rd	Mid	1,095,000
Install traffic signal, if supported by analysis	35th Ave / Dobbins Rd	Long	$300,000
Evaluate signal progression to determine corridor cycle length and coordinated signal offset	35th Ave Corridor	Mid	$30,000
Evaluate presence and condition of sidewalk and street lighting	35th Ave Corridor	Mid	$5,000

Active Transportation Improvements

Description	From	To	Length (Miles)	Proposed Period	Planning Level Cost
Sidewalks	North Study Area Boundary	Dobbins Rd	7.0	Mid	$2,200,000
Conduct pedestrian crossing safety study at Cesar Chavez Park	N/A	N/A	N/A	Near	$15,000
Bike lanes	Ian Dr	Dobbins Rd	1.4	Near	$630,000
Bike lanes	Dobbins Rd	Elliot Rd	0.6	Mid	$340,000
Multi-use path	Elliot Rd	Carver Rd	0.7	Long	$980,000

[1]*Total length on both sides of street*

Figure 5.38 *35th Avenue Corridor: Recommended Roadway Improvements*

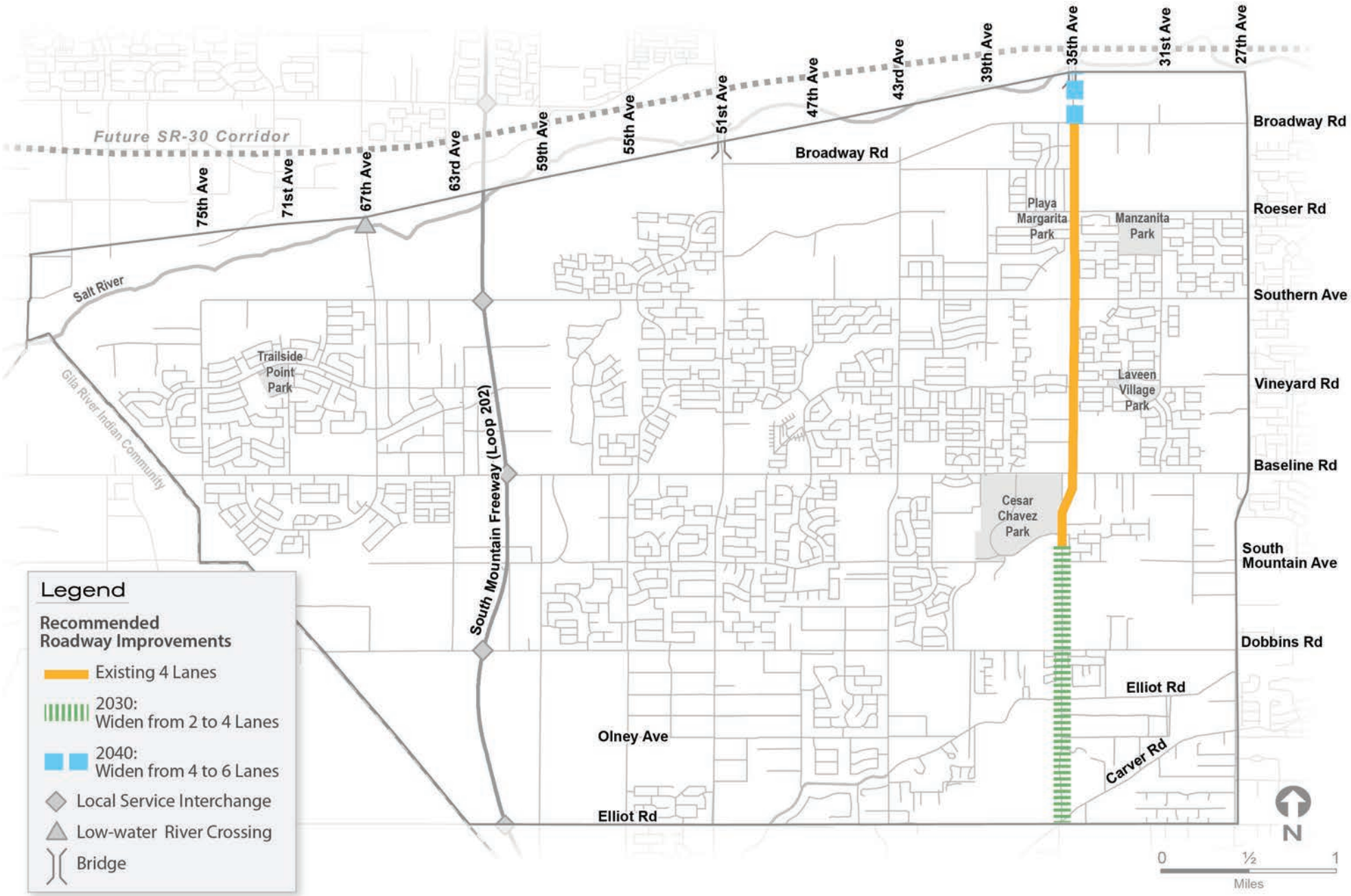


Figure 5.39 *35th Ave / Broadway Rd: Recommended Safety Improvements:*

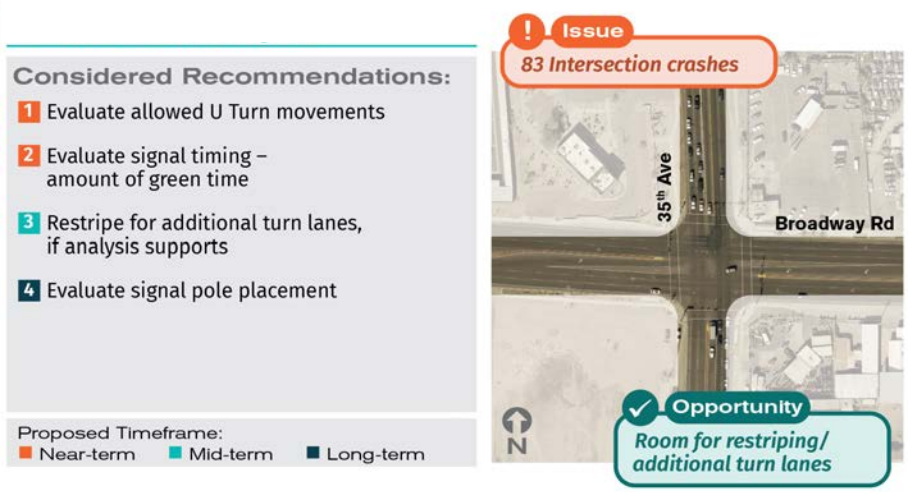


Figure 5.40 *35th Ave / Dobbins Rd: Recommended Safety Improvements:*

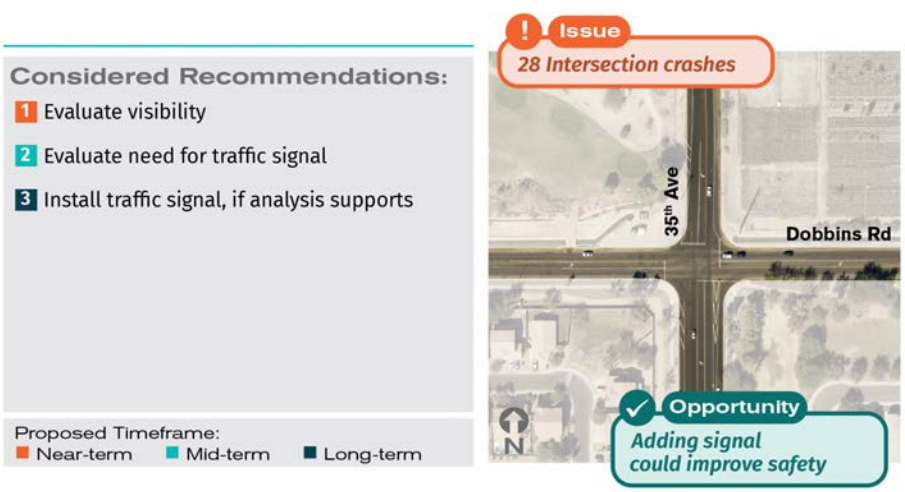
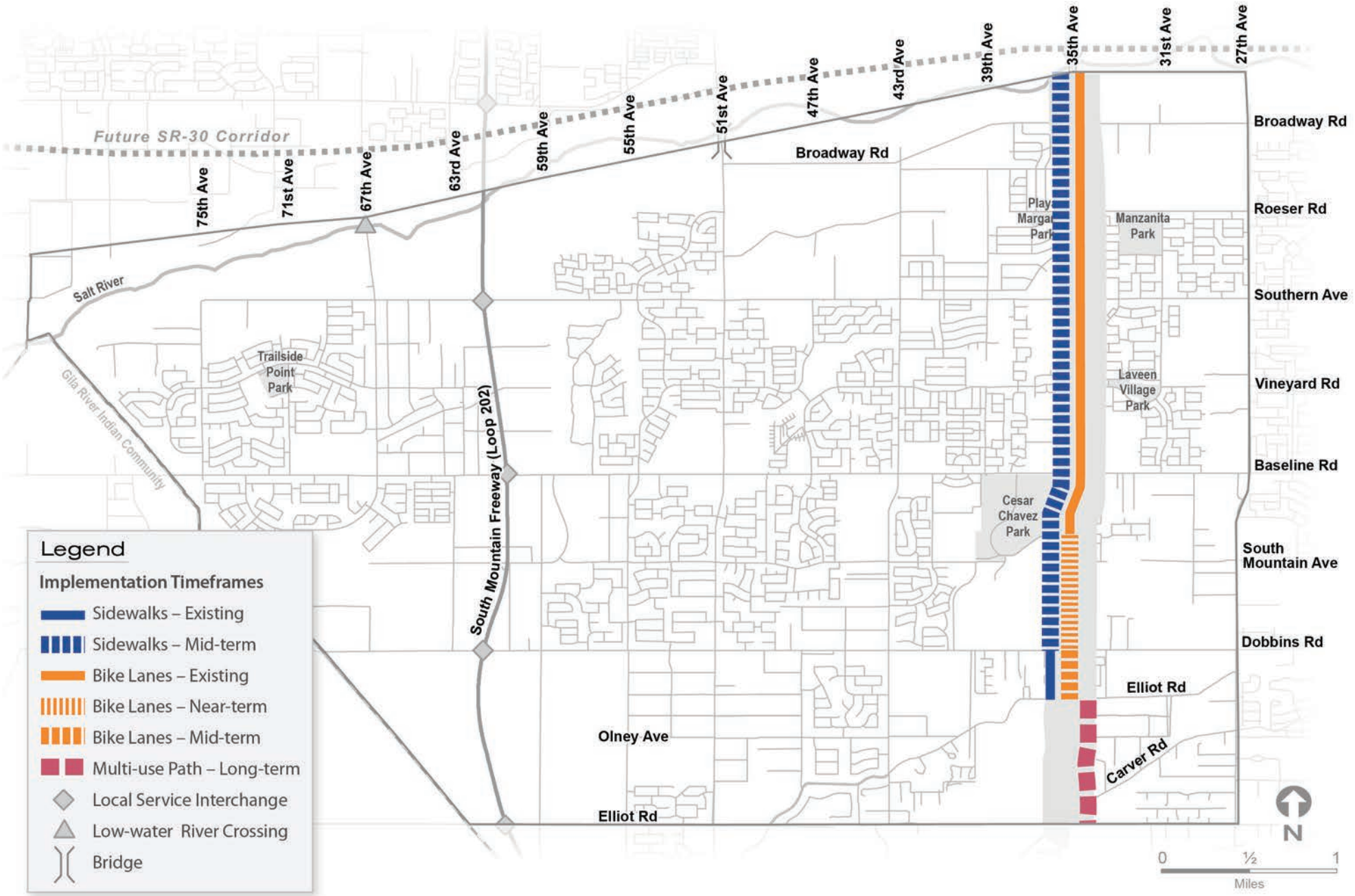


Figure 5.41 *35th Avenue Corridor: Recommended Active Transportation Improvements*



27th Avenue

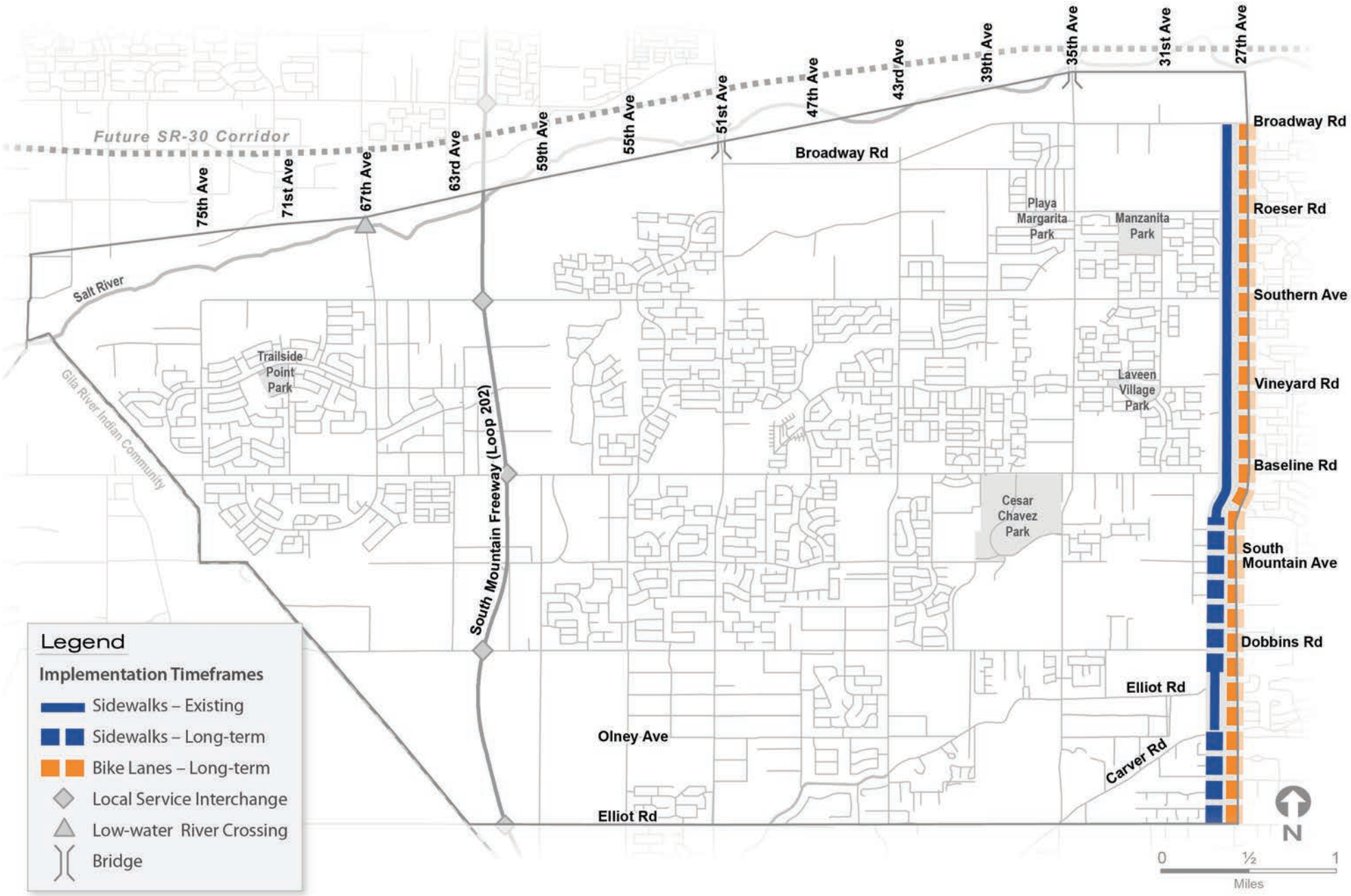
27th Avenue, which defines the eastern boundary of the Study Area, does not cross the Salt River or carry as much traffic as 35th Avenue, and its cross-section varies from only two to three lanes. The construction of several new sidewalk and bike segments is recommended over the long-term, as indicated in Table 5.10 and Figure 5.42.

Table 5.10 *27th Avenue Corridor: Recommended Multimodal Improvements*

Active Transportation Improvements					
Description	**From**	**To**	**Length (Miles)[1]**	**Proposed Period**	**Planning Level Cost**
Bike lanes	Broadway Rd	Ceton Dr	8.0	Long	$4,000,000
Sidewalks	Gary Way	Elliot Rd	2.0	Long	$1,110,000
Sidewalks	Carver Rd	Ceton Dr	1.4	Long	$445,000

[1]*Total length on both sides of street*

Figure 5.42 *27th Avenue Corridor: Recommended Active Transportation Improvements*



Laveen Area Conveyance Channel

The project recommended in Table 5.11 addresses pedestrian safety along the LACC multi-use path described in Chapter 3. Members of the public expressed concern about the safety of grade-level crossings on busy streets, such as 51st Avenue and Baseline Road, and a study to examine potential safety measures at these locations is promoted here as a near-term recommendation.

Table 5.11 *LACC Pathway: Recommended Active Transportation Improvement*

Safety Improvements					
Description	**From**	**To**	**Length (Miles)**	**Proposed Period**	**Planning Level Cost**
Study of pedestrian safety at major street crossings	Entire length of LACC multi-use path in Study Area		~5.0	Near	$45,000

Summary

The roadways, safety, public transit, and active transportation recommendations detailed in this chapter are summarized for quick reference and with attention to both time and cost (in 2020 dollars). For new bus routes or route extensions that continue outside the Study Area, only the portions inside the Study Area were considered in estimating capital and operating cost. The recommendations and associated implementation time frames constitute an integrated, holistic strategy for improving capacity and connectivity while enhancing system functionality through multimodal travel opportunities. Implementing individual recommendations in the near-, mid-, and long-term, or by specific horizon years, will ensure the transportation system grows in tandem with the community and ultimately provides an equitable, high-capacity, and sustainable network that facilitates and supports a high quality of life for area residents.

Roadway

- Construct 15.2 miles of roadway capacity improvements as recommended for 2030, 2035, and 2040 to achieve uniform, four-lane sections on Southern Avenue, Baseline Road, Dobbins Road, 51st Avenue, and 35th Avenue. The estimated planning-level cost is approximately $114.7 million (Figures 5.27 through 5.29).
- Widen 35th Avenue from SR-30 to Broadway Road (Avenida Rio Salado) from four to six lanes by 2040. The estimated planning-level cost for the short segment in the Study Area is $17,700,000.
- Preserve up to one-half mile of pavement on South 43rd Avenue by 2030 at an estimated planning-level cost of $3.2 million (Figure 5.27).

Safety

- Where appropriate, install driver information signs to improve safety conditions.
- Consider improved roadway lighting at high-crash locations.
- For intersections where signalization may be needed, perform signal warrant analyses.
- Conduct inexpensive signal timing studies where modified timing may reduce crashes by improving traffic flow. Otherwise, consider capital-intensive improvements such as adding or lengthening turn lanes, replacing or relocating signal heads, or installing raised medians.
- The total estimated planning-level cost of the recommended near-term, mid-term, and long-term safety improvements is approximately $3.7 million.

Public Transportation

- Build one new park-and-ride lot at an estimated planning-level cost of $8.0 million and add a new RAPID route connecting this facility to Downtown Phoenix via the Loop 202 and I-10 by 2030, at an estimated net operating cost through 2040 of approximately $1.4 million for the portion in the Study Area (Figure 5.33).
- Extend the existing local bus routes on Broadway Road, Southern Avenue, and 67th Avenue by approximately eight miles at an estimated planning-level cost of $12.0 million through 2040. Each total includes estimated capital cost and net operating cost through 2040 (Figures 5.33 through 5.35).
- Initiate a new local bus route on Dobbins Road by 2035 at an estimated planning-level cost of $6.5 million through 2040 (Figure 5.34).

Active Transportation

- Add approximately 28 miles of new sidewalks, counting both sides of the street, at an estimated planning-level cost of $9.3 million (Figures 5.36 through 5.38).
- Add approximately 24 miles of new bike lanes in the near-, mid-, or long-term, counting both sides of the street, at an estimated planning-level cost of $11.5 million (Figures 5.36 through 5.38).
- Build nearly six miles of new multi-use paths in the near-, mid-, or long-term on one side of the street only at an estimated planning-level cost of $9.2 million (Figures 5.36 through 5.38).

Appendix A: Abbreviations

Abbreviations

This list was taken from the original Existing Conditions report, and abbreviations/terms from other chapters have not been added. Terms/abbreviations may be best presented in table format, depending on whether terms or just abbreviations need to be provided. The header, "Terminology," may need to be changed depending on final content. A short introductory blurb may also be warranted if the appendix includes more than abbreviations and/or if different categories of terms need to be introduced/explained for some reason.

ADA	Americans with Disabilities Act
ADMP	Area Drainage Master Plan
ADMPU	Area Drainage Master Study/Plan Update
ADOT	Arizona Department of Transportation
AoMI	Area of Mitigation Interest
Ave	Avenue
COP	City of Phoenix
CS	Crack seal
FCDMC	Flood Control District of Maricopa County
FEA	Final Environmental Assessment
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GRIC	Gila River Indian Community
HAWK	High-Intensity Activated Crosswalk Beacon
HCM	Highway Capacity Manual
I	Interstate
LACC	Laveen Area Conveyance Channel
L/DCR	Location/Design Concept Report
LOS	Level of Service
LSMTS	Laveen South Mountain Transportation Study
MAG	Maricopa Association of Governments
MCDOT	Maricopa County Department of Transportation
MS	Micro Seal
PCR	Pavement Condition Rating
PM	Afternoon
Rd	Road
SMCC	South Mountain Community College
SR	State Route
SRP	Salt River Project
St	Street
T2050	City of Phoenix Long-Range (2050) Transportation Plan
TDM	Travel Demand Model
TRMSS	Tire rubber modified surface sealer
V/C	Volume-to-Capacity

Appendix B: Community Engagement Outcomes

Open House #1

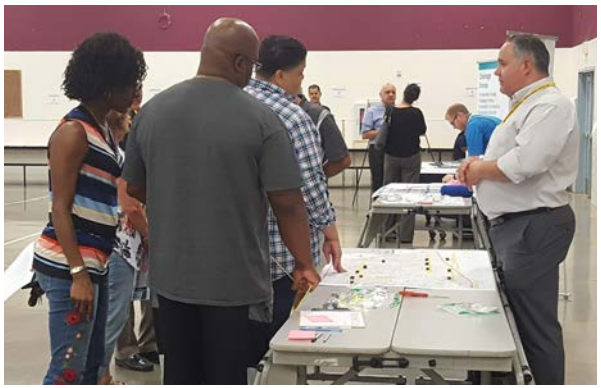
The first open house was held on September 19, 2019 from 4:00 – 7:00 p.m. It was held at Riverbend Preparatory Academy. The objectives for this open house were to provide background information about the project and allow participants to provide feedback on transportation and drainage issues in the community. The following is one of the notices that was used in the community to announce the open house.

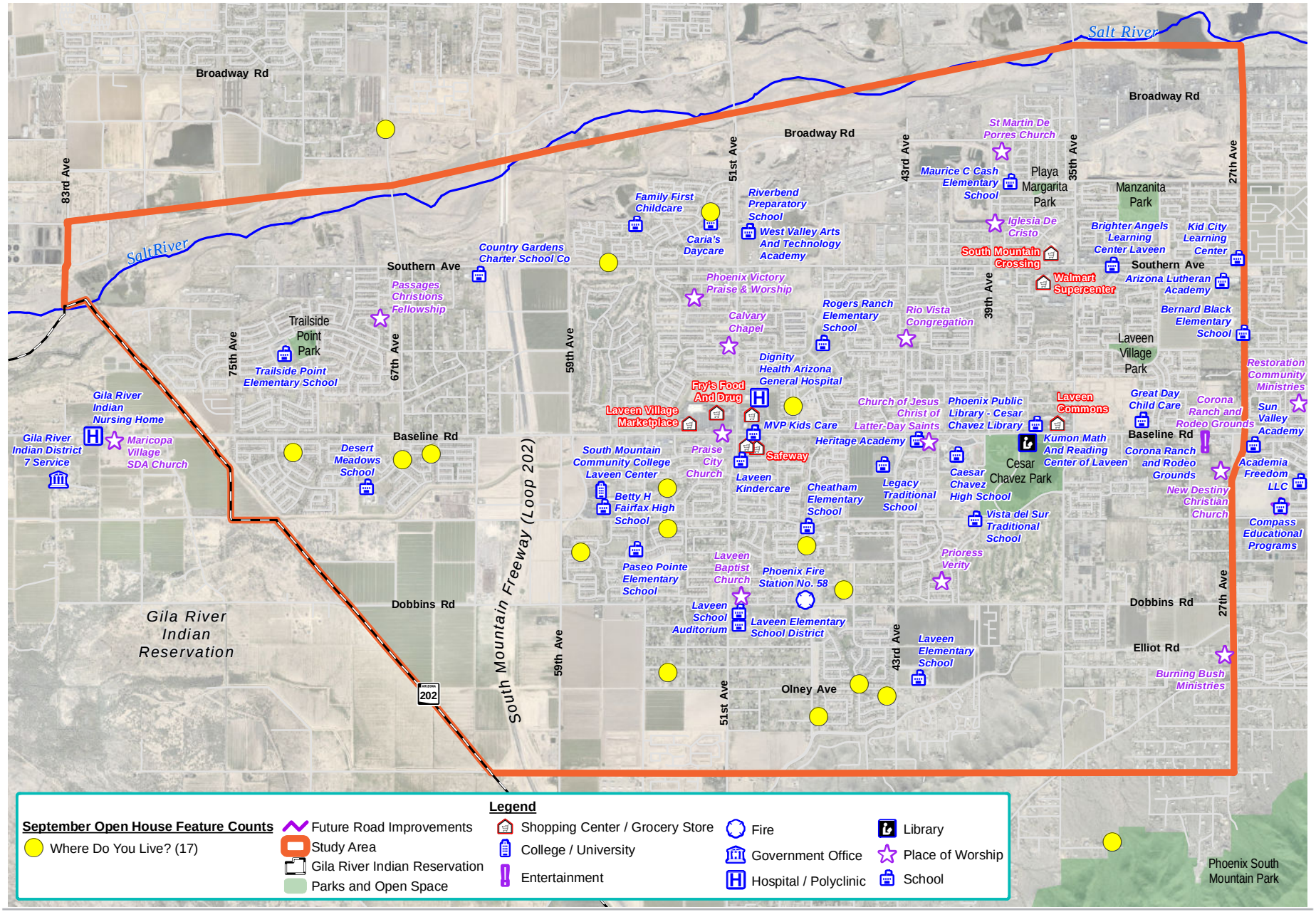
What Happened?

A total of 20 people attended the first Laveen South Mountain Transportation Study open house. Upon arriving, each attendee was asked to sign in by providing his or her name and email to be added to the project eBlast list for future notifications and updates. The attendees were also asked to identify on a map, generally, where they live in the Laveen South Mountain area to see what areas of the neighborhood are being represented in the workshop results.

All attendees lived within the Study Area, making their participation, responses to the survey and station exercises, and overall insights regarding the community very valuable. Attendees were generally dispersed across the Laveen South Mountain area, mainly in neighborhoods between Baseline Road and Elliot Road, from 43rd Avenue to 59th Avenue. The map of where participants live is shown on the following page (please note that one dot may represent more than one person who attended the meeting and lives at the same address).

