Arizona Avenue Shared-Use Path

Ray Road to Northern City Boundary

Chandler, Arizona

MAG Project No. 0600-0145-23-E001-1137A-0C.000018

Chandler Project No. CHN-23-DA-001

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Project Assessment Report

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ENGINEERING MAPPING SOLUTIONS

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1.0 Introduction

1.1 Purpose of Study

This study will help assist in the development of a shared-use path along the eastern side of Arizona Avenue from Ray Road to the Northern boundary of the city of Chandler (approximately near the Western Canal). The purpose of this study is to enhance accessibility for all users along the Arizona Avenue corridor by creating a continuous sidewalk that can improve connectivity between other cities and accessibility of multimodal mobility options.

The Arizona Avenue corridor is designated as a high-capacity transit corridor by the Chandler General Plan and Transportation Master Plan and the MAG Regional Transportation Plan. As a high frequency bus transit corridor, improvements to transportation options would support more pedestrian and bicyclist-friendly developments in the corridor, granting greater access to the regional transit network. Currently, the corridor lacks bike lanes, which is an area that could benefit from these improvements. This corridor also serves as a connecting point for the Town of Gilbert and the City of Mesa. Increasing connectivity between the uptown and downtown areas of the City of Chandler is an emphasis of the project.

1.2 Study Area

The proposed Arizona Avenue Shared-Use Path Project is approximately 2.8 miles long, spanning from Ray Road to the northern limit of the City of Chandler (The Western Canal trail crossing). The path will connect to residential communities and commercial centers along Arizona Avenue. Bike lanes existing on Knox Road and Elliot Road will connect to the proposed path. Additionally, the existing shared-use path along the north side of the Western Canal will also connect to the proposed Arizona Avenue shared-use path. The pathway is primarily located within City of Chandler right-of-way, but also involves ADOT and Salt River Project (SRP) right-of-way at and north of the Western Canal. The vicinity map is shown in **Figure 1**.

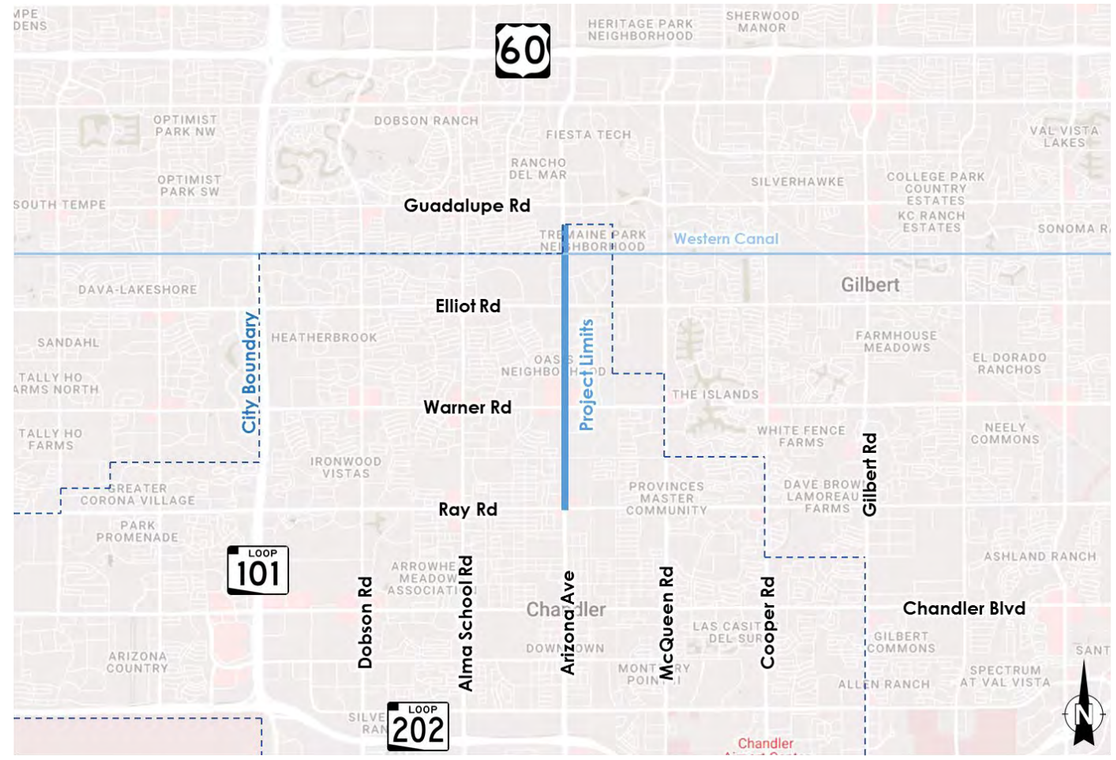


Figure 1: Vicinity Map

2.0 Background

2.1 Project Context

Arizona Avenue serves as Chandler's main arterial road that connects to the Town of Gilbert and City of Mesa. As a high-capacity transit corridor, improvements to transportation infrastructure are needed to enhance the existing sidewalk connectivity and transit stations. Improvements will ensure that people can safely and comfortably travel along the corridor, easily access nearby businesses, and reduce reliance on vehicles for short trips. The project aims to identify possible opportunities and constraints in relation to pedestrian/bicyclist safety. Opportunities that can take advantage of the existing design could be implemented when considering the availability of street frontages along the corridor. Opportunities and constraints must be documented to identify the gaps in the City's road infrastructure. These efforts will provide a better understanding of the circulation of Arizona Avenue to create uninterrupted movement along the corridor.

This study will catalog existing conditions, identify conflicts with existing infrastructure such as utilities, streetlights, and business signs, assess transit stop accessibility, and note opportunities for the location of a shared-use path on the east side of Arizona Avenue.