Comment cards were made available throughout the open house. Participants were encouraged to leave their comment cards with the project team before leaving.





Matrix

MARICOPA ASSOCIATION of GOVERNMENTS

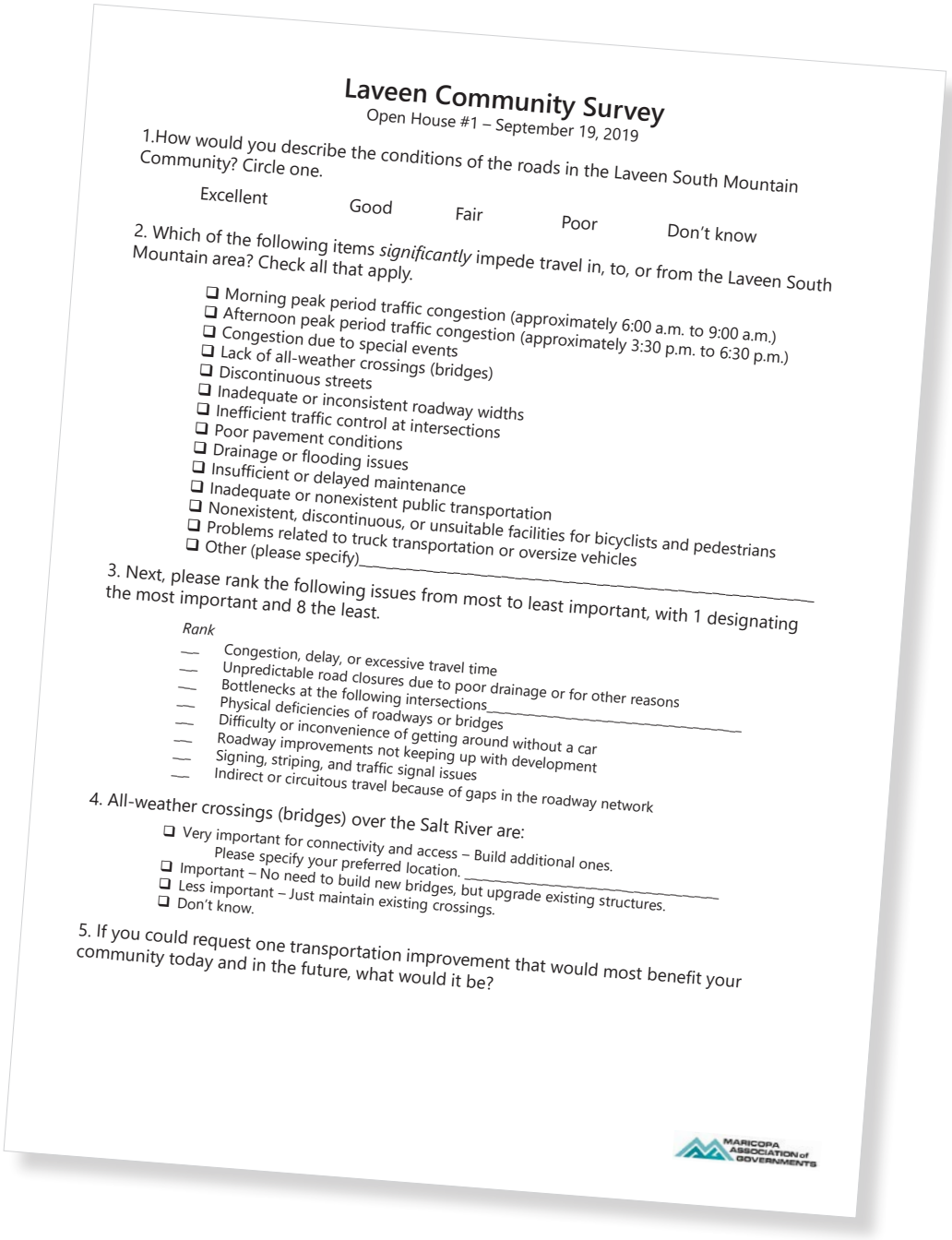
Laveen September Open House: Where Do You Live?

0 ½ 1 Miles

Community Survey

A survey provided to attendees asked five questions related to transportation and drainage in the Laveen South Mountain area. The questions included multiple choice, ranking, and open response questions, as shown on this page.

Participants were given hard copies of the survey and were asked to fill it out and submit it during the open house. A total of 12 participants filled out and submitted a survey. The following are the results from the survey responses submitted during the open house.



Laveen Community Survey

Open House #1 – September 19, 2019

1.How would you describe the conditions of the roads in the Laveen South Mountain Community? Circle one.

Excellent Good Fair Poor Don't know

2. Which of the following items *significantly* impede travel in, to, or from the Laveen South Mountain area? Check all that apply.

- ❑ Morning peak period traffic congestion (approximately 6:00 a.m. to 9:00 a.m.)
- ❑ Afternoon peak period traffic congestion (approximately 3:30 p.m. to 6:30 p.m.)
- ❑ Congestion due to special events
- ❑ Lack of all-weather crossings (bridges)
- ❑ Discontinuous streets
- ❑ Inadequate or inconsistent roadway widths
- ❑ Inefficient traffic control at intersections
- ❑ Poor pavement conditions
- ❑ Drainage or flooding issues
- ❑ Insufficient or delayed maintenance
- ❑ Inadequate or nonexistent public transportation
- ❑ Nonexistent, discontinuous, or unsuitable facilities for bicyclists and pedestrians
- ❑ Problems related to truck transportation or oversize vehicles
- ❑ Other (please specify)_____

3. Next, please rank the following issues from most to least important, with 1 designating the most important and 8 the least.

Rank

- ___ Congestion, delay, or excessive travel time
- ___ Unpredictable road closures due to poor drainage or for other reasons
- ___ Bottlenecks at the following intersections_____
- ___ Physical deficiencies of roadways or bridges
- ___ Difficulty or inconvenience of getting around without a car
- ___ Roadway improvements not keeping up with development
- ___ Signing, striping, and traffic signal issues
- ___ Indirect or circuitous travel because of gaps in the roadway network

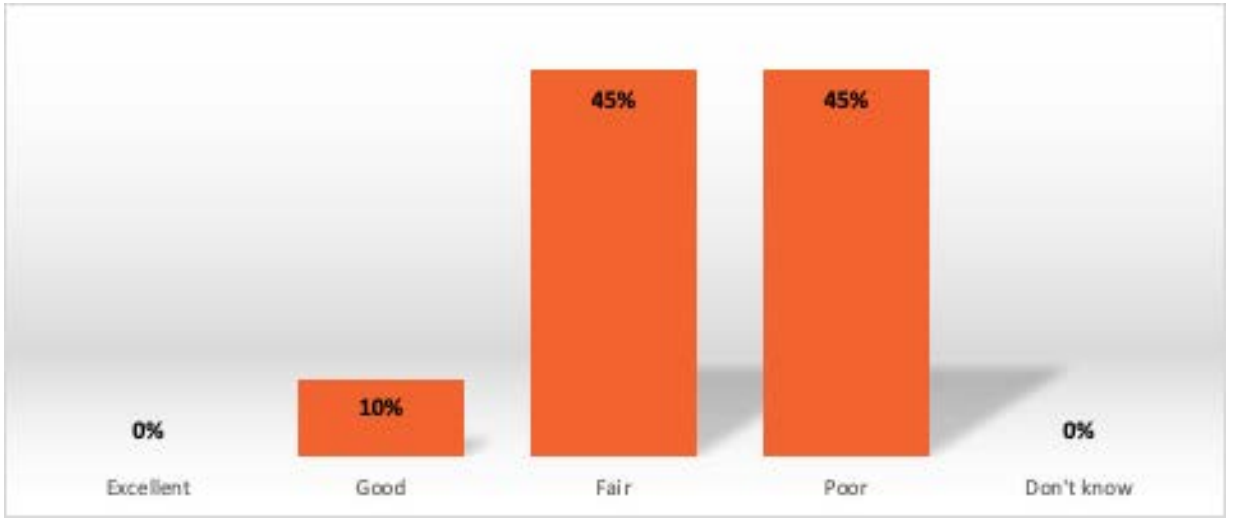
4. All-weather crossings (bridges) over the Salt River are:

- ❑ Very important for connectivity and access – Build additional ones.
  Please specify your preferred location. _____
- ❑ Important – No need to build new bridges, but upgrade existing structures.
- ❑ Less important – Just maintain existing crossings.
- ❑ Don't know.

5. If you could request one transportation improvement that would most benefit your community today and in the future, what would it be?

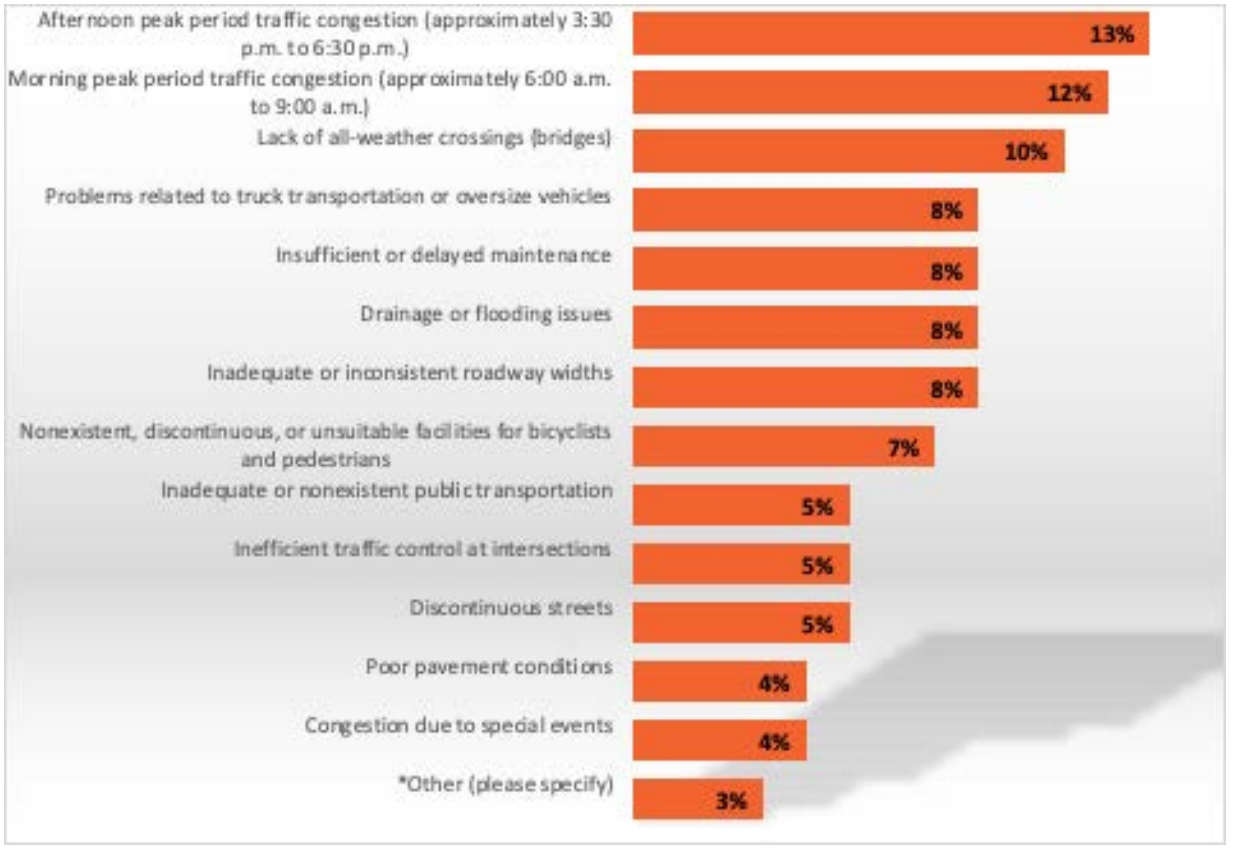
MARICOPA ASSOCIATION of GOVERNMENTS

1. How would you describe the conditions of the roads in the Laveen South Mountain Community? Circle one.



2. Which of the following items significantly impede travel in, to, or from the Laveen South Mountain area? Check all that apply.

**Inadequate maintenance on older roadways in established neighborhoods; road improvements on Southern, west of 51st Avenue*



3. Next, please rank the following issues from most to least important, with 1 designating the most important and 8 the least.

- Congestion, delay, or excessive travel time
- Unpredictable road closures due to poor drainage or for other reasons
- Bottlenecks at the following intersections
- Physical deficiencies of roadways or bridges
- Difficulty or inconveniences of roadways or bridges
- Difficulty or inconvenience of getting around without a car
- Roadway improvements not keeping up with development
- Signing, striping, and traffic signal issues
- Indirect or circuitous travel because of gaps in the roadway network

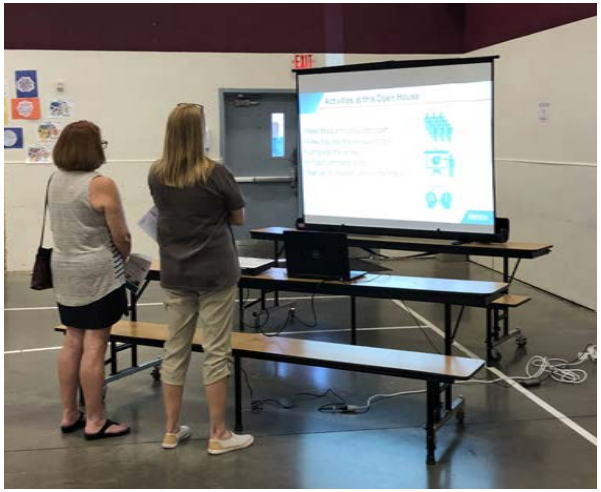
Five of the participants ranked "congestion, delay, or excessive travel time" as the most important issue. An additional three participants respectively ranked "bottlenecks at intersections" and "roadway improvements not keeping up with development" as the most important issue. The same three issues were again ranked by two participants respectively as being the second most important issue, resulting in all survey participants identifying one of these three issues as being one of their top two concerns.

4. All-weather crossings (bridges) over the Salt River are:

5. If you could request one transportation improvement that would most benefit your community today and in the future, what would it be?

- Traffic signal at 51st Avenue and South Mountain Avenue (3)
- Keep Dobbins Road lane with speed limit of 35 mph - if 4 lanes and high speed 45-50 traffic will speed 60 mph with more accidents!! Keep residential with multipurpose trails…bike, sidewalks, horse path!!
- Make Dobbins Road no faster than 40 mph with multi-purpose trail - bike, walk/jog, horses w/ slow downs all along Dobbins Road! We need to preserve the feel of Laveen by doing this. Shame on us if we don't.
- Widen Baseline Road to 6 lanes
- Bridges
- Continuous sidewalks
- Drainage, widening, maintenance and love for our community
- Keep up with development
- Lower speed to 40 mph or less; enforce traffic laws right and left turn lights/lanes. Stop light at 55th Avenue / Southern Avenue.

As the results of the survey indicate, the roads in the Laveen South Mountain area are in either fair or poor condition. The impediments to traveling throughout the community that were most often listed in the survey responses, were peak period traffic congestion in the afternoon and morning, and lack of all-weather crossings, such as bridges. These two responses were further supported by the responses to Questions 3 and 4. When asked to rank issues from most important to least important in Question 3, the top responses related to congestion, delay, or excessive travel time, indicating that congestion is an ongoing issue in the community. Additionally, when asked about the importance of all-weather crossings, or bridges, 100% of the respondents indicated that they were very important.



Stations

The open house included eight stations. At these stations, participants could get information on the project as well as provide their input on transportation and drainage concerns within the community. All but the first station, Project Overview, provided an opportunity for participants to provide input on the following topics: safety, connectivity and traffic circulation, roadway / intersection improvements, public transportation, active transportation, and drainage.

The following is a description of each station and the input received from the participants.

Project Overview

The Project Overview included a presentation that described the purpose of the project and related background information. There was no participatory exercise at this station.

Safety

At the Safety station, participants were asked to place a yellow or orange dot in the areas where they believe that safety concerns exist. The yellow dots represented vehicle-vehicle crashes and the orange dots vehicle-bicycle / pedestrian crashes. Of the dots that were placed on the map, 17 were related to vehicle-vehicle crashes (with two identified outside the Study Area) and one was related to a vehicle-bicycle / pedestrian crash.

The following are examples of the locations identified (at each location, the number in parentheses represents the number of respondents):

- Dobbins Road and 43rd Avenue (1)
- 51st Avenue at Sunrise Drive, South Mountain Avenue, and Salt River (1)
- Baseline Road at 35th Avenue and 40th Avenue (1)

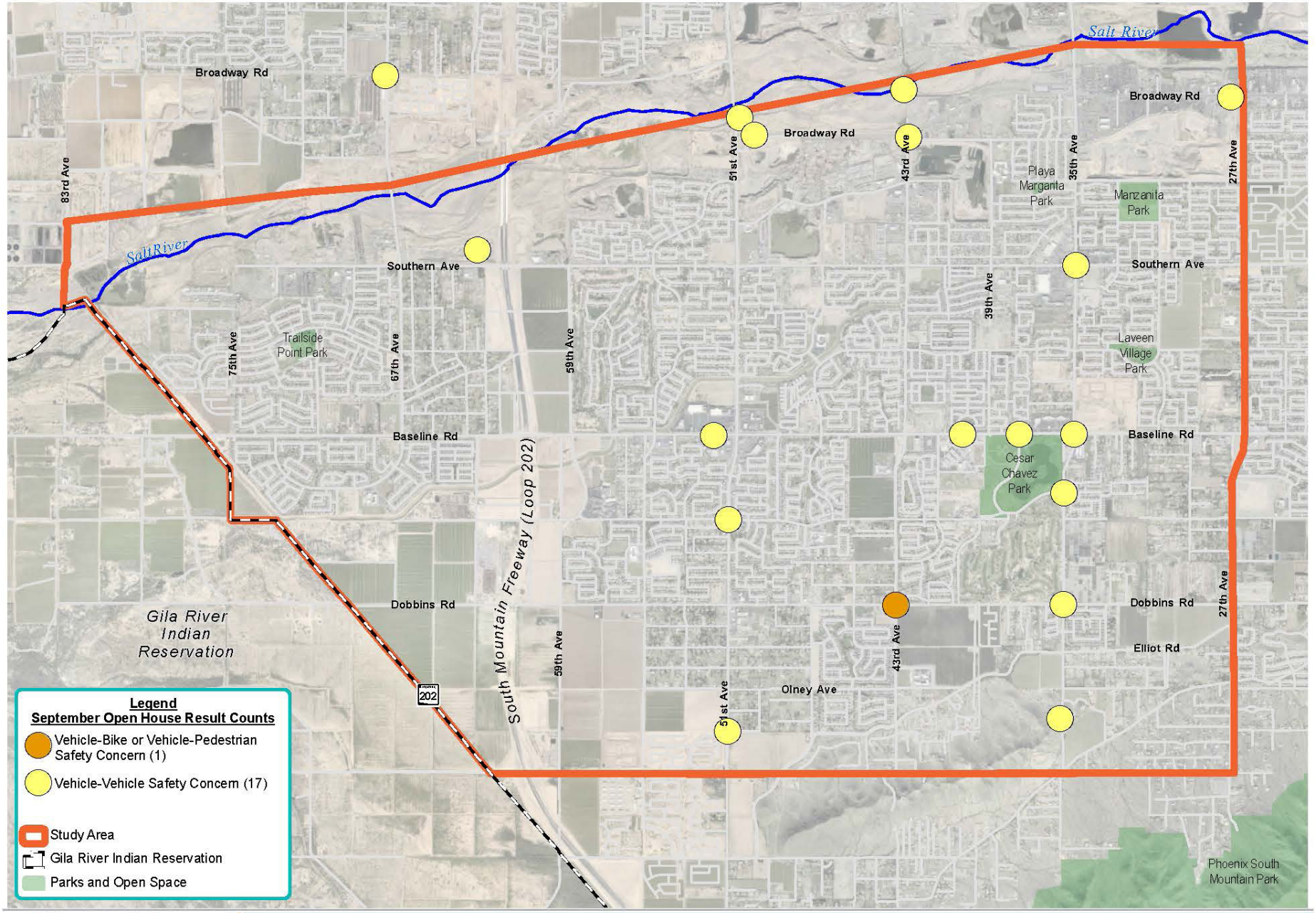
Eight of these locations are on Baseline Road, 35th Avenue, or both. One, at 43rd Avenue and Dobbins Road, pertains to active transportation, and another lies slightly outside the Study Area. Half of the safety concerns identified on the map, including those just outside the Study Area boundary, were at major intersections, while half were identified at neighborhood-scale street intersections or along a roadway between intersections. The results of this exercise are listed in Table 1 on the following page.

Public feedback received at this station, the comment cards, and the accompanying survey regarding safety generally focused on morning and afternoon peak period traffic, volume of trucks and oversize vehicles, inadequate or inconsistent roadway widths, issues with active transportation facilities, and inadequate traffic control at intersections. Issues identified as important to the community were congestion, bottlenecks at intersections, signing, striping, and traffic signal issues, and gaps in the roadway network. The following transportation improvements were most highly recommended by the community and are included as described by the public comments:

- Traffic signal at 51st Avenue and South Mountain Avenue
- Traffic signal at 55th Avenue and Southern Avenue
- Widening Baseline Road to 6 lanes
- Limiting Dobbins Road speed (by keeping it a residential road) and including multi-purpose trails consisting of bicycle, pedestrian, and horse paths
- Also indicated a desire for traffic calming to keep the speed down along this road
- Lower speed limits (of Laveen roadways in general)
- Enforcement of traffic laws
- Dedicated right and left turn lanes

Table B.1 *Safety Results*

Cross Street	Cross Street	Count
Vehicle-Bicycle/Pedestrian		
Dobbins Road	43rd Avenue	1
Vehicle-Vehicle		
35th Avenue	North of Ceton Road	1
35th Avenue	Caesar Chavez Park Road	1
43rd Avenue	Wier Avenue	1
43rd Avenue	Salt River	1
51st Avenue	Sunrise Drive	1
51st Avenue	Salt River	1
51st Avenue	South Mountain Avenue	1
West of 51st Avenue	Baseline Road	1
Baseline Road	35th Avenue	1
Baseline Road	40th Avenue	1
Broadway Road	27th Avenue	1
Broadway Road	51st Avenue	1
Broadway Road	67th Avenue	1
Caesar Chavez Park Road	Baseline Road	1
Dobbins Road	35th Avenue	1
Southern Avenue	35th Avenue	1
Southern Avenue	64th Avenue	1


Broadway Rd
Broadway Rd
Broadway Rd
Salt River
Salt River
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Baseline Rd
Baseline Rd
Cesar Chavez Park
Gila River Indian Reservation
Dobbins Rd
Dobbins Rd
South Mountain Freeway (Loop 202)
59th Ave
43rd Ave
27th Ave
Elliot Rd
Olney Ave
51st Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Vehicle-Bike or Vehicle-Pedestrian Safety Concern (1)
Vehicle-Vehicle Safety Concern (17)
Study Area
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Safety
0
½
1
Miles

Connectivity and Traffic Circulation

At the Connectivity and Traffic Circulation station, participants were asked to place red or purple yarn in the areas where they believed there should be new or improved roadway connections or bridge crossings. The red yarn represented roadway connections and the purple yarn bridge crossings.

Although there was no consensus on the roadway sections that needed improvement for connectivity and traffic circulation, 69% of the yarn placed on the map was for roadway connection improvements and 31% was for bridge crossings.

Roadway connections were the most identified improvements at this station. In total, participants identified 10.46 miles of improvements on nine roadways, including:

- Broadway Road from South Mountain Freeway (Loop 202) to 51st Avenue (1)
- South Mountain Avenue from 55th Avenue to 51st Avenue (1)
- Roeser Road from 51st Avenue to 29th Lane (1)

Bridge crossings were also identified improvements at this station. Three of the four existing or potential bridges, at 75th, 67th , and 43rd avenues, would span the Salt River. Only one crossing was identified over the South Mountain Freeway (Loop 202). A total of four bridge crossings were identified, including the following locations:

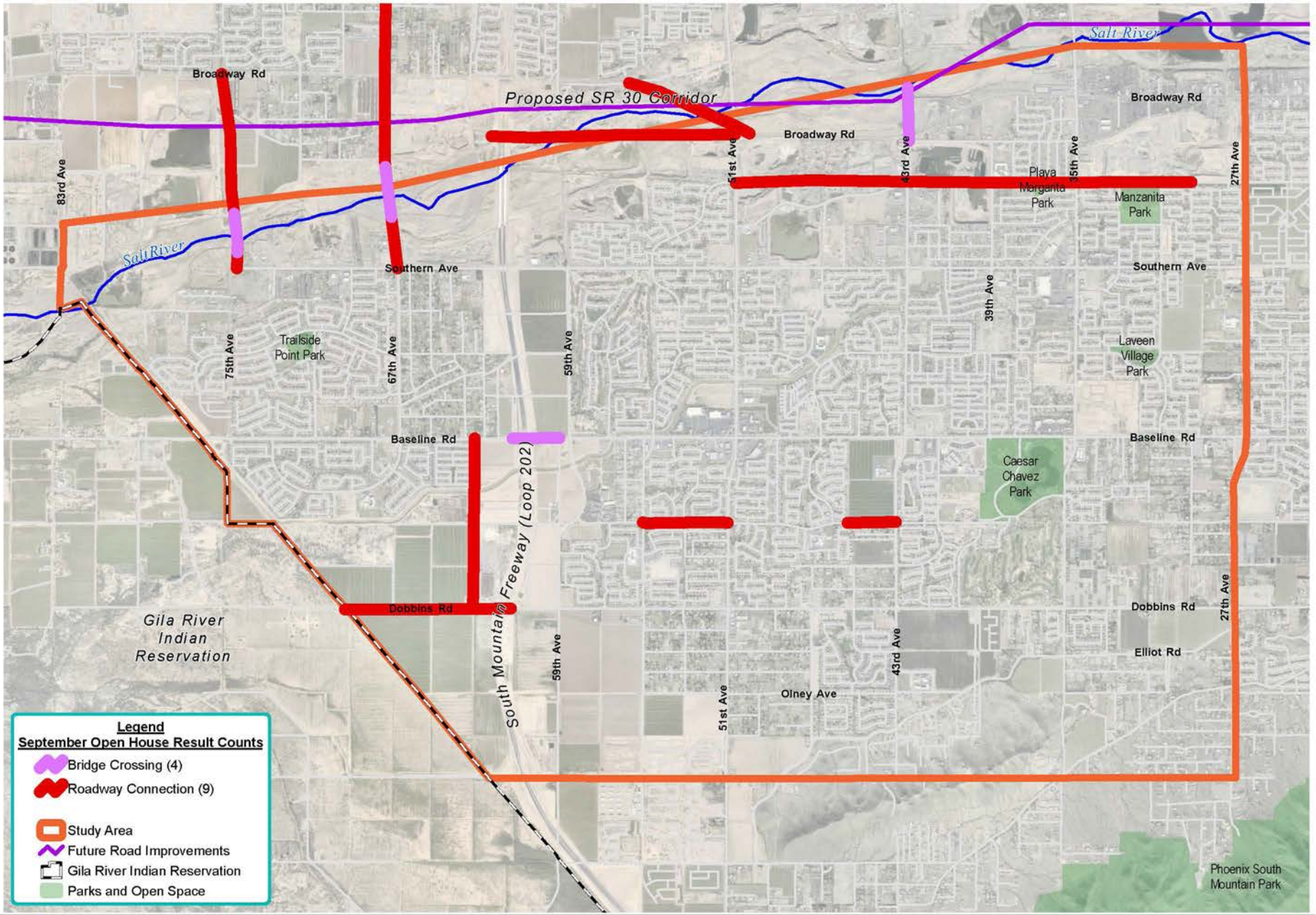
- 43rd Avenue from the Salt River to Wier Avenue (1)
- 67th Avenue from Roeser Road to Southern Avenue (1)
- 75th Avenue from 71st Avenue to Southern Avenue (1)
- Baseline Road from 61st Drive to 59th Avenue (1)

The results of this exercise are listed in Table 2.

Table B.2 *Connectivity and Traffic Circulation Results*

Following Feature	Cross Street	Cross Street	Miles	Count
Roadway Connection				
63rd Avenue	Baseline Road	Dobbins Road	1.0	1
67th Avenue	Elwood Street	Southern Avenue	1.7	1
75th Avenue	Broadway Road	Southern Avenue	1.2	1
Broadway Road	57th Avenue	Broadway Road	0.8	1
Broadway Road	South Mountain Freeway (Loop 202)	51st Avenue	1.4	1
Dobbins Road	Maricopa Trail*	South Mountain Freeway (Loop 202)	1.0	1
Roeser Road	51st Avenue	29th Lane	2.7	1
South Mountain Avenue	55th Avenue	51st Avenue	0.5	1
South Mountain Avenue	45th Street	43rd Street	0.3	1
Bridge Crossing				
43rd Avenue	Salt River	Wier Avenue	0.2	1
67th Avenue	Roeser Road	Southern Avenue	0.3	1
75th Avenue	71st Avenue	Southern Avenue	0.2	1
Baseline Road	61st Drive	59th Avenue	0.3	1

**The Maricopa Trail is not a street*


Broadway Rd
Proposed SR 30 Corridor
Salt River
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Salt River
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
Gila River Indian Reservation
59th Ave
43rd Ave
Elliot Rd
51st Ave
Olney Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Bridge Crossing (4)
Roadway Connection (9)
Study Area
Future Road Improvements
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Connectivity
0
½
1
Miles

Roadway / Intersection Improvements

At the Roadway / Intersection Improvements station, participants were asked to place orange yarn, green dots, and red LEGOs® where they believe there should be roadway widening, intersection improvements, or new or improved traffic signals. The orange yarn represented roadway widening, the green dots intersection improvements, and the red LEGOs® traffic signal improvements.

A total of seven intersection improvements were indicated at multiple locations along major roadways in the Study Area. These include:

- Broadway Road / 27th Avenue (2)
- 51st Avenue / Caldwell Street (1)
- 51st Avenue / Broadway Road (1)

The 47% of the improvements identified at this station were traffic signals. There were 15 responses for traffic signal improvements, and a total of 10 intersections were listed for such improvements. Traffic signal improvement were indicated at multiple locations, including the following, which were identified more than once:

- 51st Avenue / South Mountain Avenue (4)
- Dobbins Road / 35th Avenue (2)
- 47th Avenue / Dobbins Road (2)

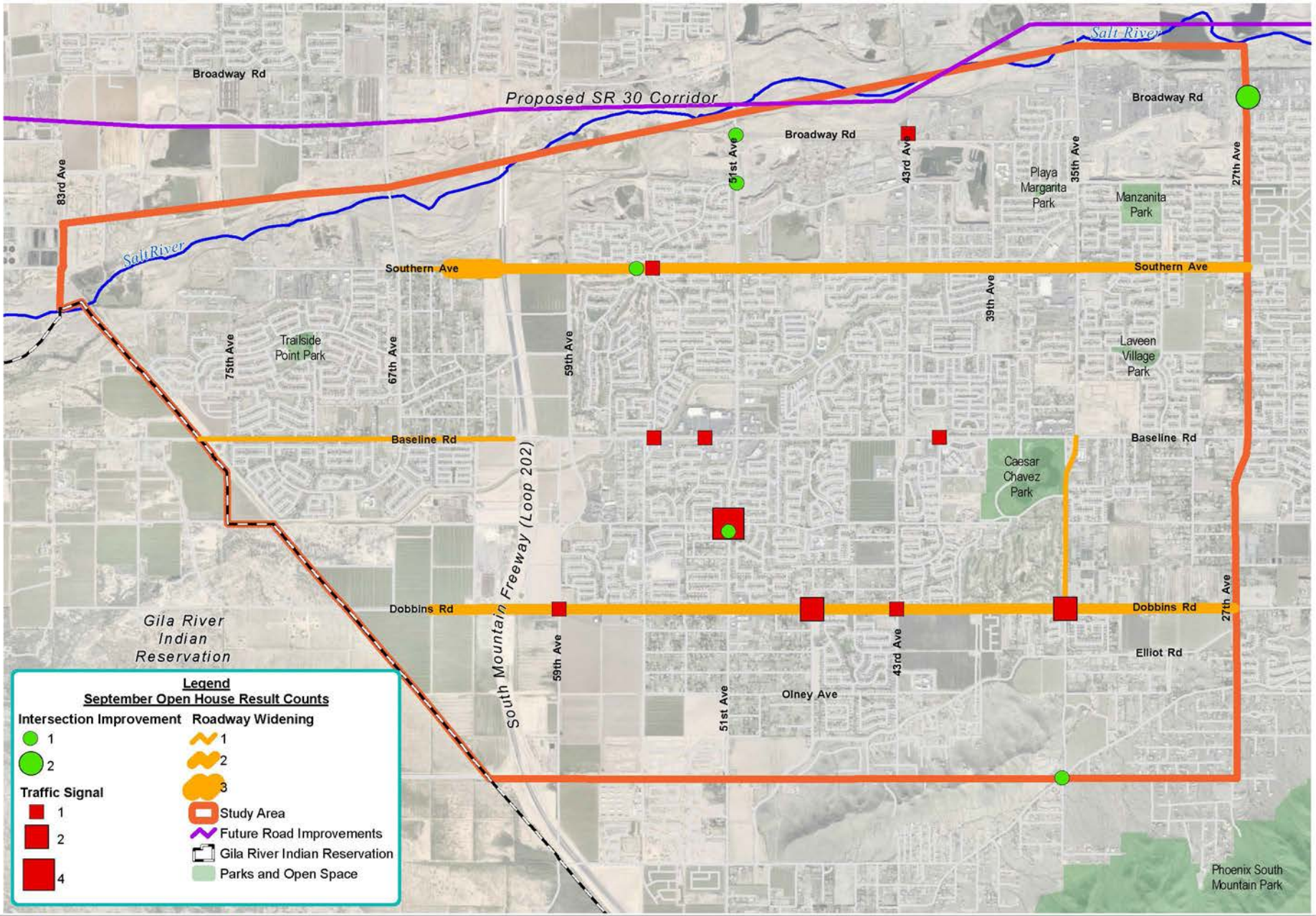
Roadway widening suggestions were the second most identified improvement needed. A total of 12.58 miles on six roadway segments were identified by participants as needing widening, which include the following roadways:

- Southern Avenue from 64th Drive to South Mountain Freeway (Loop 202) (3)
- Southern Avenue from South Mountain Freeway (Loop 202) to 27th Avenue (2)
- Dobbins Road from 63rd Avenue to 27th Avenue (1)

The results of this exercise are listed in Table 3 and the following pages. A number of participants focused on Southern Avenue, Dobbins Road, and 51st Avenue as streets needing roadway and intersection improvements. Some Study Area residents, however, do not want to see Dobbins Road widened.

Table B.3 *Roadway / Intersection Improvement Results*

Following Feature	Cross Street	Cross Street	Miles	Count
Intersection Improvement				
N/A	35th Avenue	Study Area boundary	N/A	1
N/A	51st Avenue	Caldwell Street	N/A	1
N/A	51st Avenue	Broadway Road	N/A	1
N/A	51st Avenue	River Walk Drive	N/A	1
N/A	Broadway Road	27th Avenue	N/A	2
N/A	Southern Avenue	Cottonfields Lane	N/A	1
Traffic Signal				
N/A	35th Avenue	Dobbins Road	N/A	2
N/A	43rd Avenue	Dobbins Road	N/A	1
N/A	43rd Avenue	Broadway Road	N/A	1
N/A	47th Avenue	Dobbins Road	N/A	2
N/A	51st Avenue	South Mountain Avenue	N/A	4
N/A	59th Avenue	Dobbins Road	N/A	1
N/A	Baseline Road	55th Avenue	N/A	1
N/A	Baseline Road	Cesar Chavez High School	N/A	1
N/A	Baseline Road	Laveen Village Marketplace Access Road	N/A	1
N/A	Southern Avenue	55th Avenue	N/A	1
Roadway Widening				
35th Avenue	Baseline Road	Dobbins Road	1.0	1
Baseline Road	Study Area boundary	61st Drive	1.9	1
Dobbins Road	West of 63rd Avenue	27th Avenue	4.7	2
Southern Avenue	South Mountain Freeway (Loop 202)	27th Avenue	4.4	2
Southern Avenue	64th Drive	South Mountain Freeway (Loop 202)	0.3	3
Southern Avenue	67th Avenue	64th Drive	0.3	1


Broadway Rd
Proposed SR 30 Corridor
Salt River
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Salt River
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
Gila River Indian Reservation
59th Ave
43rd Ave
Elliot Rd
51st Ave
Olney Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Intersection Improvement
1
2
Traffic Signal
1
2
4
Roadway Widening
1
2
3
Study Area
Future Road Improvements
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Improvements
0
½
1
Miles

Public Transportation

At the Public Transportation station, participants were asked to place brown LEGOs® and yellow yarn where they believe there should be transit stops and transit routes. The LEGOs® represented transit stops and the yarn transit routes.

In total, 16 locations were identified for a transit stop, one twice. Approximately 30% of those who participated in this exercise identified a location along Dobbins Road as needing a transit stop improvement, and approximately one-fourth identified a location along 67th Avenue as needing a transit stop improvement. The following are examples of the locations identified for new transit stops:

- 59th Avenue and Southern Avenue (2)
- Dobbin Road at 43rd Avenue, 35th Avenue, and 27th Avenue (1)
- 67th Avenue at Southern Avenue and Vineyard Road (1)

Transit route improvements were identified throughout the Study Area. Seven new routes or route extensions were identified, comprising 20.33 miles throughout the Laveen South Mountain area. The locations for new transit routes or route segments included:

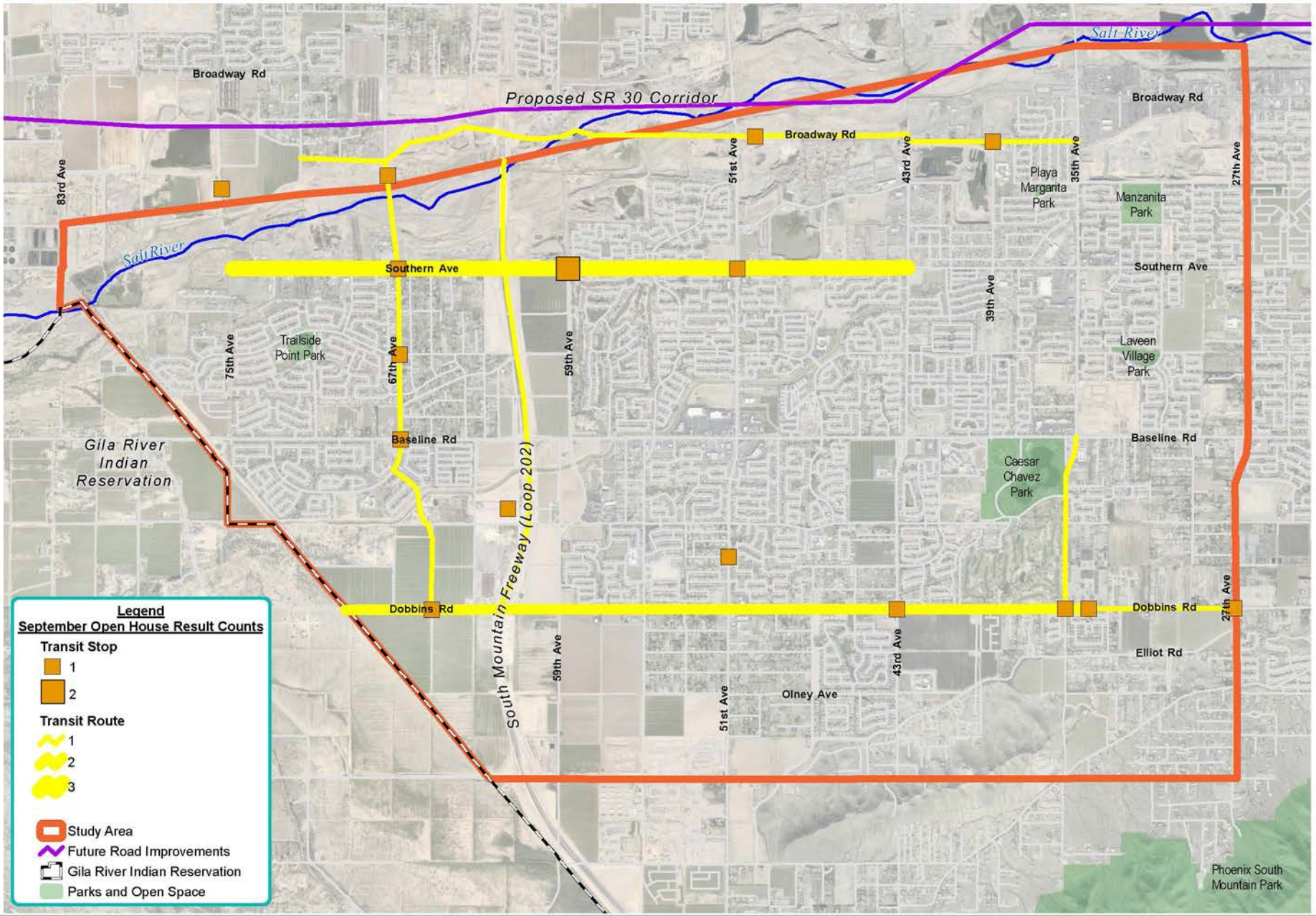
- Southern Avenue from 75th Avenue to 43rd Avenue (3)
- Dobbins Road from Maricopa Trail to 27th Avenue (2)

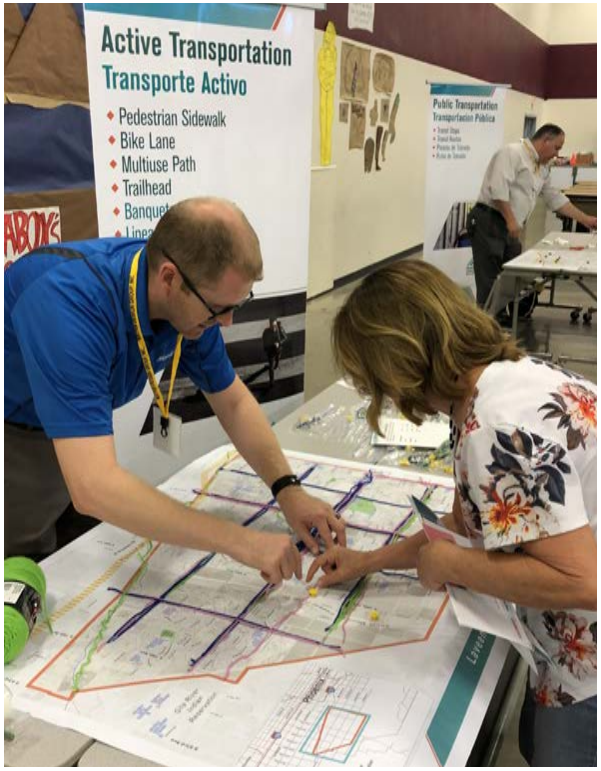
The results of this exercise are listed in Table 4 and on the following page.

Table B.4 *Public Transportation Results*

Following Feature	Cross Street	Cross Street	Miles	Count
Transit Stop				
N/A	51st Avenue	Southern Avenue	N/A	1
N/A	51st Avenue	Desert Drive	N/A	1
N/A	59th Avenue	Southern Avenue	N/A	2
N/A	67th Avenue	Study Area boundary	N/A	1
N/A	67th Avenue	Southern Avenue	N/A	1
N/A	67th Avenue	Vineyard Road	N/A	1
N/A	67th Avenue	Baseline Road (existing)	N/A	1
N/A	75th Avenue	Study Area boundary	N/A	1
N/A	Broadway Road	51st Avenue	N/A	1
N/A	Dobbins Road	west of South Mountain Freeway (Loop 202)	N/A	1
N/A	Dobbins Road	43rd Avenue	N/A	1
N/A	Dobbins Road	34th Avenue	N/A	1
N/A	Dobbins Road	35th Avenue	N/A	1
N/A	Dobbins Road	27th Avenue	N/A	1
N/A	South Mountain Freeway (Loop 202)	South Mountain Avenue	N/A	1
N/A	Weir Avenue	39th Avenue	N/A	1
Transit Route				
35th Avenue	Baseline Road	Dobbins Road	1.0	1
67th Avenue	Roeser Road	Dobbins Road	2.7	1
Broadway Road	71st Avenue	35th Avenue	4.7	1
Dobbins Road	34th Avenue	27th Avenue	0.9	1
Dobbins Road	Maricopa Trail*	34th Avenue	4.4	2
South Mountain Freeway (Loop 202)	Study Area boundary	Dobbins Road	2.7	1
Southern Avenue	75th Avenue	43rd Avenue	4.0	3

**The Maricopa Trail is not a street*


Broadway Rd
Proposed SR 30 Corridor
Salt River
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Salt River
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Gila River Indian Reservation
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
59th Ave
43rd Ave
Elliot Rd
51st Ave
Olney Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Transit Stop
1
2
Transit Route
1
2
3
Study Area
Future Road Improvements
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Public Transportation
0
½
1
Miles



Active Transportation

At the Active Transportation station, participants were asked to place pink yarn, blue yarn, green yarn, and yellow LEGOs® where they believe there should be pedestrian sidewalks, bike lanes, multi-use paths, and trailheads. The pink yarn represented pedestrian sidewalks, the blue yarn bike lanes, the green yarn multi-use paths, and the yellow flower LEGOs® trailheads. The following is a summary of the responses for each of the active transportation topics.

The largest number (41%) of the responses at this station were related to the need for pedestrian sidewalk improvements. A total of 30.05 miles within the Laveen South Mountain area were identified for sidewalk improvements, most of which were on 43rd Avenue, Southern Avenue, Baseline Road, and Dobbins Road. The locations for improvements to sidewalks included:

- Southern Avenue from the Salt River to 27th Avenue (4)
- Dobbins Road from 59th Avenue to 27th Avenue (4)
- Dobbins Road from 67th Avenue to 59th Avenue (3)
- 43rd Avenue from the Salt River to Dobbins Road (3)

Another 27% of the responses were for bike lane improvements. In total, 35.6 miles of roadway in the area were identified for such improvements. As shown on the map, many of the pedestrian and bike lane improvements follow the same roadway alignments. Like the pedestrian improvements, bike lane improvements were mostly identified on Southern Avenue, Baseline Road, and Dobbins Road. The locations for improvements to bike lanes included:

- Dobbins Road from 63rd Avenue to 27th Avenue (4)
- Baseline Road from 75th Avenue to 27th Avenue (4)
- Southern Avenue from the Salt River to 27th Avenue (4)

Participants of this exercise identified 12 multi-use path improvements in the area, comprising a total of 21.6 miles, including many along the Salt River and Dobbins Road. The locations for improvements to multi-use paths included:

- Dobbins Road from 59th Avenue to 27th Avenue (3)
- Dobbins Road from 67th Avenue to 59th Avenue (2)
- 35th Avenue from Dobbins Road to Ansell Road (2)

In addition to multi-use paths, participants identified locations for trailhead improvements. The majority of the locations are at or near the Western Canal, in the southern portion of the Study Area. The locations for improvements to trailheads included:

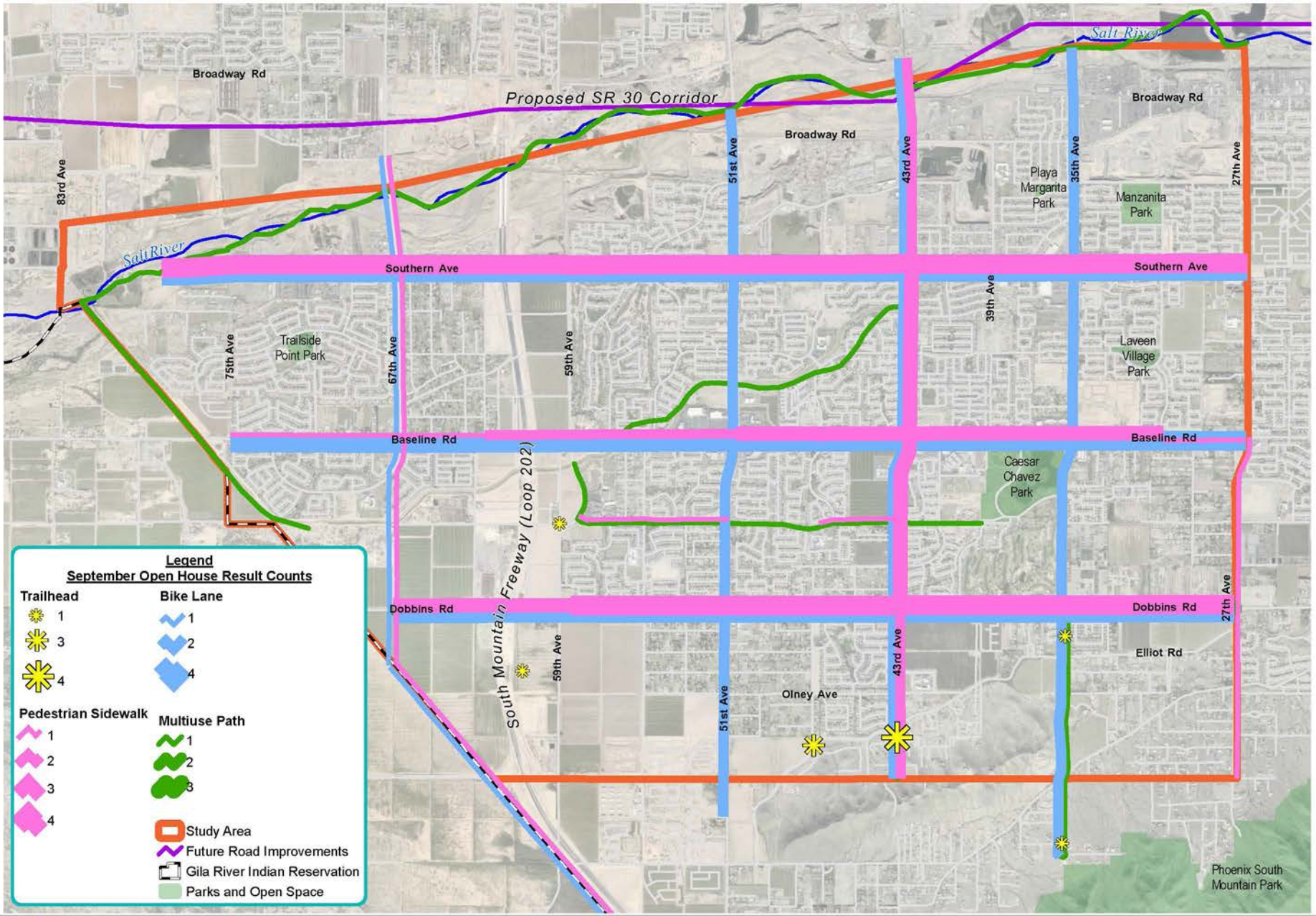
- Sunrise Drive / 43rd Avenue (4)
- Elliot Road / 47th Avenue (3)

The results of this exercise are listed in Table 5.

Table B.5 *Active Transportation Results*

Following Feature	Cross Street	Cross Street	Miles	Count
Pedestrian Sidewalk				
27th Avenue	Baseline Road	Ceton Drive	2.0	1
43rd Avenue	Salt River	Southern Avenue	1.2	2
43rd Avenue	Southern Avenue	Dobbins Road	2.0	3
43rd Avenue	Dobbins Road	Ceton Drive	1.0	2
67th Avenue	Roeser Road	Maricopa Trail*	3.0	1
Baseline Road	75th Avenue	63rd Avenue	1.5	1
Baseline Road	63rd Avenue	51st Avenue	1.5	2
Baseline Road	53rd Avenue	31st Avenue	2.5	3
Baseline Road	31st Avenue	27th Avenue	0.5	1
Dobbins Road	59th Avenue	27th Avenue	3.9	4
Dobbins Road	67th Avenue	59th Avenue	1.0	3
Maricopa Trail	67th Avenue	Estrella Drive	2.1	1
South Mountain Avenue	59th Avenue	51st Avenue	0.9	1
South Mountain Avenue	47th Drive	43rd Avenue	0.5	1
Southern Avenue	75th Avenue	27th Avenue	6.4	4
Bike Lane				
35th Avenue	Salt River	Ansell Road	4.8	2
43rd Avenue	Salt River	Ceton Drive	4.2	2
51st Avenue	Salt River	Rainwater Drive	4.2	2
67th Avenue	Roeser Road	Maricopa Trail*	3.0	1
Baseline Road	75th Avenue	27th Avenue	6.0	4
Dobbins Road	67th Avenue	27th Avenue	5.0	4
Maricopa Trail	67th Avenue	Estrella Drive	2.1	1
Southern Avenue	75th Avenue	27th Avenue	6.4	4
Multi-use Path				
35th Avenue	Dobbins Road	Ansell Road	1.5	2
43rd Avenue	Dobbins Road	Ceton Drive	1.0	1
Dobbins Rd	67th Avenue	59th Avenue	1.0	2
Dobbins Road	59th Avenue	27th Avenue	3.9	3
Maricopa Trail	Salt River & Study Area	South Mountain Avenue	1.9	1
Salt River	Salt River & Study Area	27th Avenue	7.5	1
South Mountain Avenue	59th Avenue	Cesar Chavez Park	2.7	1
Storm Canal	Baseline Road	43rd Avenue	2.0	1
Trailhead				
N/A	35th Avenue	Shawnee Drive	N/A	1
N/A	59th Avenue	South Mountain Avenue	N/A	1
N/A	West of 59th Avenue	South of Dobbins Road	N/A	1
N/A	Elliot Road	47th Avenue	N/A	3
N/A	Estes Way	35th Avenue	N/A	1
N/A	Sunrise Drive	43rd Avenue	N/A	4

**The Maricopa Trail is not a street.*


Broadway Rd
Proposed SR 30 Corridor
Salt River
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Salt River
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
59th Ave
43rd Ave
Elliot Rd
51st Ave
Olney Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Trailhead
1
3
4
Bike Lane
1
2
4
Pedestrian Sidewalk
1
2
3
4
Multiuse Path
1
2
3
Study Area
Future Road Improvements
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Active Transportation
0
½
1
Miles

Drainage

At the Drainage station, participants were asked to place a red or blue dot where they believed there are intersection flooding and roadway flooding concerns. The red dot represented intersection flooding and the blue dot roadway flooding. The majority (77%) of the responses for this exercise identified roadway flooding concerns, while 23% identified intersection flooding concerns.

Intersection flooding was identified at three locations:

- Dobbins Road / 43rd Avenue (1)
- Dobbins Road / 27th Avenue (1)
- 59th Avenue / Siesta Way (1)

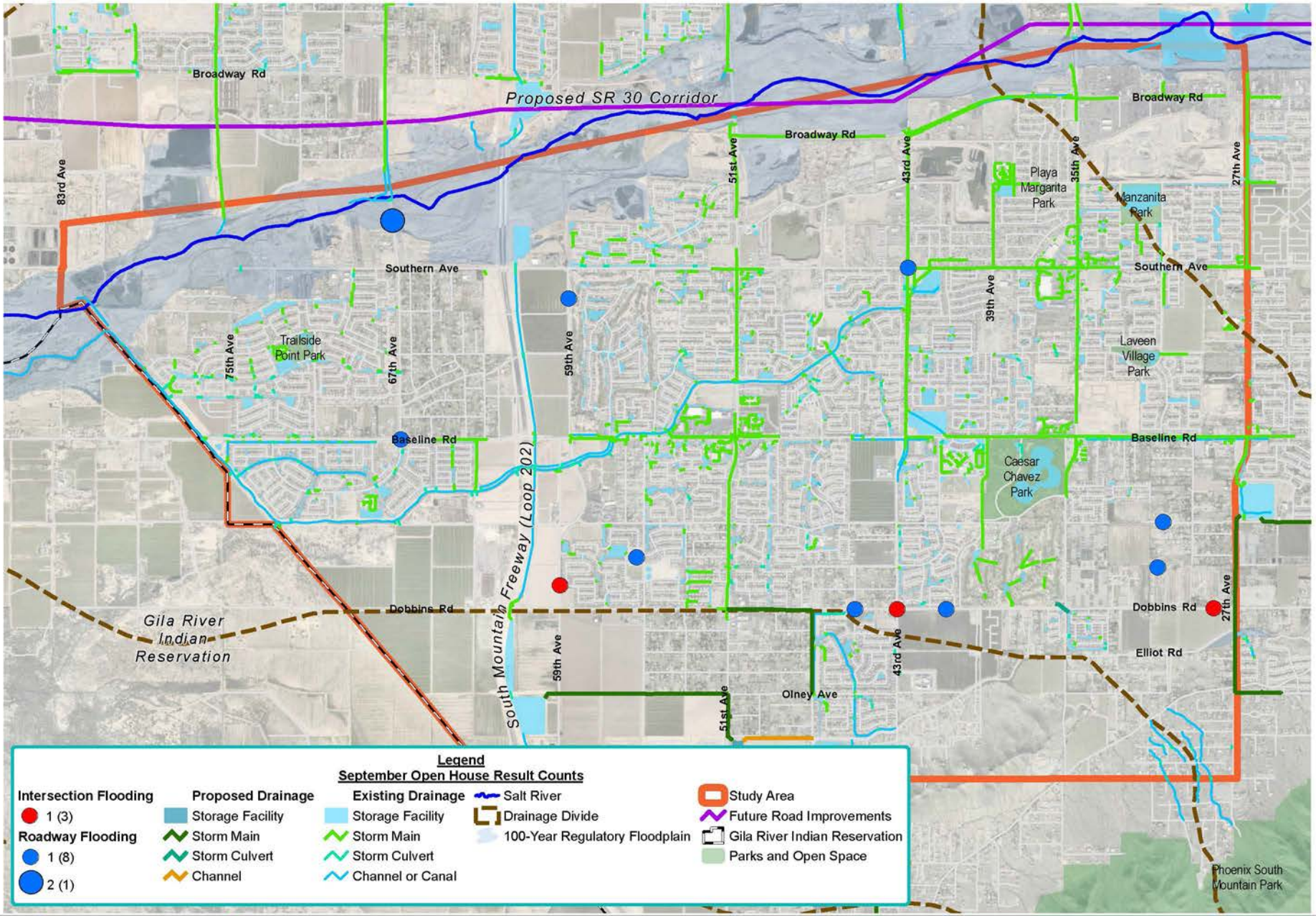
Roadway flooding was a greater concern than intersection flooding, with ten roadway segments and three intersections identified as a flooding concern. Thirty percent of the respondents in this exercise identified roadway flooding concerns on 67th Avenue. Example of roadways identified for flooding include:

- 67th Avenue north of Southern Avenue (2)
- 59th Avenue north of Vineyard Road (1)
- 67th Avenue / Baseline Road (1)

The results of this exercise are listed in Table 6.

Table B.6 *Drainage Results*

Cross Street	Cross Street	Count
Intersection Flooding		
59th Avenue	Siesta Way	1
Dobbins Road	43rd Avenue	1
Dobbins Road	27th Avenue	1
Roadway Flooding		
40th Drive	Dobbins Avenue	1
43rd Avenue	Southern Avenue	1
45th Avenue	Dobbins Avenue	1
55th Avenue	Allen Street	1
59th Avenue	North of Vineyard Road	1
67th Avenue	North of Southern Avenue	2
67th Avenue	Baseline Road	1
South Mountain Avenue	West of 29th Avenue	1
South of South Mountain Avenue	West of 29th Avenue	1


Broadway Rd
Proposed SR 30 Corridor
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
Gila River Indian Reservation
59th Ave
43rd Ave
Elliot Rd
Olney Ave
51st Ave
Phoenix South Mountain Park
Legend
September Open House Result Counts
Intersection Flooding
1 (3)
Roadway Flooding
1 (8)
2 (1)
Proposed Drainage
Storage Facility
Storm Main
Storm Culvert
Channel
Existing Drainage
Storage Facility
Storm Main
Storm Culvert
Channel or Canal
Salt River
Drainage Divide
100-Year Regulatory Floodplain
Study Area
Future Road Improvements
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen September Open House: Drainage
0
½
1
Miles

The responses from these exercise stations denoted locations in the community that may need to be prioritized for improvement. While some of the stations had varying responses three roads were consistently noted for improvement: Dobbins Road, Southern Avenue, and 51st Avenue.

Overall, Dobbins Road was listed the most times for improvements. Listed improvements included drainage, active transportation, public transportation, and roadway / intersection improvements. While improvements were noted in all of these categories, the type most often mentioned related to bicycle lanes or multi-use trails.

The second road with the most responses for improvement was Southern Avenue. The majority of improvements fell under the categories of active transportation, public transportation, and roadway / intersection improvements. Many of the improvements noted for Southern Avenue were in the segments between the Salt River and 27th Avenue. These improvements related to the need for bike lanes and sidewalks.

Another road that had multiple responses at these exercise stations was 51st Avenue. Most of the improvements for 51st Avenue related to roadway / intersection improvement. Improvements for 51st Avenue under this topic included intersection improvements, traffic signals, and roadway widening.

Issue Identification

The Issue Identification station was set up for participants to write down additional issues or concerns related to transportation and drainage in the community that were not already mentioned in the previous exercise stations. The following are the responses.

Each line in the list on page 27 is one response from a participant. While participants had many ideas about improvements for their community, the following were some trends from their responses:

- High speeds throughout the Laveen South Mountain freeway need to be decreased.
- Consider transportation around schools.
- There is a need for multi-use trails.

The comments in the following page are verbatim responses from the issue identification exercise:

Crosswalk at 43rd Avenue and Dobbins. Children crossing north on 43rd from Laveen Elementary have no sidewalk, no signal, no painted crosswalk.

Bike lanes too narrow on Baseline.
Speeds too high on Baseline and Dobbins.
Traffic calming measure for Dobbins.

Make Laveen Area Conveyance Channel walkable without needing to cross the surface of a major roadway.

We need protected bike lanes. People (drivers) use the green painted bike lanes as turn lanes. Detached bike lanes would be great.

Study of transportation for students at major high schools (Cesar Chavez and Betty Fairfax).

Traffic signal needed at 51st Avenue and South Mountain Avenue.

Safe Routes to School. Entry to school.

Bridge at 43rd Avenue.

HAWK crossing signal at 51st Avenue and South Mountain Avenue.

Bridge crossing needed at 91st Avenue and Salt River.

New schools and businesses need to be required to have turn lanes off major roads.

Make Dobbins Road beautiful! Multi-trails with shade and palm trees. Low speeds! Connect multi-trail on Dobbins, 21st Street to Ahwatukee.

Speeding – need slow downs.
Improper roadways for capacity of drivers.
Lack of multi-purpose trails need on Dobbins – bike, walk / jog, horse. Also need slowdowns to curb speeding, racing, along all of Dobbins.
Keep community feel, curb racing / speeding.
Require businesses / communities to have turn lanes!
More safe crosswalks.

Low speed limits! High amount of speeding, racing, and accidents.
Keep Dobbins 2 lane. Do not expand to 4 lanes – keep speed along Dobbins consistent and low 35 mph.
Put multi-purpose trails all along Dobbins! Bike, pedestrian, horse trail.
Keep community feel and Laveen history.

Bus bays on main roads and in front of schools to help flow of traffic.

Keep trucks in the right two lanes on freeway and out of left lane – this is a safety issue initiated in other parts of the country and accidents have been reduced.

Street expansion of Southern Avenue.

Precursors and Ongoing Public Input

Field Tour

On July 10, 2019, the project team, consisting of representatives from the City of Phoenix, Maricopa County Department of Transportation, Maricopa Association of Governments (MAG), Wilson and Company, and Matrix Design Group, conducted a site tour of the Laveen South Mountain Study Area. The purpose of the field tour was to view the existing conditions of the drainage and transportation network and potential issues associated with these networks.

The project team drove along arterials and collectors in the Study Area. The project team discussed the current condition of the network and as issues were identified, the comments, geographic location, and photos were captured electronically. As part of the field tour, the team compared the number of lanes observed on the transportation system with the number of existing lanes used in the MAG model. Table 7 lists the discrepancies that were found as part of the field tour:

Table B.7 *Field Tour Observed Lanes vs. Network Traffic Model Lanes*

Roadway Alignment	Observed Lanes	Model Lanes
27th Avenue south of Southern Ave	4 lanes to Alta Vista Road	2
27th Avenue south of Baseline	4 lanes to Gary Way	2
Baseline Road between 67th Avenue and 59th Avenue – just west of 59th Avenue	2 lanes which transitions to a half street west of 63rd Avenue	4 lanes
Baseline Road between 59th Ave and 51st Ave	4 lanes	6
Elliot Road	4 lane overpass across the Loop 202	2

Most of these roadway alignments are not included in the public input received so far, except one. The alignment of 27th Avenue from Baseline to Ceton Drive was noted as a roadway alignment that needs pedestrian improvements. This portion of 27th Avenue includes the segment between Baseline Road and Gary Way, which has a discrepancy between the number of lanes observed and the number in the model.

Additional Online Comments

An ongoing method for capturing public input is the online mapping tool that allows posting on the project web page on the MAG website. The tool was developed as part of the public outreach process to garner comments from the public throughout the planning process. The map became available prior to the Open House. All comments that have been posted as of October 24, 2019 are included in this summary, which contains 78 total comments.

The comments from the online mapping tool were organized into the following categories: safety, connectivity and traffic circulation, roadway / intersection improvements, public transportation, active transportation, and drainage. As can be seen in the following list, the majority of the comments are related to roadway / intersection improvements, mainly roadway widening and specific intersection needs. Many of the comments provided online are similar to those provided at the open house; however, some comments are new and some contradict input from the open house.

The following are the trends found within each category:

- **Safety:** Safe crossings and routes to and from schools; potholes and dips on the roads, speeding
- **Connectivity and Traffic Circulation:** Need for bridge crossings over the Salt River, specifically on 67th Avenue
- **Roadway / Intersection Improvements:** Inconsistencies on whether Dobbins Road should be widened; need for upgrades to 51st Avenue; including intersection improvements and widening; need for widening of Southern Avenue, need for widening of Baseline Road
- **Public Transportation:** Bus stops at high schools
- **Active Transportation:** sidewalks on 67th Avenue, bike lanes throughout, concern over crosswalk safety for pedestrians and bicyclists
- **Drainage:** Drainage concerns at Dobbins Road from 19th Avenue to 35th Avenue

The comments in Table 8 are verbatim responses from the online mapping tool and are mapped:

Table B.8 *Online Mapping Tool Responses*

Location	Comment
Safety	
39th Avenue and Baseline Road	A way to control the speed of traffic thru this large area of school zones. (The speed monitor doesn't help)
43rd Avenue, south of Baseline Road	Safe Routes to Schools was disregarded at this K-8 Charter School [Legacy Traditional School]. ""Walkers"" are required to leave schools grounds and immediately cross 43rd Ave to the East side of street. Parents use subdivision as staging area to pick up and drop off causing major traffic and safety issues, Illegal U turns, Double Parked in main entrance of Subdivision, etc... 43rd Ave between Baseline & Ian Dr. needs to be re-evaluated for school zone safety and traffic enforcement
43rd Avenue, south of Baseline Road	This area has 4 schools and the traffic is awful. Not to mention 2 of the schools have inexperienced teen drivers.
51st Avenue and Baseline Road	This area is bad coming out of the Fry's shopping center by the McDonald's. I don't know how this can be fixed? New signs and restrictions have been implemented but people ignore them.
51st Avenue and South Mountain Avenue	Children cross this road every morning to get to and from Paseo Point Elementary. The street is painted as a cross walk but goes completely unnoticed by vehicles traveling well above 40 mph, as children wait to cross and most times run across traffic after being ignored. Could use a HAWK system or even signage or possibly a texture change at crossing to make more pedestrian friendly.
51st Avenue and South Mountain Avenue	Please add a stop light or Pedestrian HAWK signal at 51st Ave and South Mountain! Trying to cross this intersection in a vehicle is dangerous enough, but for our students who walk across, it is a potential risk every time. This is a highly trafficked area with far too many accidents already; stop endangering our youth.
55th Avenue and Southern Avenue	The utility facility on the Southwest corner of Southern should be moved or corrected as it reduces the visibility of oncoming traffic.
55th Avenue and Southern Avenue	The utility facility (not sure what it is) at the southwest corner of the Southern Ave and 55th blocks views and makes here dangerous. Also the southern only has one lane eastbound from 202 to 55th. Two lane figure is needed.
55th Avenue and Southern Avenue	Dangerous dips in the road. Needs to be addressed.
55th Avenue and Southern Avenue	Dips in road on Southern Avenue are large and there are no signs. Like that it helps slow down traffic, but signage is needed.
61st Drive and Baseline Road	A safe way for kids to be able to walk and ride their bikes without having to dodge freeway exit traffic.
75th Avenue	Speeding on this road makes it unsafe for other drivers and pedestrians crossing. Speed control is needed.
75th Avenue and Vineyard Road	Need an adequate crosswalk for children who have to run across this wide road to go to school and the bus stop.
Dobbins Road by Maricopa Trail	This road is so dangerous, zig zagging trying to avoid the huge potholes while at the same time trying to avoid a head on accident with the drivers in the other lane doing the same thing to avoid potholes and still stay on the narrow road.
Location not specified	Add more police presence to reduce reckless & aggressive driving and speeding.
Location not specified	Can you please fix the roads so that they are easier to drive on there are many potholes in the area Thank you
Location not specified	Please make the roads safe in Laveen. The houses are being built faster than the roads. There are too many people that live here and the roads are always under construction. Please stop closing all the main roads at the same time.
Location not specified	We need a police station and/or sheriff's office in the area. Between the two high schools and near the developing commercial area would be good. A friendly presence would be appreciated.
Connectivity and Traffic Circulation	
43rd Avenue and Broadway Road	Add a bridge crossing to 43rd Ave North.
43rd Avenue and Broadway Road	Bridge is needed here to cross the Salt River. When the salt river floods this causes congestion on 51st and 35th. Makes it safer to leave Laveen and go to Phoenix in an emergency
43rd Avenue and Broadway Road	43rd backs up bad in the mornings with people going north and turning east on Broadway. This leads to people driving up the shoulder of 43rd to cut through the neighborhood to the east to get to either 35th or Broadway. The area is plenty wide there to widen 43rd from Southern to Broadway. A dedicated merging lane onto EB Broadway would also be helpful or maybe a stoplight to turn more cars at once.
59th Avenue from Southern Avenue to Baseline Road	59th Ave connecting from Southern to Baseline should be developed as a thru traffic street.

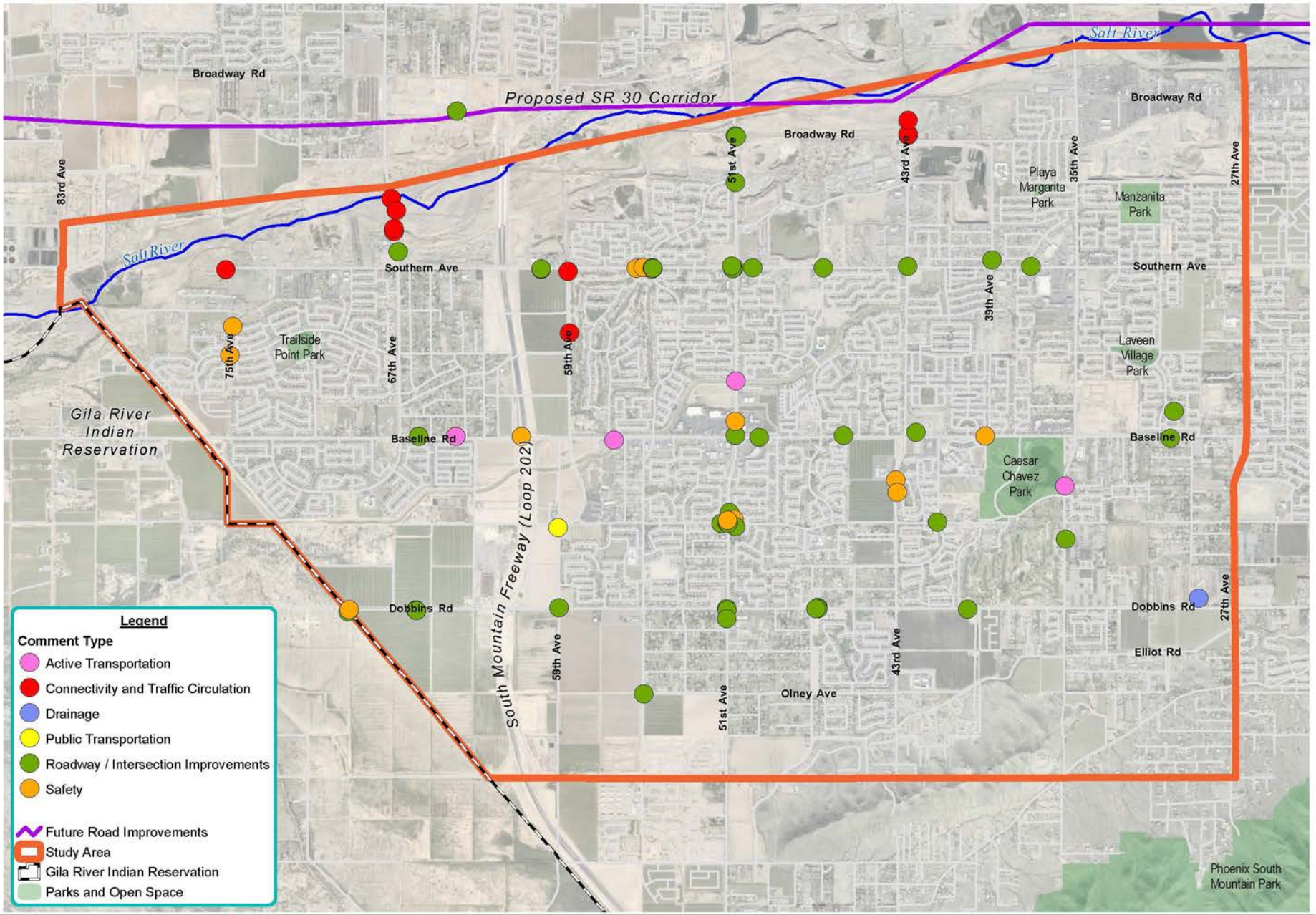
Location	Comment
59th Avenue from Southern Avenue to Baseline Road	Road connection is needed between Southern and Baseline on 59th Ave. This will allow access to the new developments on Baseline.
67th Avenue and Salt River	Need a bridge crossing on 67th Ave.
67th Avenue and Salt River	Bridge is needed here to make it easy to exit and enter Laveen when flooding occurs.
67th Avenue and Salt River	A crossing bridge is needed on 67th heading North and South. This road is closed whenever there's rainfall or when excess water is released to the Salt River. As Laveen continues to grow, we need more routes to safely enter and exit Laveen. We can't just rely on the new freeway to alleviate congestion and traffic at this intersection. It is crucial for Laveen to grow not only in families but the road infrastructure.
67th Avenue and Salt River	We need a bridge over the river bottom. When it floods the traffic is awful.
75th Avenue and Southern Avenue	Don't make this a thru street. Already gets busy with people driving at high speeds thru residential. Add the truckers driving slowly, making this a thru street would be dangerous for the kids and adults that walk this street daily.
Roadway / Intersection Improvements	
27th Avenue, 43rd Avenue, 75th Avenue	Major north-south arteries need to be widened and all river crossings need to be bridged. 27th, 43rd, 75th should be cut through from I-10 to Baseline Road. Or stop approving high density developments.
35th Avenue, south of South Mountain Avenue	This was just paved, yet kept to 1 lane each way and given a big shoulder. Make it two lanes.
41st Avenue and South Mountain Avenue	We need to change the intersection of 41st Ave and South Mountain from 2 way to 4- way stop sign. The traffic is bad in the morning and afternoon because of Vista Del Sur Elementary school.
43rd Avenue and Baseline Road	This intersection has 2 very large building projects, CCV Church, a medical center, more homes also along with 2 schools that the traffic will become unbearable. How will the planning be done to ensure the current residents do not suffer?

Location	Comment
43rd Avenue from Southern Avenue to Broadway Road	Make 43rd Ave 4 lanes from Southern to Broadway and adding a right turn only. A lot of traffic travels through this intersection in the morning and night and a lot of drivers use the shoulder to turn or cut through traffic making it unsafe and dangerous for other drivers. The space is available and should be used to help the ever-growing congestion of traffic.
51st Avenue	51st Ave needs to be wider all the way to the casino. Traffic is heavy at almost all times of the day with only 2 lanes south of Dobbins
51st Avenue and Baseline Road	People are constantly running across traffic to cross the street
51st Avenue and Baseline Road	This intersection is horrible for red light runners. We need cameras here. Also, the green arrow can stay lit a little longer and then make it left turn only with the arrow.
51st Avenue and Broadway Road	Make a right turn only lane on 51st Ave South towards East Broadway Rd. Traffic is very congested in the morning time and people use the bike lane to squeeze through to make a right turn. This should've been done when the expansion on Broadway was completed. Nevertheless it should be done now to alleviate traffic and accidents.
51st Avenue and Broadway Road	Right turning lane needed for residents needing to turn right on Broadway. We see people take over the bike lane in order to turn right, this makes it a dangerous situation.
51st Avenue and Dobbins Road	Widen to 4 lanes!
51st Avenue and Dobbins Road	I disagree with the other comment listed here - 51st does not need to be widened, the 202 should be sufficient for redirecting traffic off of 51st Ave to the casino.
51st Avenue and South Mountain Avenue	Intersection of S 51st Ave & South Mountain lacks adequate safe routes for walking, biking and equestrian use. No crosswalk on west or south side of intersection. Impossible for cars to make left turn from any direction.
51st Avenue and South Mountain Avenue	South Mountain and 51st Ave. This crosswalk is super dangerous with the cars flying down 51st Ave. Needs lights or more signage, lights would be better. Traffic just needs to slow down on 51st Ave.
51st Avenue and South Mountain Avenue	Traffic signal needed at 51st Ave and South Mountain. There is money available at city with the T2050

Location	Comment
51st Avenue and South Mountain Avenue	We REALLY need a traffic signal at 51st Ave. and South Mountain Ave. 51st Ave is one of the most travelled streets in the Laveen area. There are schools on both sides of 51st Ave along South Mountain Ave. Speed in this area is a factor and there have been multiple vehicle accidents from people trying to turn left on to 51st from South Mountain going north and/or south.
51st Avenue and South Mountain Avenue	Agree with other comments about the need for a traffic light at 51st and South Mountain. There is a great deal of traffic trying to exit and enter the communities East and West of 51st, especially on weekdays as Paseo Pointe is W of 51st and another Laveen Elementary is E is 51st. The current signal that is hardly visible through the trees does not seem to help at all.
51st Avenue and South Mountain Avenue	Either this intersection needs a light or a red light that is activated by the pedestrian.
West of 51st Avenue and Southern Avenue	Southern Needs to be expanded to 4 lanes from the new freeway all the way to 35th Ave.
51st Avenue and Southern Avenue	This portion of the road from 51st Ave and southern all the way east down southern need to be paved extremely badly!! There's massive pot holes and the road has 2 different dips that keep getting worse with each pass of a giant truck or rain!! Please
51st Avenue and Roeser Road	Traffic light to get out of the community takes a long time to change.
55th Avenue and Southern Avenue	Traffic light is needed at that intersection school busses and regular traffic is at risk every day specially once the loop 202 opens.
59th Avenue and Dobbins Road	Road damage when turning north onto 59th from dobbins
67th Avenue	67th Ave should be 4 lanes through the entire city.
67th Avenue north of Southern	67th should be widened to 4 lanes north of Southern, including a 4-lane bridge.
Baseline Road	Baseline should be 4 lanes between 202 and 67th.
Baseline Road	Baseline should be 6 lanes to handle all the new traffic from all the new housing and commercial developments going in and all the traffic that will be traveling to and from the 202 and large amounts of traffic traveling to and from all the new commercial buildings going up along the 202 corridor, especially at 59th & Baseline.

Location	Comment
Baseline Road	Baseline from I-10 all the way West through Laveen is unbearable during rush hour. Some kind of high-speed limited access road connecting 202 to 10 along this corridor (elevated? underground?) Would help a ton
Baseline Road	Please widen the road to 3 lanes each direction on Baseline. The traffic in and out of Laveen is awful. It will only continue to get worse due the high amount of housing that is being built. The planners are allowing builders to grow the community before proper infrastructure is in place.
Cottonfields Lane and Southern Avenue	Please install a stop light at the intersection of 55th Ave and Southern. Turning westbound from 55th Ave is really dangerous. Speed bumps would also be helpful on 55th Ave North of the roundabout on Vineyard. Speed has really increased.
Dobbins Road	Dobbins needs 4 lanes as far east and west as possible. Would help take traffic off of southern and baseline.
Dobbins Road	Don't widen Dobbins. Dobbins is a historic road and should not be changed. The only changes to Dobbins that I would like are bike lanes and trails. This helps solve some of the safety issues down Dobbins.
Dobbins Road	Keep Dobbins the way it is! Just make sure the paving is kept up and if anything a turning lane in the middle is all that is needed. DO NOT WIDEN.
Dobbins Road	Dobbins has areas of extreme disrepair, especially just past the new bridge toward the reservation. This part of the road needs to also be widened. The jagged edges of the existing road are dangerous and can cause vehicles to go off the road.
Dobbins Road by Maricopa Trail	Make this road more drivable. Narrow lanes and little to no maintenance has this road in need of re-surfacing (not just repair.)
Dobbins Road east of 51st Avenue	Do not widen Dobbins Road East of 51st Ave. Dobbins is supposed to be a scenic corridor not a traffic reliever for Baseline. Leave it single lane with stop signs to discourage rush hour traffic.
Olney Avenue between 51st Avenue and 55th Avenue	I have been told that Olney will be a through street once the development is complete west of 55th Ave. We do NOT need through traffic being encouraged through our neighborhood between 51st Ave and 55th Ave.

Location	Comment
Southern Avenue	Southern needs to be 4 lanes the whole distance. Especially by the American Legion. Get the county to set up and make this a safer street, with less congestion.
Southern Avenue	Make Southern 4 lanes all the way through. Extend the road.
Southern Avenue	Southern should be 4 lanes all the way across Laveen rather than switching from 2-4 lanes several times. Necking down to 2 lanes backs up traffic
Southern Avenue	Extend Southern 4 lanes. As it stands now, southern going west only has one lane on 51st and Southern. This can be dangerous as traffic northbound/southbound on 51st can cause accidents.
Southern Avenue	Southern should be widened and include a proper left/ center lane for cars/traffic entering Southern from 47th Ave, especially in the morning when all the kids are being dropped off at Rogers Ranch, there's a lot of cars entering the road dangerously due to the lack of lanes and proper lanes needed.
Southern Avenue from 67th Avenue to 35th Avenue	Make Southern Ave 4 lanes wide. 2 lanes going east and 2 going West and your middle/left turning lane. Southern should be expanded to 4 lanes from 67th Ave all the way to 35th Ave. This is specially one of the locations where it goes from 2 to 1 lane and it makes traffic a nightmare and a danger especially for those drivers with impatience. The whole segment from 67th Ave to 35th Ave should be widened.
Location not specified	This intersection needs a HAWK Signal and / or traffic / speed mitigation such as a roundabout, etc.
Public Transportation	
59th Avenue between Baseline Road and Dobbins Road	Need to have a city bus stop AT Betty Fairfax HS, not a half mile walk away.
Active Transportation	
35th Avenue and Cesar Chavez Park Road	Pedestrian crossing to the park would be useful. Especially when cars speed past
51st Avenue	LACC offers a great deal of potential for active transportation, but road crossings are absolutely unsafe.
Baseline Road and Southern Avenue	What are the plans to add sidewalks and curbs to the north side of Baseline between the new freeway and 67th Ave? Also east side of 67th Ave between Baseline and Southern, and south side of Southern between 67th Ave and the new freeway? This all borders the county island neighborhood within these boundaries.
Study Area	Bike lanes (or an infrastructure that makes it safe to ride) throughout all of Laveen
Drainage	
Dobbins Road	Drainage should be addressed on Dobbins from 19th Avenue through 27th Avenue to 35th Avenue - BEFORE additional development is done. The area holds a lot of water at each rain event, and the road on Dobbins cannot accommodate current traffic and weather.


Broadway Rd
Proposed SR 30 Corridor
Salt River
Broadway Rd
Broadway Rd
83rd Ave
51st Ave
43rd Ave
35th Ave
27th Ave
Playa Margarita Park
Manzanita Park
Salt River
Southern Ave
Southern Ave
39th Ave
75th Ave
Trailside Point Park
67th Ave
59th Ave
Laveen Village Park
Gila River Indian Reservation
Baseline Rd
Baseline Rd
Caesar Chavez Park
South Mountain Freeway (Loop 202)
Dobbins Rd
Dobbins Rd
27th Ave
59th Ave
43rd Ave
Elliot Rd
51st Ave
Olney Ave
Phoenix South Mountain Park
Legend
Comment Type
Active Transportation
Connectivity and Traffic Circulation
Drainage
Public Transportation
Roadway / Intersection Improvements
Safety
Future Road Improvements
Study Area
Gila River Indian Reservation
Parks and Open Space
Matrix
MARICOPA ASSOCIATION of GOVERNMENTS
Laveen: Online Comments, September - October 2019
0
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Open House #2

The second open house for the Laveen South Mountain Transportation Study was held virtually from August 13 – August 27, 2020. The purpose of the second open house was to provide community members with an opportunity to view and comment on transportation improvement considerations.

Due to the COVID-19 global pandemic, the second open house was held in a virtual format. Participants were able to access the online open house at their convenience over the span of two weeks by clicking a link that was provided on email and social media notices. An example of the notice that was provided via email is shown on Figure 1.

A total of ten members of the community signed into the open house; however, there were over 40 views on the interactive maps. Those who signed into the open house were entered into a raffle for a $100 gift card. The winner of the raffle was selected and notified after the online open house was closed on August 27th.

Figure B.1 *Open House Notice*

What Happened at the Open House?

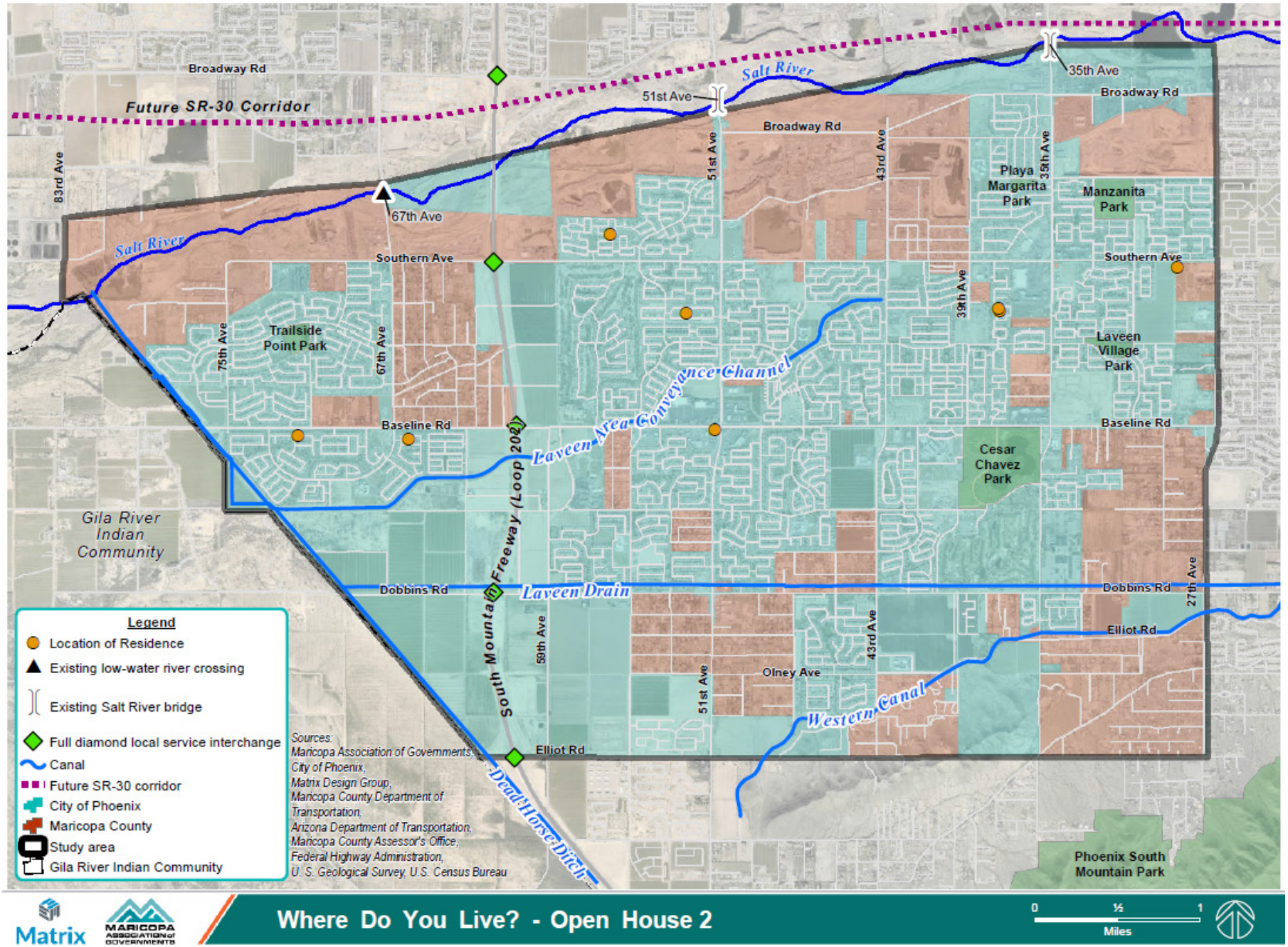
Screen grab of the introduction video by the Laveen Planning and Development Committee Vice Chair, Tonya Glass.

Upon signing into the virtual open house, participants were able to watch an introductory video by the Laveen Planning and Development Committee Vice Chair, Tonya Glass. Participants were then able to view a video tutorial for how to navigate the virtual open house and read a fact sheet, which provided an overview of the study.

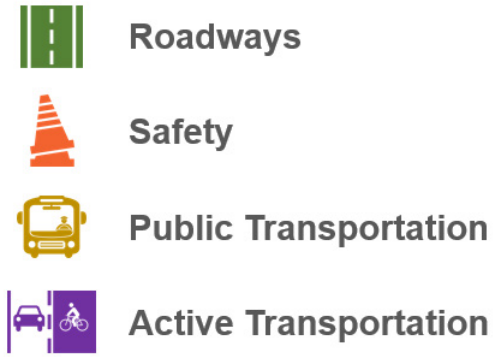
The participants were asked to identify on a map, generally, where they live in the Laveen South Mountain area to see which areas of the neighborhood are being represented in the open house results. As shown on Figure 2, everyone who participated in this map exercise indicated that they live in the Study Area. The participants live throughout the Study Area in neighborhoods that are generally located along Southern Avenue or Baseline Road.

After participants signed into the open house and viewed the preliminary materials at the sign-in table, they were directed to view a presentation. The presentation provided a quick overview of the study as well as the transportation improvements that are being considered as part of the study.

Figure B.2 *Where Do You Live Results*



Transportation Improvement Consideration Stations



After viewing the presentation, participants were guided to view and comment on the transportation improvements on interactive maps. Participants were able to click through the maps to view transportation improvements for different timeframes for the following modes and aspects of transportation:

For those who signed into the open house, a follow-up email was sent out to thank them for participating and to provide another opportunity for providing input in the event that they were not able to do so in the virtual room. This was done via an online questionnaire. The comments provided throughout the open house will be considered when establishing the final recommendations for the study.

The comments are summarized in the following sections.

Roadway Improvement Considerations

Roadway improvements were considered for the years 2030, 2035, and 2040. The maps that illustrate these improvements are shown on Figures 3 through 5.

The comments received for roadway improvements are listed on Table 9. Overall, the comments for roadway improvements were supportive of the proposed improvements. Many of the comments describe prioritizing some improvements sooner than suggested by the project team. This included three comments that suggested prioritizing improvements to Southern Avenue, and one comment that suggested prioritizing 51st Avenue south of Dobbins Road.

Table B.9 *Roadway Improvement Comments*

Location	Timeframe	Type of Improvement	Feedback
Roadway Improvement Considerations			
Southern Ave from Study Area Boundary to 75th Ave	2030	Extensions	Highly support extending Southern Ave to 75th Ave because it will reduce congestion on area roadways.
35th Ave from Salt River Crossing to Study Area Boundary	2030	Capacity	Approve and support the capacity improvements on 35th Ave because widening the roadway will reduce congestion.
Southern Ave from 75th Ave to Study Area Boundary	2030	Capacity	This should be done prior to 2030.
51st Ave from Salt River Crossing to Study Area Boundary	2030	Capacity	With the exception of going south of Dobbins Rd, the traffic isn't as congested on 51st Ave due to the opening of the 202. Not that the improvements shouldn't be made all along 51st, it's just the traffic is not as congested. Focus improvements south of Dobbins Rd first.
Southern Ave from 75th Ave to Study Area Boundary	2030	Capacity	Southern Ave improvements are needed far more than the improvements on 35th Ave and 51st Ave. This should be considered 1st.
Dobbins Rd from Study Area Boundary to 27th Ave	2035	Capacity	Increase in capacity of Southern Ave should be considered 1st. Dobbins Rd improvements should really be more short-term than mid-term. There may be circumstances where the proposed improvements are mid-term, but it would be better sooner.
Baseline Rd from 75th Ave to 27th Ave	2040	Capacity	I live west of the 202 on Baseline Rd. I absolutely hate that Baseline Rd goes to the one westbound lane shortly after the 202. I see so many drivers race and try to merge in while others do not let them in. It really is a safety issue as well. The widening of Baseline Rd to 67th Ave needs to be done sooner than later.
All Roadway Improvements			Support the vision for the roadway improvements
All Roadway Improvements			Support the vision for the roadway improvements
All Roadway Improvements			Support the vision for the roadway improvements
All Roadway Improvements			Support the vision for the roadway improvements
All Roadway Improvements			Support the vision for the roadway improvements
All Roadway Improvements			Support the vision for the roadway improvements

Note: *Responses have been revised for clarity.*

Figure B.3 *2030 Roadway Improvement Considerations*

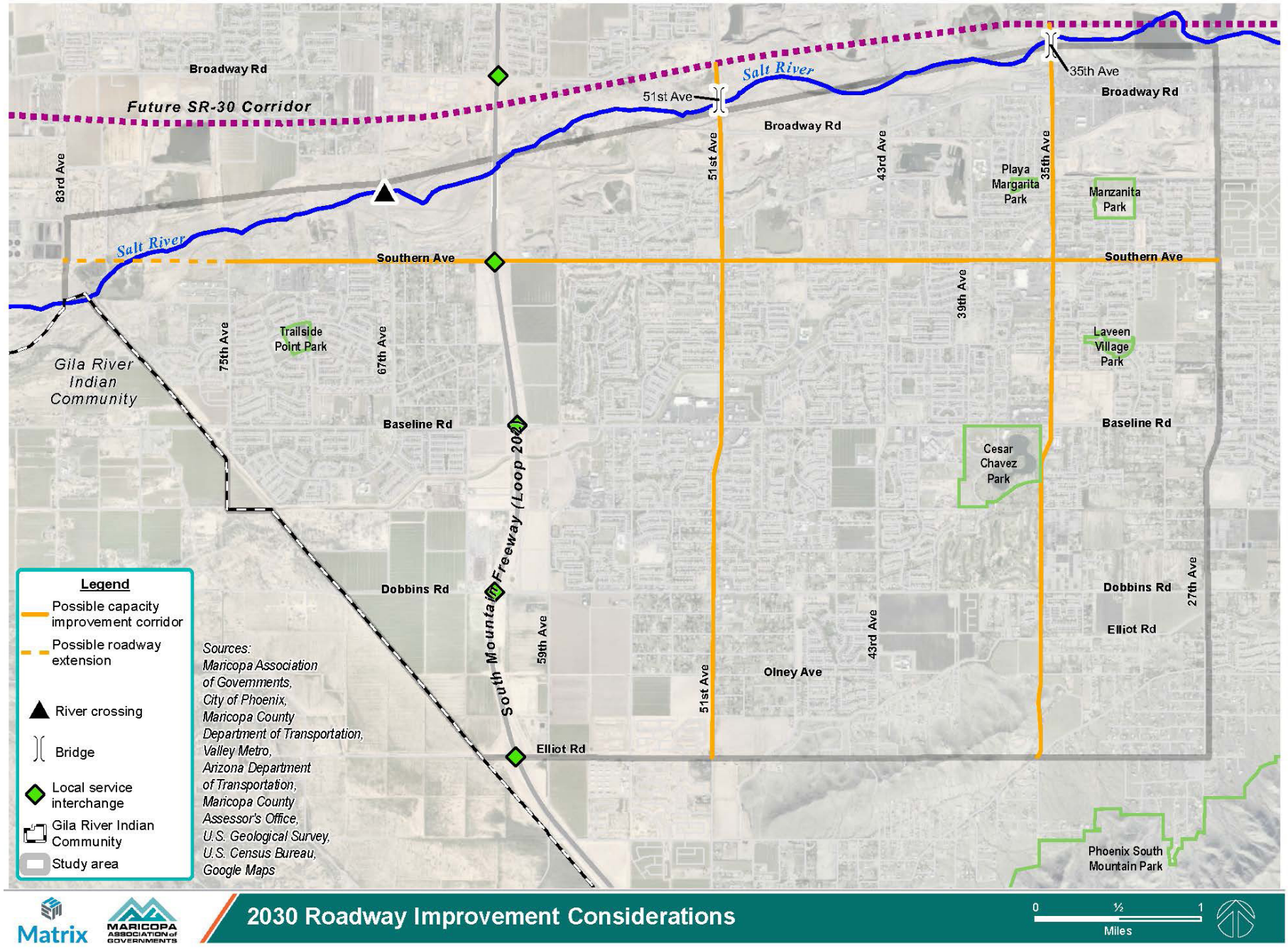


Figure B.4 *2035 Roadway Improvement Considerations*

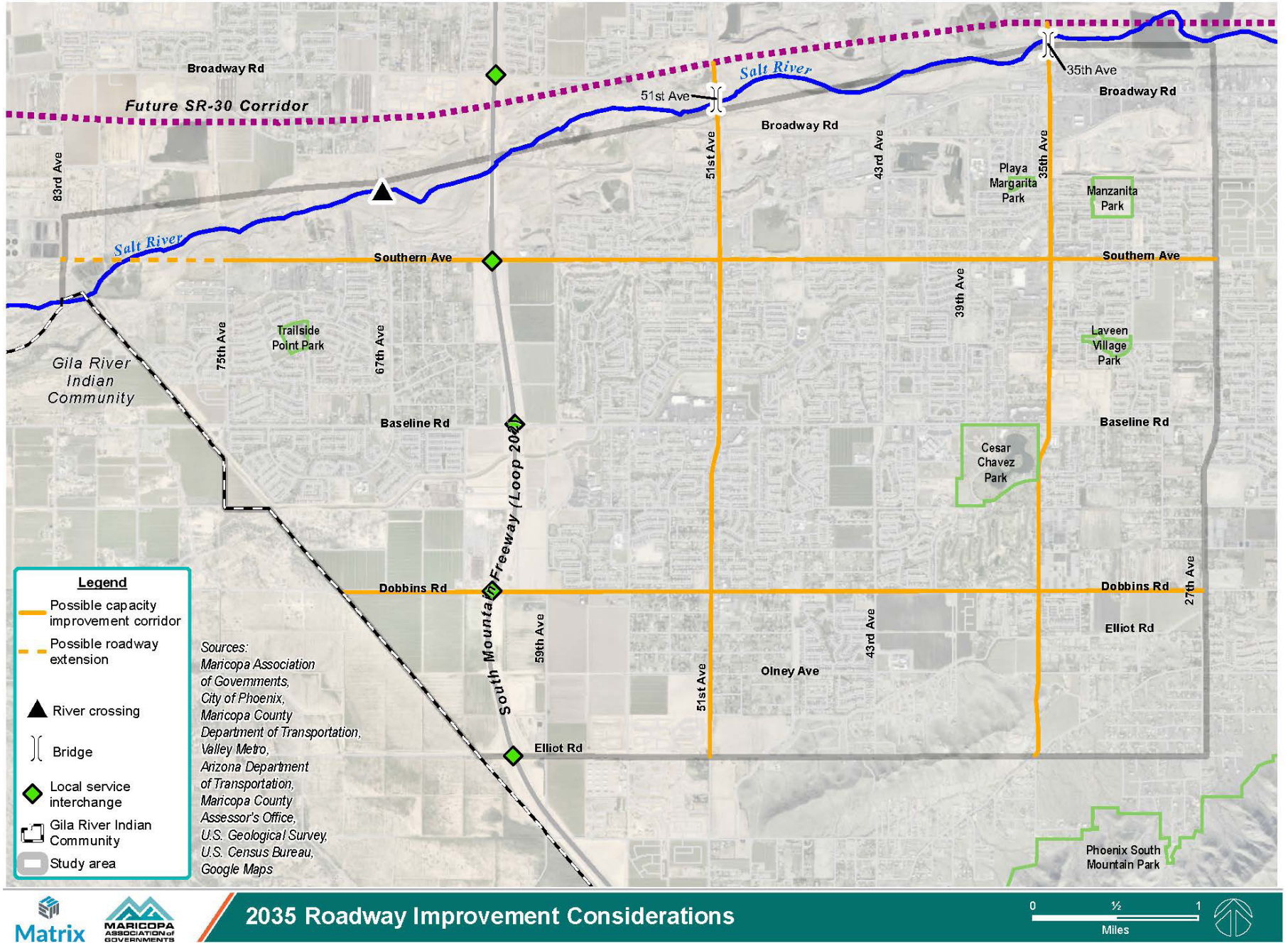
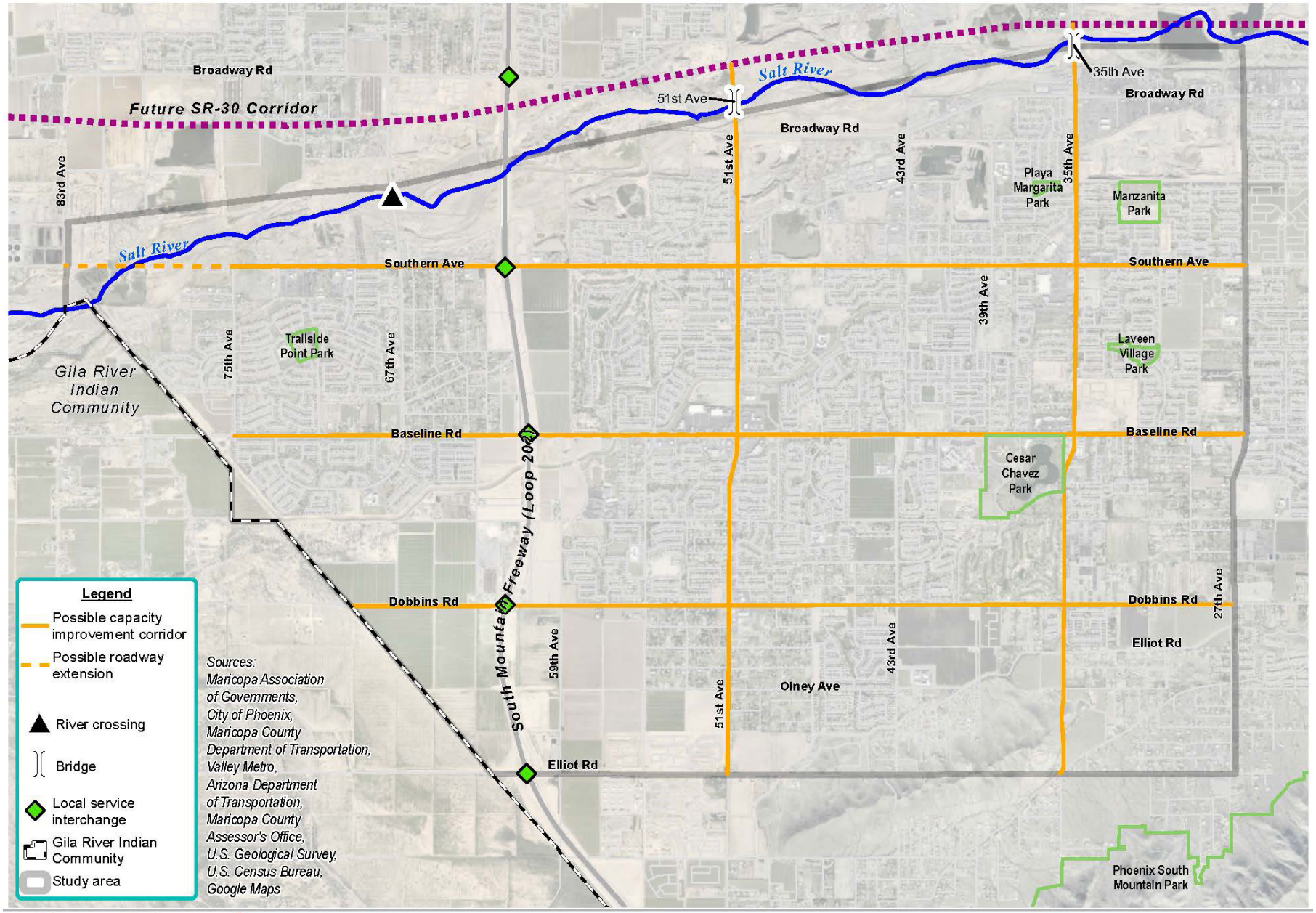


Figure B.5 *2040 Roadway Improvement Considerations*



Safety Improvement Considerations

Safety improvements were considered for short-, mid-, and long-term timeframes. The maps that illustrate these improvements are shown on Figures 6 through 8.

The comments received for safety improvements are listed on Table 10. Overall, the comments for safety improvements were supportive of the proposed improvements. One participant commented that there was an immediate need for an unsignalized intersection evaluation at South Mountain Avenue and 51st Avenue, which supports the proposed short-term timeframe for the improvement. Another comment supported this improvement.

Table B.10 *Safety Improvement Comments*

Location	Timeframe	Type of Improvement	Feedback
Safety Improvement Considerations			
59th Ave and Baseline Rd	Short	Speed Analysis	All the proposed short-, mid-, and long-term proposals look good to me.
51st Ave and South Mountain Ave	Short	Unsignalized Evaluation	This is an immediate need. Even with the reduced traffic due to the Loop 202 and Covid, there are still accidents at this intersection. The marked pedestrian crossing creates additional safety issues. Cars travel too fast on 51st Ave (even with the reduced speed notification signal) with the vertical and horizontal road alignment for pedestrians to safely cross the road. Pedestrians often get stuck on the median waiting for cars to stop for them, a car in one lane may stop but the cars in the other lane may not. Additionally, when school is in session and in person, the school buses also try to cross or turn at this intersection.
51st Ave and South Mountain Ave	Short	Unsignalized Evaluation	It would benefit residents if there were a signalized light. It also benefits pedestrians and cyclists as they don't need to cross the low-visibility crosswalk as motorist have little time to react to a pedestrian in the crosswalk going 40+ mph.
All safety improvements			Support the vision for the safety improvements
All safety improvements			Support the vision for the safety improvements

Note: Responses have been revised for clarity.

Figure B.6 *Short-Term Safety Improvement Considerations*

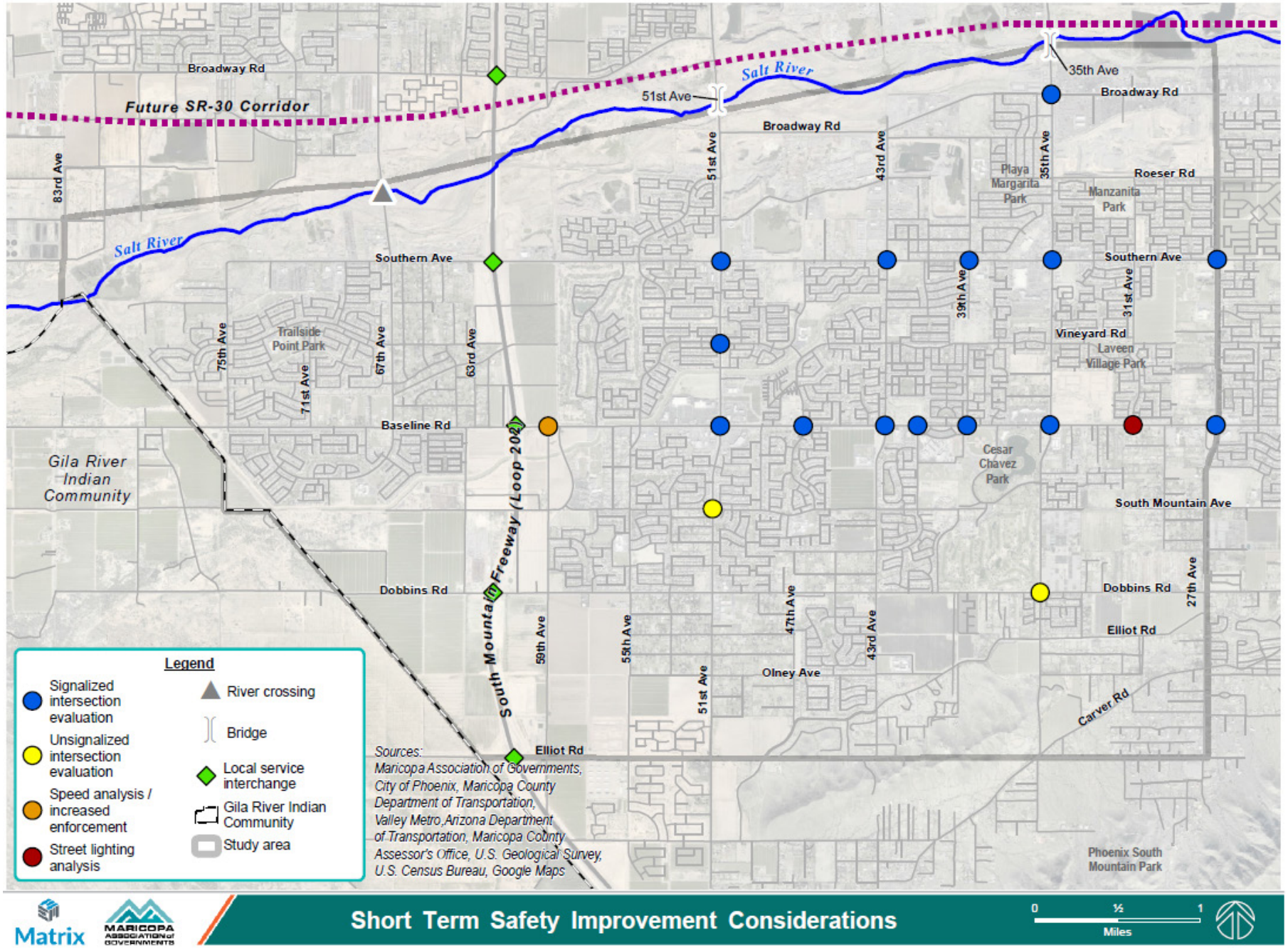


Figure B.7 *Mid-Term Safety Improvement Considerations*

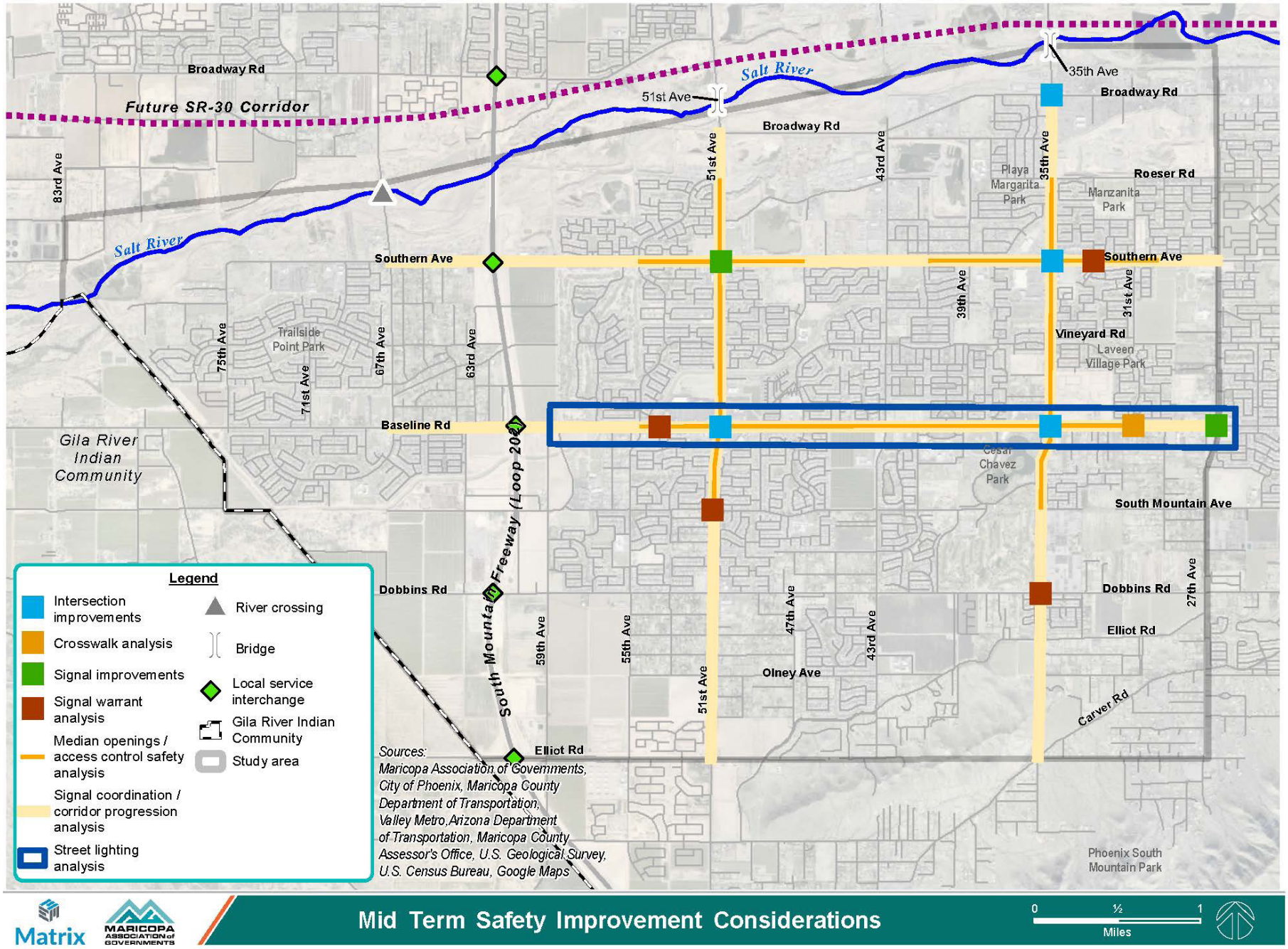
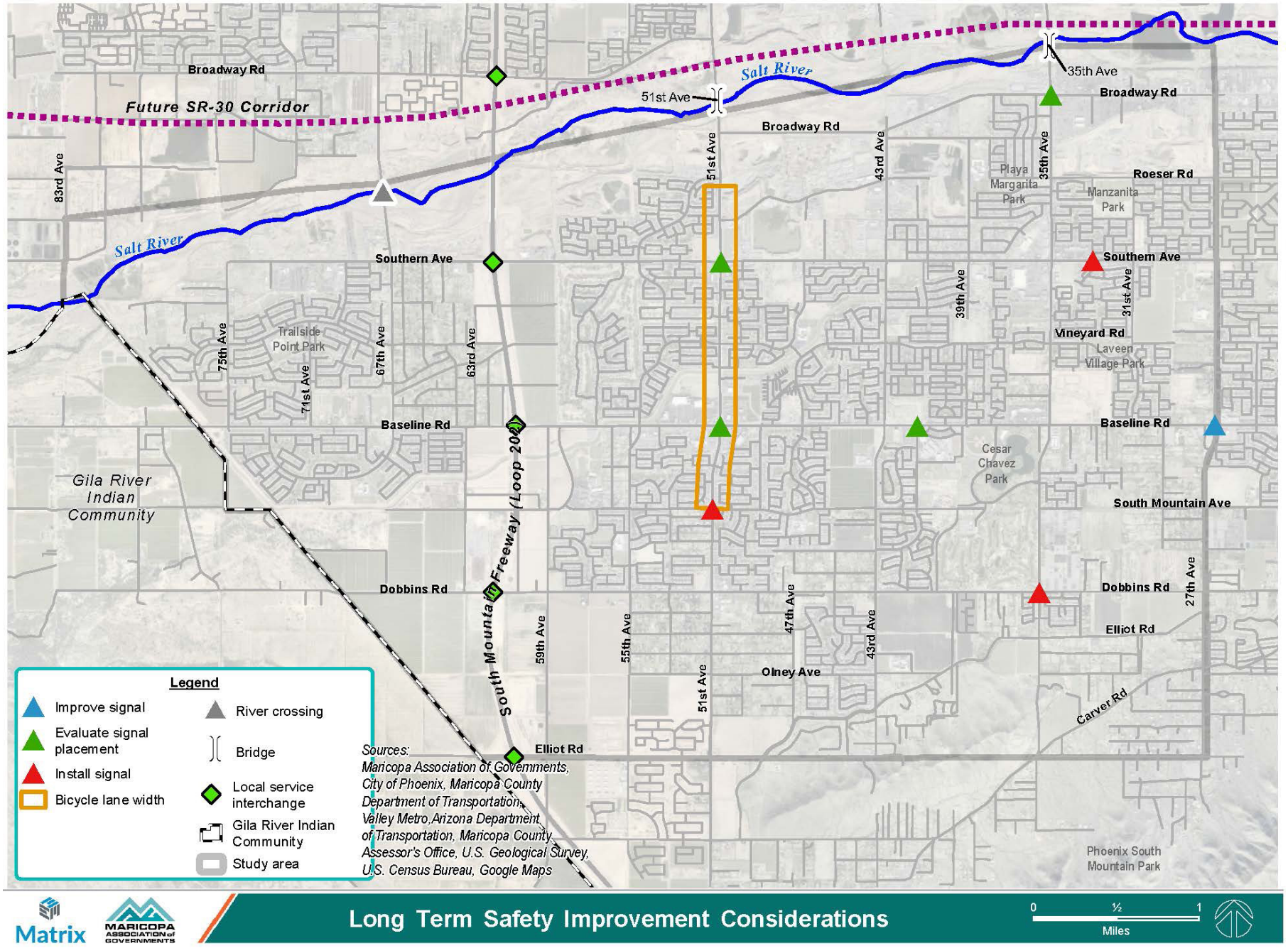


Figure B.8 *Long-Term Safety Improvement Considerations*



Public Transportation Improvement Considerations

Public transportation improvements were considered for the years 2030, 2035, and 2040. The maps that illustrate these improvements are shown on Figures 9 through 11.

The comments received for public transportation improvements are listed on Table 11. Most of the participants who provided input on the public transportation improvements supported the considered improvements. One comment indicated a desire for a light rail extension, which was not included as part of this study. Another participant supported the extension of Route 61, but suggested that it be prioritized sooner than 2035.

Table B.11 *Public Transportation Improvement Comments*

Location	Timeframe	Type of Improvement	Feedback
Public Transportation Improvement Considerations			
Baseline Rd from SR-202 Crossing to Study Area Boundary	2030	Extensions	No specific comments on public transportation. If in the future the light rail would come closer to home I would consider using it. I'm sure that is another study in the future.
Route 61 on Southern Ave	2035	Extension	Route 61 on Southern Ave should be expanded west sooner than 2035. Many residents who rely on public transportation miss the connection between Route 61 and Route 51 (51st Ave) because Route 61 starts / stops at 43rd Ave instead of 51st Ave. Extending Route 61 to at least 51st Ave sooner rather than later opens up many more route options for riders. This also has the potential to make public transportation more attractive to residents because Route 61 has very short connections to other routes and it travels to the East Valley quickly. Also, extending this route adds only one mile west to 51st Ave.
All public transportation improvements			Support the vision for the public transportation improvements
All public transportation improvements			Support the vision for the public transportation improvements

Note: *Responses have been revised for clarity.*

Figure B.9 *2030 Public Transportation Improvement Considerations*

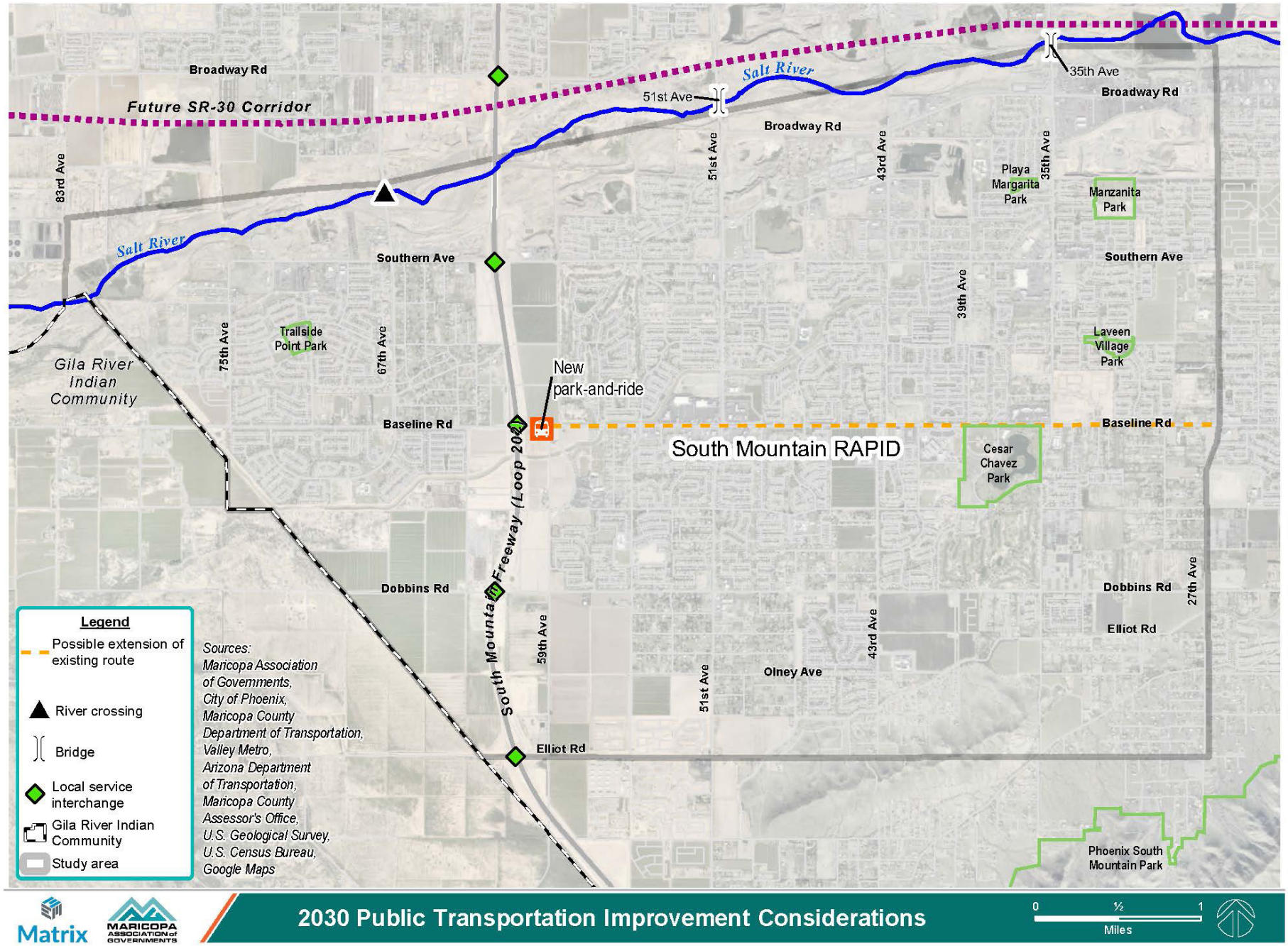
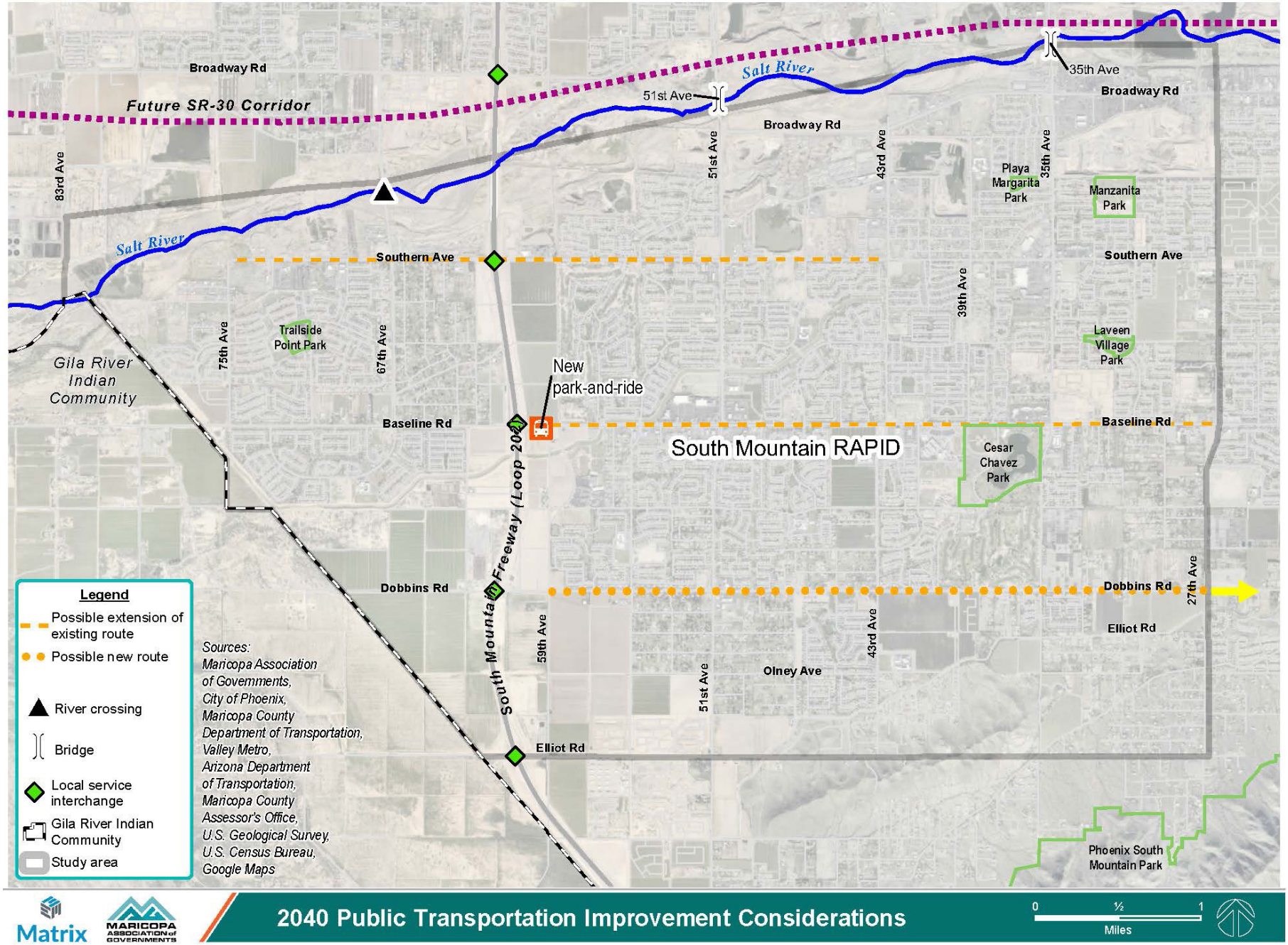


Figure B.10 *2035 Public Transportation Improvement Considerations*

Figure B.11 *2040 Public Transportation Improvement Considerations*



Active Transportation Improvement Considerations

Active Transportation improvements were considered for short-, mid-, and long-term timeframes. The maps that illustrate these improvements are shown on Figures 12 through 14.

The comments received for active transportation improvements are listed on Table 12. All the comments provided were supportive of the considered improvements for the active transportation network. One participant specifically provided support for the multiuse path that currently exists along the canal.

Table B.12 *Active Transportation Improvement Comments*

Location	Timeframe	Type of Improvement	Feedback
Active Transportation Improvement Considerations			
Canal path	Existing	Multiuse Path	Looking through the short-, mid-, and long-term proposed improvement, I really cannot think of any other additions. Like the multi-use path improvements that run behind my housing development to just beyond 51st Ave. That would be a nice bike ride away from traffic.
All active transportation improvements			Support the vision for the active transportation improvements
All active transportation improvements			Support the vision for the active transportation improvements
All active transportation improvements			Support the vision for the active transportation improvements

Note: *Responses have been revised for clarity.*

Figure B.12 *Short-Term Active Transportation Improvement Considerations*

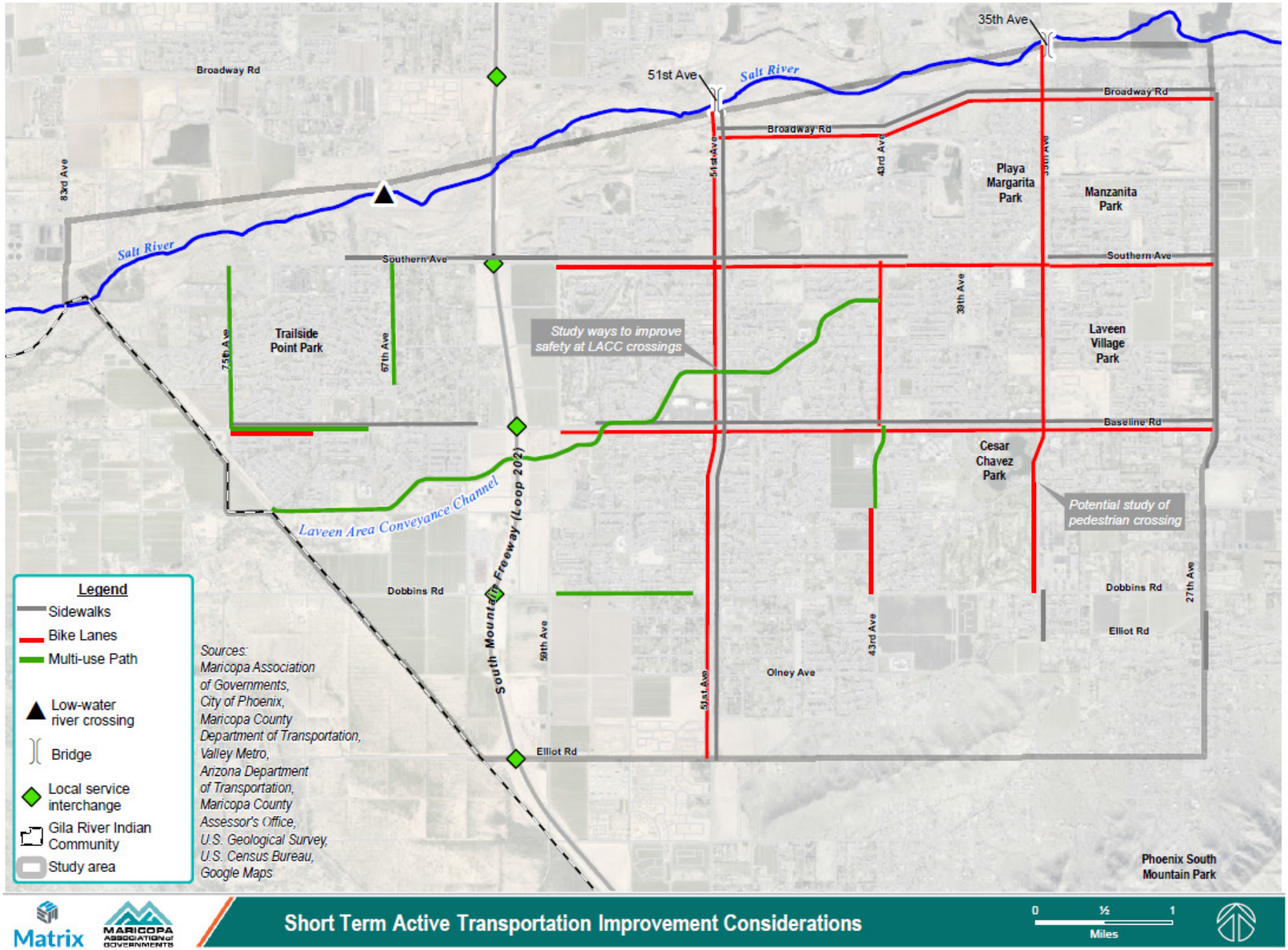


Figure B.13 *Mid-Term Active Transportation Improvement Considerations*

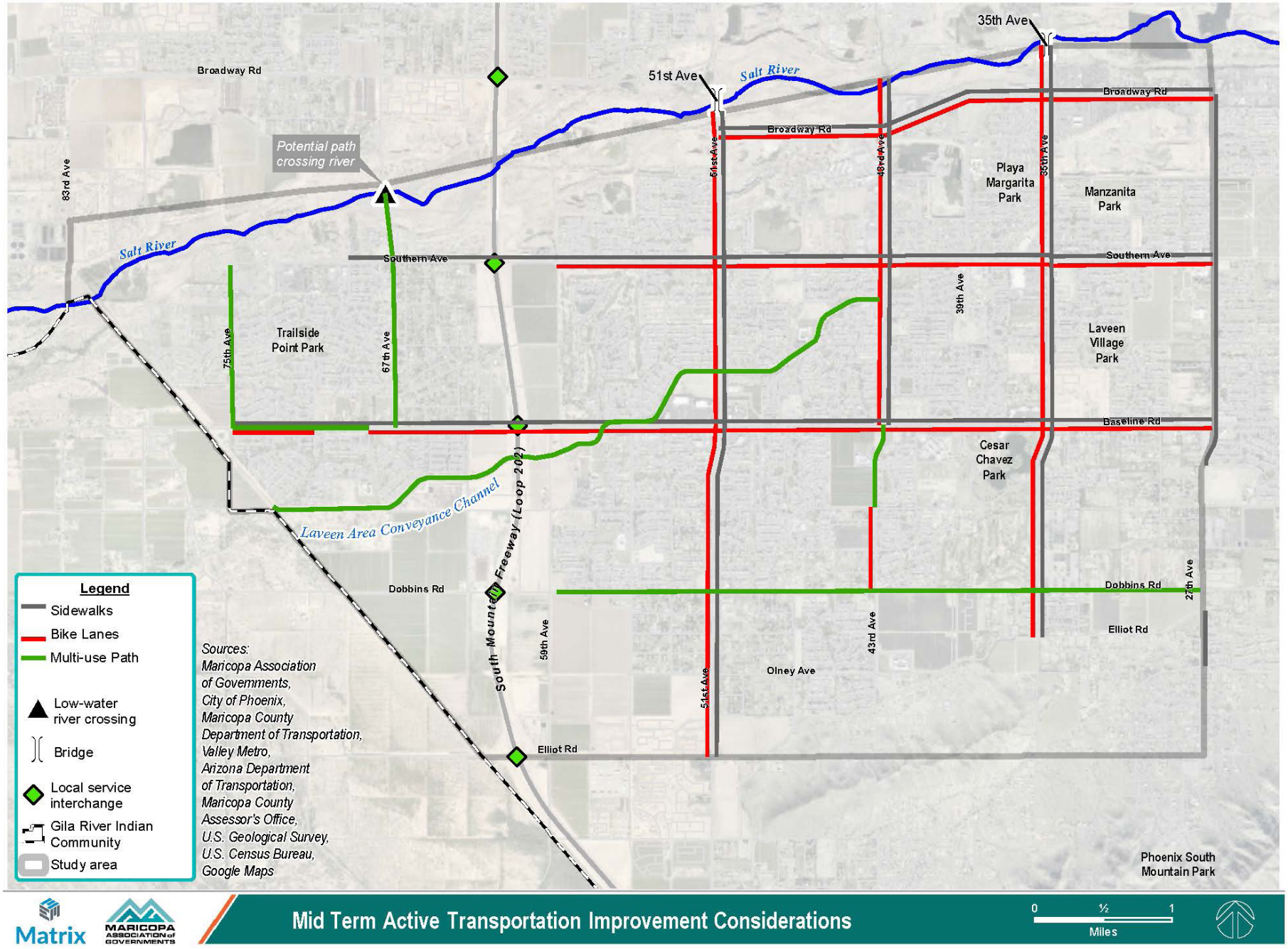
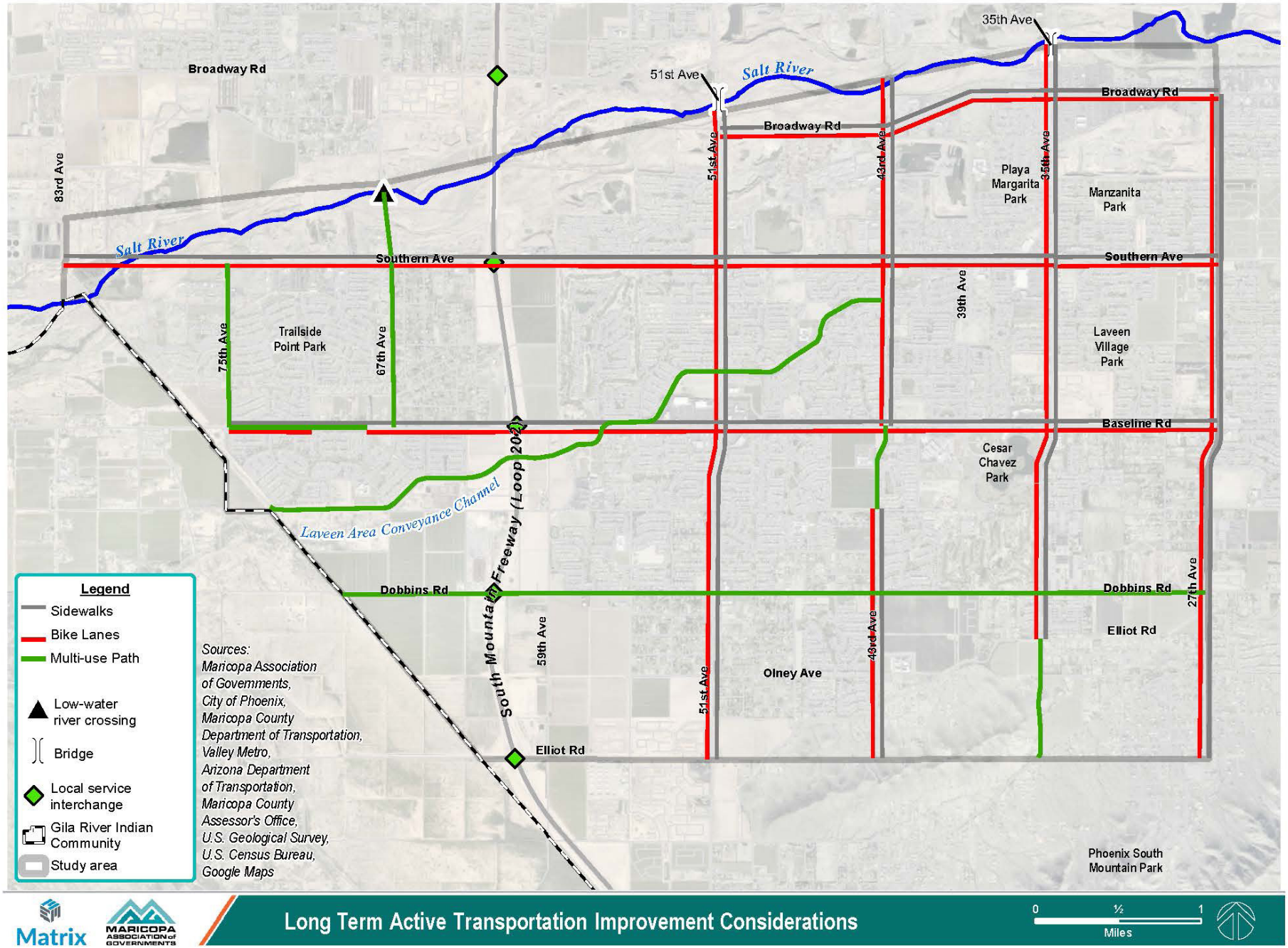


Figure B.14 *Long-Term Active Transportation Improvement Considerations*

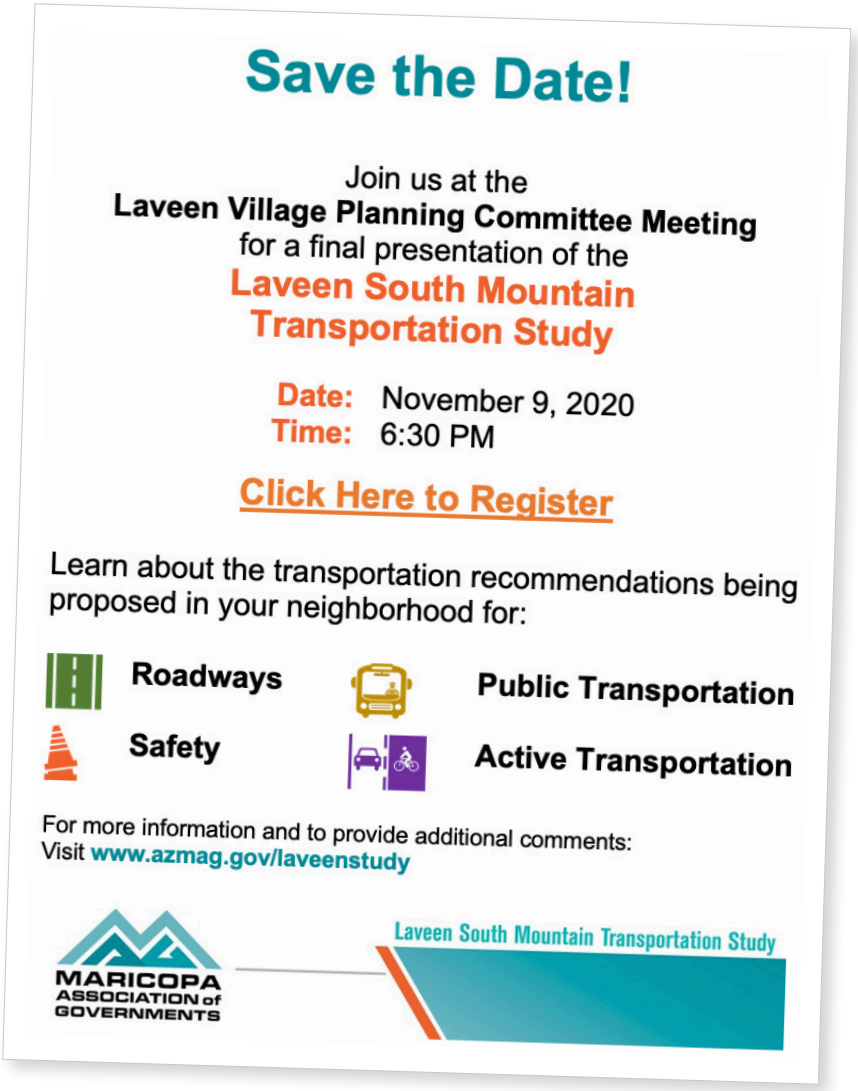


Public Meeting #3

The third public meeting for the Laveen South Mountain Transportation Study was held virtually on November 9, 2020 at 6:60 p.m. as part of the regularly scheduled Laveen Village Planning Committee. The purpose of the final public meeting was to provide community members with an overview of the recommendations for the transportation system in the Laveen South Mountain neighborhood. This was done by showing maps of the recommendations through a presentation, followed by a question and answer session. The presentation for the Laveen South Mountain Transportation Study was included on the Laveen Village Planning Committee agenda and was noticed through the posting of the agenda on the City of Phoenix website, as well as noticed through a separate notification, which is shown on Figure 15.

A total of 25 people participated in the meeting, which includes members of the Laveen Village Planning Committee, presenters, and members of the community. Comments from the meeting participants were largely focused on Dobbins Road. Key comments regarding Dobbins Road included: desire for the historical aspects of Dobbins Road to be preserved, desire for Dobbins Road to be a scenic route, and emphasis on multiuse paths on Dobbins Road.

Figure B.15 *Public Meeting #3 Notice*



Appendix C: Detailed Planning-Level Cost

Method of Cost Estimation

This appendix describes the methods used to estimate the planning-level cost of each recommended transportation improvement in the Laveen-South Mountain Study Area. "Planning-level" means that the cost shown is meant to be used only as a general guide for future planning when projects are prioritized and programmed. More detailed engineering estimates will be required in order to begin design work. All costs are reported in constant 2020 dollars. The method of calculating cost differs for each mode or type of improvement, as described in the following subsections.

Roadway Capacity Improvements

This appendix contains detailed planning level cost estimates that show typical unit costs for the following items, which are further broken down by sub-item:

- Earthwork
- Base and Surface Treatment
- Drainage
- Structures
- Traffic Engineering
- Roadside Development
- Incidentals

Typical units used for sub-elements include cubic yard, square yard, linear feet, and each.

This appendix also contains non-unit costs for the following items, broken down by sub-item. These are typically based on percent of a larger total or subtotal.

- Project-Wide
- Other Project Costs
- Below the Line Items
- Predesign and Final Design
- Utility Relocation
- Right-of-Way

Structures, Utility Location, Right-of-Way, and Other Project Costs do not apply to some recommended projects.

Roadway Pavement Improvement

This appendix contains a detailed planning level cost estimates for the one recommended pavement project, on 43rd Avenue from Dobbins Road to Olney Avenue. The categorization used to break down and calculate costs is the same as that used for capacity improvements.

Public Transit Improvements

Public transit improvement costs consist of capital cost (the cost of new infrastructure) and the cost of operating vehicles, which includes labor, fuel, maintenance, depreciation, and other expenses that continue as long as the service is provided. The capital cost of local routes is estimated as $10,000 per new bus stop (including typical amenities), with stops located every one-fourth mile. The cost of the recommended new park-and-ride lot is estimated at $8,000,000 for a five-acre lot, including land. The new Loop 202 RAPID will have no capital cost in our area beyond the park-and-ride. The capital estimates assume that the City will already have sufficient buses available and will not need to purchase more.

Operating cost is calculated on an annual basis using the following assumptions:

- The cost attributable to the Laveen-South Mountain Study area consists only of the cost of operating the portion of the route within that area.
- The operating cost is $7.81 per vehicle mile of service provided. (Source: Valley Metro Transit Performance Report FY 2018, Draft.)
- The average farebox recovery is 14.1 percent, resulting in a net operating cost of $6.71 per vehicle mile of service. (Source: Valley Metro Transit Performance Report FY 2018, Draft.)
- Like other local routes, the ones in Laveen will operate approximately 576 trips per week (80 trips five days a week; 88 trips two days a week), based on a service frequency of 30 minutes.
- The new RAPID route will operate 30 trips per day on weekdays only.
- Every route will operate 52 weeks per year.

In order to combine capital and operating cost, it was necessary to convert the annual operating cost of each route into a total. This was done by making the following assumptions:

- New routes and extensions recommended for near-term implementation will have operated, on average, for 13 years by 2040.
- Those recommended for mid-term implementation will have operated for 8 years by 2040.
- Those recommended for mid-term implementation will have operated for 3 years by 2040.

New Bike Lanes

The method for estimating the cost of bike lanes is the same as that discussed above for roadways and detailed in Appendix C. Bike lanes will be provided on both sides of the street.

New Sidewalks

The cost of new sidewalks is based on an estimate of approximately $320,000 per mile, based on $10 per square foot and a width of 6 feet. Sidewalks will be provided on both sides of the street.

New Multi-Use Paths

The cost of new multi-use paths uses an estimate of $1.4 million per mile, based on a width of 10 feet and a cost of $26.52 per square foot. However, the 67th Avenue paths across the Salt River will have a higher cost of approximately $3.1 million per mile because lighting is included in the estimate. Multi-use paths will be provided on only one side of the street.

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMITS: 75th Ave to 55th Ave
LENGTH: 2.5 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	2.5	$ 100,000.00	250,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				250,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	108,550	$ 14.00	1,519,700
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	108,550	$ 28.00	3,039,400
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				4,559,100
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	5,000	$ 280.00	1,400,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS (Underground pipe)	L.SUM	7,400	$ 200.00	1,480,000
	TOTAL ITEM 500				2,880,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	2.5	$ 65,000.00	162,500
	PAVEMENT MARKING	LANE-MILE	13	$ 5,000.00	62,500
	LIGHTING	MILE	2.5	$ 375,000.00	937,500
	TRAFFIC SIGNAL	EACH	1	$ 300,000.00	300,000
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				1,462,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	44,000	$ 15.00	660,000
	UTILITY RELOCATION	L.SUM		$ 100,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				660,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMITS: 75th Ave to 55th Ave
LENGTH: 2.5 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 1,750,000.00	1,750,000
	ADA IMPROVEMENTS	EACH	15	$ 2,500.00	37,500
	TRANSIT APPURTENANCES	L.SUM	1	$ 140,000.00	140,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,927,500
	SUBTOTAL A (ITEM SUBTOTAL)				**$11,739,100**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	587,000
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	117,400
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	176,100
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	117,400
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	939,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	2,347,800
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$16,023,900**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$16,023,900**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	160,200
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	801,200
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,281,900
	SUBTOTAL BASE YEAR CONSTRUCTION				**18,267,200**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$18,267,200**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	480,700
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**480,700**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,281,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**1,281,900**
	TOTAL ESTIMATED DESIGN COST				**$1,762,600**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	2,180,000	2,180,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$2,180,000**
	TOTAL ESTIMATED PROJECT COST				**$22,210,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 55th Ave to 51st Ave
LENGTH: 0.5 miles

PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.5	$ 100,000.00	50,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				50,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	21,750	$ 14.00	304,500
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	21,750	$ 28.00	609,000
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				913,500
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS (Underground pipe)	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.5	$ 65,000.00	32,500
	PAVEMENT MARKING	LANE-MILE	2.5	$ 5,000.00	12,500
	LIGHTING	MILE	0.5	$ 375,000.00	187,500
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				232,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	8,800	$ 15.00	132,000
	UTILITY RELOCATION	L.SUM		$ 100,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				132,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 55th Ave to 51st Ave
LENGTH: 0.5 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 350,000.00	350,000
	ADA IMPROVEMENTS	EACH	6.0	$ 2,500.00	15,000
	TRANSIT APPURTENANCES	L.SUM	1.0	$ 30,000.00	30,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				395,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$1,723,000**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	86,200
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	17,200
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	25,800
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	17,200
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	137,800
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	344,600
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$2,351,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$2,351,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	23,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	117,600
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	188,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**2,681,000**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$2,681,000**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	70,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**70,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	188,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**188,100**
	TOTAL ESTIMATED DESIGN COST				**$258,700**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	110,000	110,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$110,000**
	TOTAL ESTIMATED PROJECT COST				**$3,050,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 51st Ave to 37th Ave
LENGTH: 1.8 miles

PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	1.8	$ 100,000.00	180,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				180,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	78,200	$ 14.00	1,094,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	78,200	$ 28.00	2,189,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				3,284,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	5,000	$ 280.00	1,400,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS (Underground pipe)	L.SUM	900	$ 200.00	180,000
	TOTAL ITEM 500				1,580,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	2.0	$ 65,000.00	130,000
	PAVEMENT MARKING	LANE-MILE	9.0	$ 5,000.00	45,000
	LIGHTING	MILE	2.0	$ 375,000.00	750,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				925,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	32,000	$ 15.00	480,000
	UTILITY RELOCATION	L.SUM		$ 100,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				480,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 51st Ave to 37th Ave
LENGTH: 1.8 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 1,400,000.00	1,400,000
	ADA IMPROVEMENTS	EACH	16	$ 2,500.00	40,000
	TRANSIT APPURTENANCES	L.SUM	1.0	$ 60,000.00	60,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,500,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$7,949,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	397,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	79,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	119,200
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	79,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	636,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	1,589,900
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$10,851,000**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$10,851,000**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	108,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	542,600
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	868,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**12,370,200**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$12,370,200**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	325,500
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**325,500**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	868,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**868,100**
	TOTAL ESTIMATED DESIGN COST				**$1,193,600**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	415,000	415,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$415,000**
	TOTAL ESTIMATED PROJECT COST				**$13,979,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 37th Ave to 35th Ave
LENGTH: 0.2 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.2	$ 100,000.00	20,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				20,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	8,700	$ 14.00	121,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	8,700	$ 28.00	243,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				365,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS (Underground pipe)	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.2	$ 65,000.00	13,000
	PAVEMENT MARKING	LANE-MILE	1.0	$ 5,000.00	5,000
	LIGHTING	MILE	0.2	$ 375,000.00	75,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				93,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	3,520	$ 15.00	52,800
	UTILITY RELOCATION	L.SUM		$ 100,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				52,800

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 137th Ave to 35th Ave
LENGTH: 0.2 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 140,000.00	140,000
	ADA IMPROVEMENTS	EACH	2.0	$ 2,500.00	5,000
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				145,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$676,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	33,800
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	6,800
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	10,100
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	6,800
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	54,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	135,200
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$923,000**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$923,000**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	9,200
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	46,200
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	73,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**1,052,200**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,052,200**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	27,700
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**27,700**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	73,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**73,800**
	TOTAL ESTIMATED DESIGN COST				**$101,500**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,154,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMI 75th Ave to 59th Ave
ESTIMATE LEVEL: Level 0
LENGTH: 4.0^ miles
DATE: 11/17/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	14,500	$ 14.00	203,000
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	14,500	$ 28.00	406,000
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				609,000
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	4	$ 5,000.00	20,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				20,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 75th Ave to 59th Ave
LENGTH: 4.0^ miles
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 11/17/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 425,000.00	425,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				425,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$1,054,000**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	52,700
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	10,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	15,800
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	10,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	84,300
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	210,800
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$1,438,600**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,438,600**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	14,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	71,900
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	115,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**1,640,000**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,640,000**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	43,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**43,200**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	115,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**115,100**
	TOTAL ESTIMATED DESIGN COST				**$158,300**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,798,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 51st Ave to 47th Ave
LENGTH: 1^ mile

PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	3,520	$ 14.00	49,280
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	3,520	$ 28.00	98,560
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				147,840
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	1	$ 5,000.00	5,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				5,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Southern Avenue
PROJECT LIMI 51st Ave to 47th Ave
LENGTH: 1^ mile
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 110,000.00	110,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				110,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$262,800**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	13,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	2,600
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	3,900
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	2,600
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	21,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	52,600
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$358,600**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$358,600**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	3,600
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	17,900
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	28,700
	SUBTOTAL BASE YEAR CONSTRUCTION				**408,800**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$408,800**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	10,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**10,800**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	28,700
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**28,700**
	TOTAL ESTIMATED DESIGN COST				**$39,500**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$448,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 71st Ave to 63rd Ave
LENGTH: 1 mile
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	1	$ 100,000.00	100,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				100,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	43,500	$ 14.00	609,000
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	43,500	$ 28.00	1,218,000
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				1,827,000
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	5,280	$ 280.00	1,478,400
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				1,478,400
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	1	$ 65,000.00	65,000
	PAVEMENT MARKING	LANE-MILE	5	$ 5,000.00	25,000
	LIGHTING	MILE	1	$ 375,000.00	375,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				465,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	17,600	$ 15.00	264,000
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				264,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 71st Ave to 63rd Ave
LENGTH: 1 mile
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 700,000.00	700,000
	ADA IMPROVEMENTS	EACH	6	$ 2,500.00	15,000
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				715,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$4,849,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	242,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	48,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	72,700
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	48,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	388,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	969,900
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$6,619,500**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$6,619,500**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	66,200
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	331,000
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	529,600
	SUBTOTAL BASE YEAR CONSTRUCTION				**7,546,300**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$7,546,300**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	198,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**198,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	529,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**529,600**
	TOTAL ESTIMATED DESIGN COST				**$728,200**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$8,275,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 63rd Ave to west of Loop 202
LENGTH: 0.2 miles

PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.2	$ 100,000.00	20,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				20,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	8,700	$ 14.00	121,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	8,700	$ 28.00	243,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				365,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	1,100	$ 280.00	308,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				308,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.2	$ 65,000.00	13,000
	PAVEMENT MARKING	LANE-MILE	1.0	$ 5,000.00	5,000
	LIGHTING	MILE	0.2	$ 375,000.00	75,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				93,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	3,520	$ 15.00	52,800
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				52,800

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 63rd Ave to west of Loop 202
LENGTH: 0.2 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 140,000.00	140,000
	ADA IMPROVEMENTS	EACH	1.0	$ 2,500.00	2,500
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				142,500
	SUBTOTAL A (ITEM SUBTOTAL)				**$981,700**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	49,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	9,800
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	14,700
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	9,800
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	78,500
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	196,300
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$1,339,900**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,339,900**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	13,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	67,000
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	107,200
	SUBTOTAL BASE YEAR CONSTRUCTION				**1,527,500**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,527,500**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	40,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**40,200**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	107,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**107,200**
	TOTAL ESTIMATED DESIGN COST				**$147,400**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	2,500	2,500
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$2,500**
	TOTAL ESTIMATED PROJECT COST				**$1,677,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI East of Loop 202 to 59th Ave
LENGTH: 0.2 miles

PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.2	$ 100,000.00	20,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				20,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	8,700	$ 14.00	121,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	8,700	$ 28.00	243,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				365,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	1,100	$ 280.00	308,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				308,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.2	$ 65,000.00	13,000
	PAVEMENT MARKING	LANE-MILE	5.0	$ 5,000.00	25,000
	LIGHTING	MILE	0.2	$ 375,000.00	75,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				113,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	3,520	$ 15.00	52,800
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				52,800

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI East of Loop 202 to 59th Ave
LENGTH: 0.2 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1.0	$ 140,000.00	140,000
	ADA IMPROVEMENTS	EACH	1.0	$ 2,500.00	2,500
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				142,500
	SUBTOTAL A (ITEM SUBTOTAL)				**$1,001,700**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	50,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	10,000
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	15,000
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	10,000
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	80,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	200,300
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$1,367,200**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,367,200**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	13,700
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	68,400
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	109,400
	SUBTOTAL BASE YEAR CONSTRUCTION				**1,558,700**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,558,700**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	41,000
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**41,000**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	109,400
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**109,400**
	TOTAL ESTIMATED DESIGN COST				**$150,400**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,709,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 68th Ave to 59th Ave
LENGTH: 1 mile
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	7,744	$ 14.00	108,416
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	7,744	$ 28.00	216,832
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				325,248
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	2	$ 5,000.00	11,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				11,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Baseline Road
PROJECT LIMI 168th Ave to 59th Ave
LENGTH: 1 mile
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/14/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 215,000.00	215,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				215,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$551,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	27,600
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	5,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	8,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	5,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	44,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	110,200
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$752,400**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$752,400**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	7,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	37,600
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	60,200
	SUBTOTAL BASE YEAR CONSTRUCTION				**857,700**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITEM			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$857,700**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	22,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**22,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	60,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**60,200**
	TOTAL ESTIMATED DESIGN COST				**$82,800**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$941,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: West Study Boundary to 55th Ave
LENGTH: 1.24 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	1.2	$ 100,000.00	124,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				124,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	27,700	$ 14.00	387,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	27,700	$ 28.00	775,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				1,163,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	6,550	$ 280.00	1,834,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS (PIPE IRRIGATION)	L.SUM	6,266	$ 200.00	1,253,200
	TOTAL ITEM 500				3,087,200
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	1.2	$ 65,000.00	80,600
	PAVEMENT MARKING	LANE-MILE	6	$ 5,000.00	30,000
	LIGHTING	MILE	1.2	$ 375,000.00	465,000
	TRAFFIC SIGNAL	EACH	2	$ 300,000.00	600,000
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				1,175,600
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	12,000	$ 15.00	180,000
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				180,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: West Study Boundary to 55th Ave
LENGTH: 1.24 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 1,050,000.00	1,050,000
	ADA IMPROVEMENTS	EACH	42	$ 2,500.00	105,000
	TRANSIT APPURTENANCES	L.SUM	1	$ 90,000.00	90,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,245,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$6,975,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	348,800
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	69,800
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	104,600
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	69,800
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	558,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	1,395,000
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$9,521,200**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$9,521,200**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	95,200
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	476,100
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	761,700
	SUBTOTAL BASE YEAR CONSTRUCTION				**10,854,200**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$10,854,200**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	285,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**285,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	761,700
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**761,700**
	TOTAL ESTIMATED DESIGN COST				**$1,047,300**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1,000,000	1,000,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$1,000,000**
	TOTAL ESTIMATED PROJECT COST				**$12,902,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 55th Ave to 51st Ave
LENGTH: 0.5 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.5	$ 100,000.00	50,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				50,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	14,100	$ 14.00	197,400
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	14,100	$ 28.00	394,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				592,200
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	2,640	$ 280.00	739,200
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				739,200
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.5	$ 65,000.00	32,500
	PAVEMENT MARKING	LANE-MILE	2.5	$ 5,000.00	12,500
	LIGHTING	MILE	0.5	$ 375,000.00	187,500
	TRAFFIC SIGNAL	EACH	0.5	$ 300,000.00	150,000
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				382,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	5,700	$ 15.00	85,500
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				85,500

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 55th Ave to 51st Ave
LENGTH: 0.5 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	0.5	$ 700,000.00	350,000
	ADA IMPROVEMENTS	EACH	16	$ 2,500.00	40,000
	TRANSIT APPURTENANCES	L.SUM	1	$ 30,000.00	30,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				420,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$2,269,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	113,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	22,700
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	34,000
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	22,700
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	181,600
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	453,900
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$3,097,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,097,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	31,000
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	154,900
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	247,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**3,531,500**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,531,500**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	92,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**92,900**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	247,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**247,800**
	TOTAL ESTIMATED DESIGN COST				**$340,700**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	40,000	40,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$40,000**
	TOTAL ESTIMATED PROJECT COST				**$3,912,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 51st Ave to 27th Ave
LENGTH: 3 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	3	$ 100,000.00	300,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				300,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	60,700	$ 14.00	849,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	60,700	$ 28.00	1,699,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				2,549,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	15,840	$ 280.00	4,435,200
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM	7,000	$ 200.00	1,400,000
	TOTAL ITEM 500				5,835,200
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	3	$ 65,000.00	195,000
	PAVEMENT MARKING	LANE-MILE	15	$ 5,000.00	75,000
	LIGHTING	MILE	3	$ 375,000.00	1,125,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				1,395,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	24,300	$ 15.00	364,500
	UTILITY RELOCATION	L.SUM	3	$ 5,000.00	15,000
	MISCELLANEOUS ITEMS	L.SUM	1	$ 150,000.00	150,000
	TOTAL ITEM 800				529,500

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 51st Ave to 27th Ave
LENGTH: 3 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 2,100,000.00	2,100,000
	ADA IMPROVEMENTS	EACH	76	$ 2,500.00	190,000
	TRANSIT APPURTENANCES	L.SUM	1	$ 90,000.00	90,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				2,380,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$12,989,100**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	649,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	129,900
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	194,800
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	129,900
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	1,039,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	2,597,800
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$17,730,100**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$17,730,100**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	177,300
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	886,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,418,400
	SUBTOTAL BASE YEAR CONSTRUCTION				**20,212,300**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$20,212,300**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	531,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**531,900**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,418,400
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**1,418,400**
	TOTAL ESTIMATED DESIGN COST				**$1,950,300**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	2,000,000	2,000,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$2,000,000**
	TOTAL ESTIMATED PROJECT COST				**$24,163,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: Maricopa Trail to 58th Ave
LENGTH: 0.8 miles
PROJECT DESCRIPTION: Mult-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	4,700	$ 14.00	65,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	4,700	$ 28.00	131,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				197,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				0
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: Maricopa Trail to 58th Ave
LENGTH: 0.8 miles
PROJECT DESCRIPTION: Mult-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 425,000.00	425,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				425,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$622,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	31,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	6,200
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	9,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	6,200
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	49,800
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	124,500
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$849,500**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$849,500**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	8,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	42,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	68,000
	SUBTOTAL BASE YEAR CONSTRUCTION				**968,500**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$968,500**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	25,500
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**25,500**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	68,000
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**68,000**
	TOTAL ESTIMATED DESIGN COST				**$93,500**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,062,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 52nd Ave to 27th Ave
LENGTH: 3.26 miles
PROJECT DESCRIPTION: Multi-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	19,125	$ 14.00	267,750
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	19,125	$ 28.00	535,500
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				803,250
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				0
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: Dobbins Road
PROJECT LIMITS: 52nd Ave to 27th Ave
LENGTH: 3.26 miles
PROJECT DESCRIPTION: Multi-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 1,750,000.00	1,750,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,750,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$2,553,300**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	127,700
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	25,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	38,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	25,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	204,300
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	510,700
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$3,485,300**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,485,300**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	34,900
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	174,300
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	278,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**3,973,300**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,973,300**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	104,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**104,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	278,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**278,800**
	TOTAL ESTIMATED DESIGN COST				**$383,400**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM			0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$4,357,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 75th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Southern Ave to Leodra Ln
ESTIMATE LEVEL: Level 0
LENGTH: 0.4 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	2,350	$ 14.00	32,900
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	2,350	$ 28.00	65,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				98,700
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				0
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 75th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Southern Ave to Leodra Ln
ESTIMATE LEVEL: Level 0
LENGTH: 0.4 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 225,000.00	225,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				225,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$323,700**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	16,200
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	3,200
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	4,900
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	3,200
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	25,900
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	64,700
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$441,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$441,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	4,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	22,100
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	35,300
	SUBTOTAL BASE YEAR CONSTRUCTION				**503,600**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$503,600**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	13,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**13,300**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	35,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**35,300**
	TOTAL ESTIMATED DESIGN COST				**$48,600**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$552,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Salt River (north side) to Salt River (south side)
ESTIMATE LEVEL: Level 0
LENGTH: 0.2 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	1,200	$ 14.00	16,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	1,200	$ 28.00	33,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				50,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE	0.5	$ 375,000.00	187,500
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				187,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Salt River (north side) to Salt River (south side)
ESTIMATE LEVEL: Level 0
LENGTH: 0.2 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 125,000.00	125,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				125,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$362,900**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	18,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	3,600
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	5,400
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	3,600
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	29,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	72,600
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$495,200**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$495,200**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	5,000
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	24,800
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	39,600
	SUBTOTAL BASE YEAR CONSTRUCTION				**564,600**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$564,600**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	14,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**14,900**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	39,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**39,600**
	TOTAL ESTIMATED DESIGN COST				**$54,500**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$619,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Salt River (south side) to Southern Ave
ESTIMATE LEVEL: Level 0
LENGTH: 0.56 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	3,285	$ 14.00	45,990
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	3,285	$ 28.00	91,980
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				137,970
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE	0.50	$ 375,000.00	187,500
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				187,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Salt River (south side) to Southern Ave
ESTIMATE LEVEL: Level 0
LENGTH: 0.56 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 295,680.00	295,680
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				295,680
	SUBTOTAL A (ITEM SUBTOTAL)				**$621,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	31,100
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	6,200
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	9,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	6,200
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	49,700
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	124,200
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$847,900**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$847,900**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	8,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	42,400
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	67,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**966,600**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$966,600**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	25,400
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**25,400**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	67,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**67,800**
	TOTAL ESTIMATED DESIGN COST				**$93,200**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,060,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT LIMI Fremont Rd to Baseline Rd
LENGTH: 0.3 miles

PROJECT DESCRIPTION: Multi-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	1,760	$ 14.00	24,640
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	1,760	$ 28.00	49,280
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				73,920
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				0
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 67th Avenue
PROJECT LIMI Fremont Rd to Baseline Rd
LENGTH: 0.3 miles
PROJECT DESCRIPTION: Multi-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 175,000.00	175,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				175,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$248,900**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	12,400
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	2,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	3,700
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	2,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	19,900
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	49,800
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$339,700**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$339,700**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	3,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	17,000
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	27,200
	SUBTOTAL BASE YEAR CONSTRUCTION				**387,300**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$387,300**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	10,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**10,200**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	27,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**27,200**
	TOTAL ESTIMATED DESIGN COST				**$37,400**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$425,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT LIMITS: Dobbins Rd to Elliot Rd
LENGTH: 1 mile
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	1	$ 100,000.00	100,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				100,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	20,900	$ 14.00	292,600
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	20,900	$ 28.00	585,200
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				877,800
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	5,280	$ 280.00	1,478,400
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM	2,000	$ 200.00	400,000
	TOTAL ITEM 500				1,878,400
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	1	$ 65,000.00	65,000
	PAVEMENT MARKING	LANE-MILE	5	$ 5,000.00	25,000
	LIGHTING	MILE	1	$ 375,000.00	375,000
	TRAFFIC SIGNAL	EACH	1	$ 300,000.00	300,000
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				765,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	8,350	$ 15.00	125,250
	UTILITY RELOCATION	L.SUM	2	$ 5,000.00	10,000
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				135,250

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT LIMITS: Dobbins Rd to Elliot Rd
LENGTH: 1 mile
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 700,000.00	700,000
	ADA IMPROVEMENTS	EACH	40	$ 2,500.00	100,000
	TRANSIT APPURTENANCES	L.SUM	1	$ 60,000.00	60,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				860,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$4,616,500**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	230,800
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	46,200
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	69,200
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	46,200
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	369,300
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	923,300
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$6,301,500**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$6,301,500**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	63,000
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	315,100
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	504,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**7,183,700**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$7,183,700**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	189,000
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**189,000**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	504,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**504,100**
	TOTAL ESTIMATED DESIGN COST				**$693,100**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM		0	0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$7,877,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT DESCRIPTION: Intersection Geometry
PROJECT LIMITS: 51st Ave and South Mountain Ave
ESTIMATE LEVEL: Level 0
LENGTH:
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.10	$ 100,000.00	10,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				10,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	1,000	$ 14.00	14,000
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	1,000	$ 28.00	28,000
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				42,000
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM	2,000	$ 200.00	400,000
	TOTAL ITEM 500				400,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.5	$ 65,000.00	32,500
	PAVEMENT MARKING	LANE-MILE	1.0	$ 5,000.00	5,000
	LIGHTING	MILE	0.1	$ 375,000.00	37,500
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				75,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	200	$ 15.00	3,000
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				3,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT LIMITS: 51st Ave and South Mountain Ave
LENGTH:
PROJECT DESCRIPTION: Interection Geometry
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM		$ -	0
	ADA IMPROVEMENTS	EACH	8	$ 2,500.00	20,000
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				20,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$550,000**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	27,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	5,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	8,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	5,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	44,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	110,000
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$750,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$750,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	7,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	37,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	60,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**855,900**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$855,900**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	22,500
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**22,500**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	60,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**60,100**
	TOTAL ESTIMATED DESIGN COST				**$82,600**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	45,100	45,100
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$45,100**
	TOTAL ESTIMATED PROJECT COST				**$984,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT LIMI La Mirada Dr to Elliot Rd
LENGTH: 1.8^ miles

PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILES		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	6,400	$ 14.00	89,600
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	6,400	$ 28.00	179,200
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				268,800
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	1.8	$ 5,000.00	9,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				9,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 51st Avenue
PROJECT LIMI La Mirada Dr to Elliot Rd
LENGTH: 1.8^ miles

PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 200,000.00	200,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				200,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$477,800**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	23,900
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	4,800
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	7,200
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	4,800
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	38,200
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	95,600
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$652,300**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$652,300**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	6,500
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	32,600
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	52,200
	SUBTOTAL BASE YEAR CONSTRUCTION				**743,600**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$743,600**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	19,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**19,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	52,200
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**52,200**
	TOTAL ESTIMATED DESIGN COST				**$71,800**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM			0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$815,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT DESCRIPTION: Pavement
PROJECT LIMITS: Dobbins Rd to Olney Ave
ESTIMATE LEVEL: Level 0
LENGTH: 0.5 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM	0.5	$ 100,000.00	50,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				50,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	15,600	$ 14.00	218,400
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	15,600	$ 28.00	436,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				655,200
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	2,640	$ 280.00	739,200
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				739,200
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.5	$ 65,000.00	32,500
	PAVEMENT MARKING	LANE-MILE	0.5	$ 5,000.00	2,500
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				35,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM	2	$ 5,000.00	10,000
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				10,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT LIMITS: Dobbins Rd to Olney Ave
LENGTH: 0.5 miles
PROJECT DESCRIPTION: Pavement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	0.5	$ 700,000.00	350,000
	ADA IMPROVEMENTS	EACH	24	$ 2,500.00	60,000
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				410,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$1,899,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	95,000
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	19,000
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	28,500
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	19,000
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	152,000
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	379,900
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$2,592,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$2,592,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	25,900
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	129,600
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	207,400
	SUBTOTAL BASE YEAR CONSTRUCTION				**2,955,700**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$2,955,700**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	77,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**77,800**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	207,400
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**207,400**
	TOTAL ESTIMATED DESIGN COST				**$285,200**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM			0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$3,241,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT LIMI North Study Area Boundary to Southern Ave
LENGTH: 3^ miles
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	10,600	$ 14.00	148,400
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	10,600	$ 28.00	296,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				445,200
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	3	$ 5,000.00	15,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				15,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT LIMI North Study Area Boundary to Southern Ave
LENGTH: 3^ miles
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 500,000.00	500,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				500,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$960,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	48,000
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	9,600
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	14,400
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	9,600
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	76,800
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	192,000
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$1,310,600**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,310,600**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	13,100
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	65,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	104,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**1,494,000**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$1,494,000**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	39,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**39,300**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	104,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**104,800**
	TOTAL ESTIMATED DESIGN COST				**$144,100**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$1,638,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Dobbins Rd to Ceton Dr
ESTIMATE LEVEL: Level 0
LENGTH: 2^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	7,100	$ 14.00	99,400
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	7,100	$ 28.00	198,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				298,200
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	2	$ 5,000.00	10,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				10,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 43rd Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Dobbins Rd to Ceton Dr
ESTIMATE LEVEL: Level 0
LENGTH: 2^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 250,000.00	250,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				250,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$558,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	27,900
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	5,600
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	8,400
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	5,600
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	44,700
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	111,600
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$762,000**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$762,000**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	7,600
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	38,100
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	61,000
	SUBTOTAL BASE YEAR CONSTRUCTION				**868,700**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$868,700**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	22,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**22,900**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	61,000
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**61,000**
	TOTAL ESTIMATED DESIGN COST				**$83,900**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$953,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: SR-30 to Broadway Rd
LENGTH: 0.6 miles

PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/19/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM	0.6	$ 100,000.00	60,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				60,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	27,462	$ 14.00	384,468
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	27,462	$ 28.00	768,936
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				1,153,404
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	2,034	$ 280.00	569,520
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				569,520
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.	45,655	$ 160.00	7,304,800
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				7,304,800
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.6	$ 65,000.00	39,000
	PAVEMENT MARKING	LANE-MILE	3.6	$ 5,000.00	18,000
	LIGHTING	MILE	0.6	$ 375,000.00	225,000
	TRAFFIC SIGNAL	EACH	1	$ 300,000.00	300,000
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				582,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	7,008	$ 15.00	105,120
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				105,120

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: SR-30 to Broadway Rd
LENGTH: 0.6 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/19/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 420,000.00	420,000
	ADA IMPROVEMENTS	EACH	8	$ 2,500.00	20,000
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				440,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$10,214,800**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	510,700
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	102,100
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	153,200
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	102,100
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	817,200
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	2,043,000
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$13,943,100**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$13,943,100**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	139,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	697,200
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,115,400
	SUBTOTAL BASE YEAR CONSTRUCTION				**15,895,100**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$15,895,100**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	418,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**418,300**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	1,115,400
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**1,115,400**
	TOTAL ESTIMATED DESIGN COST				**$1,533,700**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	296,250	296,300
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$296,300**
	TOTAL ESTIMATED PROJECT COST				**$17,725,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: Ian Dr to Carver Rd
LENGTH: 1.8 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM	1.8	$ 100,000.00	180,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				180,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	47,600	$ 14.00	666,400
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	47,600	$ 28.00	1,332,800
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				1,999,200
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.	9,500	$ 280.00	2,660,000
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM	2,000	$ 200.00	400,000
	TOTAL ITEM 500				3,060,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	1.8	$ 65,000.00	117,000
	PAVEMENT MARKING	LANE-MILE	9.0	$ 5,000.00	45,000
	LIGHTING	MILE	1.8	$ 375,000.00	675,000
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				837,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	19,000	$ 15.00	285,000
	UTILITY RELOCATION	L.SUM	2	$ 5,000.00	10,000
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				295,000

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: Ian Dr to Carver Rd
LENGTH: 1.8 miles
PROJECT DESCRIPTION: Capacity Improvement
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 1,260,000.00	1,260,000
	ADA IMPROVEMENTS	EACH	36	$ 2,500.00	90,000
	TRANSIT APPURTENANCES	L.SUM	1	$ 108,000.00	108,000
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,458,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$7,829,200**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	391,500
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	78,300
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	117,400
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	78,300
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	626,300
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	1,565,800
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$10,686,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$10,686,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	106,900
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	534,300
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	854,900
	SUBTOTAL BASE YEAR CONSTRUCTION				**12,182,900**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$12,182,900**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	320,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**320,600**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	854,900
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**854,900**
	TOTAL ESTIMATED DESIGN COST				**$1,175,500**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	1,335,000	1,335,000
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$1,335,000**
	TOTAL ESTIMATED PROJECT COST				**$14,693,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: 35th Ave and Dobbins Rd
LENGTH:
PROJECT DESCRIPTION: Intersection Geometry
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	MILE	0.10	$ 100,000.00	10,000
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				10,000
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	880	$ 14.00	12,320
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	880	$ 28.00	24,640
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				36,960
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM	1	$ 72,000.00	72,000
	TOTAL ITEM 500				72,000
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE	0.1	$ 65,000.00	6,500
	PAVEMENT MARKING	LANE-MILE	0.1	$ 5,000.00	500
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				7,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.	176	$ 15.00	2,640
	UTILITY RELOCATION	L.SUM	1	$ 5,000.00	5,000
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				7,640

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: 35th Ave and Dobbins Rd
LENGTH:
PROJECT DESCRIPTION: Intersection Geometry
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM		$ -	0
	ADA IMPROVEMENTS	EACH	8	$ 2,500.00	20,000
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				20,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$153,600**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	7,700
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	1,500
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	2,300
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	1,500
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	12,300
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	30,700
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$209,600**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$209,600**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	2,100
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	10,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	16,800
	SUBTOTAL BASE YEAR CONSTRUCTION				**239,000**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$239,000**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	6,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**6,300**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	16,800
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**16,800**
	TOTAL ESTIMATED DESIGN COST				**$23,100**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1	90,160	90,200
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$90,200**
	TOTAL ESTIMATED PROJECT COST				**$352,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT DESCRIPTION: Multi-use Path
PROJECT LIMITS: Elliot Rd to Carver Rd
ESTIMATE LEVEL: Level 0
LENGTH: 0.7 miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	4,150	$ 14.00	58,100
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	4,150	$ 28.00	116,200
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				174,300
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE		$ 5,000.00	0
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				0
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ 5,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 150,000.00	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT LIMITS: Elliot Rd to Carver Rd
LENGTH: 0.7 miles
PROJECT DESCRIPTION: Multi-use Path
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 400,000.00	400,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ 3,000.00	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				400,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$574,300**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	28,700
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	5,700
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	8,600
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	5,700
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	45,900
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	114,900
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$783,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$783,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	7,800
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	39,200
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	62,700
	SUBTOTAL BASE YEAR CONSTRUCTION				**893,500**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$893,500**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	23,500
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**23,500**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	62,700
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**62,700**
	TOTAL ESTIMATED DESIGN COST				**$86,200**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM			0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$980,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Ian Dr to Dobbins Rd
ESTIMATE LEVEL: Level 0
LENGTH: 1.4^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	5,000	$ 14.00	70,000
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	5,000	$ 28.00	140,000
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				210,000
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	1.5	$ 5,000.00	7,500
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				7,500
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Ian Dr to Dobbins Rd
ESTIMATE LEVEL: Level 0
LENGTH: 1.4^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 150,000.00	150,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				150,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$367,500**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	18,400
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	3,700
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	5,500
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	3,700
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	29,400
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	73,500
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$501,700**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$501,700**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	5,000
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	25,100
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	40,100
	SUBTOTAL BASE YEAR CONSTRUCTION				**571,900**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$571,900**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	15,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**15,100**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	40,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**40,100**
	TOTAL ESTIMATED DESIGN COST				**$55,200**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$627,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Ian Dr to Elliot Rd
ESTIMATE LEVEL: Level 0
LENGTH: 0.6^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	2,200	$ 14.00	30,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	2,200	$ 28.00	61,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				92,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	1	$ 5,000.00	5,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				5,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 35th Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Ian Dr to Elliot Rd
ESTIMATE LEVEL: Level 0
LENGTH: 0.6^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES (Curb and gutter)	L.SUM	1	$ 100,000.00	100,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				100,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$197,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	9,900
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	2,000
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	3,000
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	2,000
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	15,800
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	39,500
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$269,600**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$269,600**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	2,700
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	13,500
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	21,600
	SUBTOTAL BASE YEAR CONSTRUCTION				**307,400**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$307,400**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	8,100
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**8,100**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	21,600
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**21,600**
	TOTAL ESTIMATED DESIGN COST				**$29,700**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM	1		0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$337,000**

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 27th Avenue
PROJECT DESCRIPTION: Bike Lanes
PROJECT LIMITS: Broadway Rd to Ceton Dr
ESTIMATE LEVEL: Level 0
LENGTH: 9^ miles
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
200	**EARTHWORK**				
	CLEARING & REMOVALS	L.SUM		$ 100,000.00	0
	ROADWAY EXCAVATION	CU.YD.		$ 20.00	0
	DRAINAGE EXCAVATION	CU.YD.		$ 10.00	0
	BORROW	CU.YD.		$ 16.00	0
	SUBGRADE TREATMENT	SQ.YD.		$ 15.00	0
	FURNISH WATER	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 200				0
300 & 400	**BASE AND SURFACE TREATMENT**				
	AGGREGATE BASE	SQ.YD.	31,700	$ 14.00	443,800
	CONCRETE PAVEMENT	SQ.YD.		$ 65.00	0
	ASPHALT PAVEMENT	SQ.YD.	31,700	$ 28.00	887,600
	ARAC SURFACE	SQ.YD.		$ 6.00	0
	MILLING & OVERLAY	SQ.YD.		$ 16.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 300 & 400				1,331,400
500	**DRAINAGE**				
	DRAINAGE SYSTEM (CLOSED)	L.FT.		$ 280.00	0
	DRAINAGE SYSTEM (OPEN)	L.FT.		$ 185.00	0
	DRAINAGE SYSTEM (CONVEYANCE CHANNEL)	L.FT.		$ 415.00	0
	PUMP STATION (NEW)	EACH		$ 2,500,000.00	0
	PIPE CULVERTS	L.FT.		$ 365.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ 200.00	0
	TOTAL ITEM 500				0
600	**STRUCTURES**				
	FLYOVER RAMP (NEW SYSTEM TI)	SQ.FT.		$ 135.00	0
	FLYOVER HOV RAMP	SQ.FT.		$ 175.00	0
	OVERPASS TI BRIDGE	SQ.FT.		$ 140.00	0
	RIVER CROSSING BRIDGE	SQ.FT.		$ 145.00	0
	PEDESTRIAN BRIDGE	SQ.FT.		$ 180.00	0
	BRIDGE WIDENING	SQ.FT.		$ 160.00	0
	BRIDGE REHABILITATION	SQ.FT.		$ 100.00	0
	BOX CULVERT	L.FT./CELL		$ 1,330.00	0
	SIGN STRUCTURES	EACH		$ 100,000.00	0
	ITS STRUCTURE AND PANEL	EACH		$ 200,000.00	0
	O&M CROSSING	EACH		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 600				0
700	**TRAFFIC ENGINEERING**				
	SIGNING (FREEWAY)	MILE/DIR		$ 35,000.00	0
	SIGNING (STREET)	MILE		$ 65,000.00	0
	PAVEMENT MARKING	LANE-MILE	9	$ 5,000.00	45,000
	LIGHTING	MILE		$ 375,000.00	0
	TRAFFIC SIGNAL	EACH		$ 300,000.00	0
	INTELLIGENT TRANSPORTATION SYSTEM (ITS)	MILE		$ 350,000.00	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 700				45,000
800	**ROADSIDE DEVELOPMENT**				
	LANDSCAPING AND TOPSOIL	SQ.YD.		$ 15.00	0
	UTILITY RELOCATION	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 800				0

ARIZONA DEPARTMENT OF TRANSPORTATION
CONSTRUCTION COST ESTIMATE SUMMARY

ROUTE: 27th Avenue
PROJECT LIMITS: Broadway Rd to Ceton Dr
LENGTH: 9^ miles
PROJECT DESCRIPTION: Bike Lanes
ESTIMATE LEVEL: Level 0
DATE: 10/15/2020

ITEM	MAJOR ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
900	**INCIDENTALS**				
	RETAINING WALLS	SQ.FT.		$ 75.00	0
	SOUND WALLS	SQ.FT.		$ 40.00	0
	ROADWAY APPURTENANCES	L.SUM	1	$ 1,000,000.00	1,000,000
	ADA IMPROVEMENTS	EACH		$ 2,500.00	0
	TRANSIT APPURTENANCES	L.SUM		$ -	0
	RAILROAD ACCOMMODATIONS	L.SUM		$ -	0
	MISCELLANEOUS ITEMS	L.SUM		$ -	0
	TOTAL ITEM 900				1,000,000
	SUBTOTAL A (ITEM SUBTOTAL)				**$2,376,400**
PW	**PROJECT WIDE**				
	TRAFFIC CONTROL (5% OF SUBTOTAL A)			5.0%	118,800
	DUST PALLIATIVE (0% OF SUBTOTAL A)(INCLUDED IN FURNISH WATER)			0.0%	0
	QUALITY CONTROL (1% OF SUBTOTAL A)			1.0%	23,800
	CONSTRUCTION SURVEYING (1.5% OF SUBTOTAL A)			1.5%	35,600
	EROSION CONTROL (1% OF SUBTOTAL A)			1.0%	23,800
	MOBILIZATION (8% OF SUBTOTAL A)			8.0%	190,100
	UNIDENTIFIED ITEMS (20% OF SUBTOTAL A)			20.0%	475,300
	SUBTOTAL B (SUBTOTAL A + PROJECT WIDE)				**$3,243,800**
OTHER PROJ	**OTHER PROJECT COSTS**				
	DPS TRAFFIC CONTROL				0
	JOINT PROJECT AGREEMENT ITEMS				0
	CONTRACTOR INCENTIVES				0
	ENVIRONMENTAL MITIGATION				0
	BASE YEAR CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,243,800**
BELOW	**BELOW THE LINE ITEMS**				
	POST DESIGN SERVICES (1% OF BASE YEAR CONSTRUCTION COST)			1.0%	32,400
	CONSTRUCTION CONTINGENCIES (5% OF BASE YEAR CONSTRUCTION COST)			5.0%	162,200
	CONSTRUCTION ENGINEERING (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	259,500
	SUBTOTAL BASE YEAR CONSTRUCTION				**3,697,900**
	INDIRECT COST ALLOCATION (0% OF BASE YEAR CONSTRUCTION+BELOW THE LINE ITE			0.00%	0
	BASE YEAR DEPARTMENT CONSTRUCTION COST (EXCLUDING UTILITIES & R/W)				**$3,697,900**
DES	**PREDESIGN AND FINAL DESIGN**				
	PREDESIGN/NEPA/PI SERVICES (3% OF BASE YEAR CONSTRUCTION COST)			3.0%	97,300
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL PREDESIGN				**97,300**
	FINAL DESIGN SERVICES (8% OF BASE YEAR CONSTRUCTION COST)			8.0%	259,500
	INDIRECT COST ALLOCATION (0% OF ALL DESIGN COSTS)			0.00%	0
	SUBTOTAL FINAL DESIGN				**259,500**
	TOTAL ESTIMATED DESIGN COST				**$356,800**
UTIL	**UTILITY RELOCATION**				
	PRIOR RIGHT UTILITY RELOCATIONS & SERVICE AGREEMENTS				
	INDIRECT COST ALLOCATION (0% OF ALL UTILITY COSTS)			0.00%	0
	TOTAL ESTIMATED UTILITY COST				**$0**
R/W	**RIGHT-OF-WAY**				
	RIGHT-OF-WAY	L. SUM			0
	INDIRECT COST ALLOCATION (0% OF ALL RIGHT-OF-WAY COSTS)			0.00%	0
	TOTAL ESTIMATED RIGHT-OF-WAY COSTS				**$0**
	TOTAL ESTIMATED PROJECT COST				**$4,055,000**