Shade elements along the proposed path such as vegetation and landscaping would improve the viability of multimodal mobility options like walking or cycling. Separated paths can keep pedestrians farther away from motor vehicles, which is a great option on undeveloped land around the corridor that would otherwise be underutilized. Additionally, these changes can provide a more comfortable outdoor environment for pedestrians, leading to increased access to businesses on the Arizona Avenue corridor.

The existing shared-use path and bicycle facilities, as identified in the *City of Chandler Transportation Master Plan* (2019), are shown in **Figure 2**. A significant shared-use path network is envisioned, with pathways covering nearly all canal miles within the City, pathways around the perimeter of the City, and additional connections within the City. The proposed pathway will connect to bike lanes on Knox Road and Elliot Road. It will also connect to the paved shared-use path along the Western Canal. The proposed pathway will allow easier access to Downtown Chandler, south of the project corridor which will increase connectivity between downtown and uptown areas of the City of Chandler.

2.2 Scope of Project Assessment

This Project Assessment Report and 15% design concept plans for the Arizona Avenue Shared-Use Path project were funded through the Maricopa Association of Governments Pedestrian and Bicycle Facilities Design Assistance Program. The City of Chandler is the lead agency for this project, with close coordination with ADOT and MAG stakeholders throughout the project. The Consultant Team includes Y2K Engineering, WERK Urban Design (conceptual renderings/visualizations), and Engineering Mapping Solutions (GIS Support). Aerial mapping was conducted using MAG County-wide Aerial Imagery. Right-of-way information was referenced from the City's Right-of-way GIS Dataset, and Maricopa County Parcel Assessor Maps.

The following tasks were included in the project scope:

- Task 1 – Meetings and Public Engagement
- Task 2 – Data Collection
- Task 3 – Data Analysis and Prioritization
- Task 4 – Draft Project Assessment Report
- Task 5 – Final Project Assessment Report
- Task 6 – Executive Summary and Regional Significance Report

The main project deliverables include a Project Assessment Report, 15% design concept plans, and a conceptual cost estimate. This project was initiated in August 2023 and was completed in June 2024. The design and construction phases of this project are not yet funded. Upon completion of the 15% plans and this project assessment, the next steps are to evaluate the feasibility of the project construction, procure funding, complete design, and bid the project for construction.

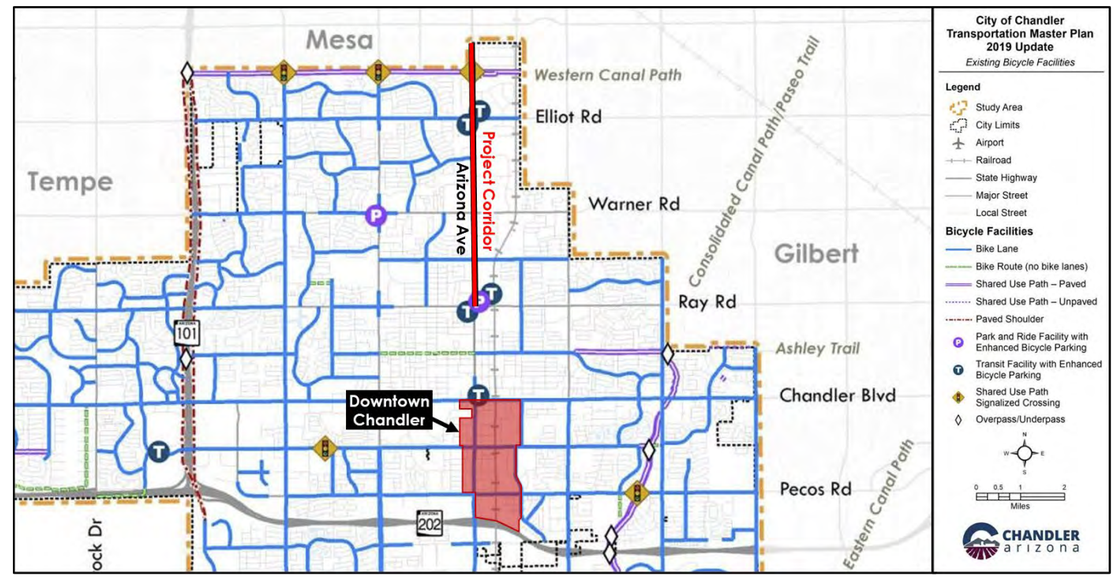


Figure 2: City of Chandler Existing (2019) Bicycle Facilities

3.0 Existing Conditions

3.1 Path Location and Surrounding Area

Within Uptown Chandler, the proposed shared-use pathway is located on the east side of Arizona Avenue, primarily within City of Chandler right-of-way. Due to the developed nature of the surrounding area, particularly near Ray Road, some limits of the path are located in private areas owned by nearby businesses. The proposed path alignment measures approximately 2.8 miles long and will extend from Ray Road to the northern limit of the City of Chandler – approximately 0.80 miles north of Elliot Road.

Uptown Chandler is located within the center of metro Phoenix's rapidly growing East Valley. The Uptown Chandler area consists of a multitude of corporate businesses as well as residential homes, schools, shopping centers, and restaurants. The entirety of the project corridor lies within the Uptown Chandler area. The existing amenities and facilities surrounding the project corridor can be seen in **Figure 3**.

Downtown Chandler's northern boundary is approximately 4,625 feet (7/8 of a mile) south of the project corridor as shown previously in **Figure 2**. The proposed path will allow for additional connections between the uptown and downtown areas of Chandler for pedestrians and bicyclists. The path will allow for easier access to the transit network within the area, which connects the two areas.

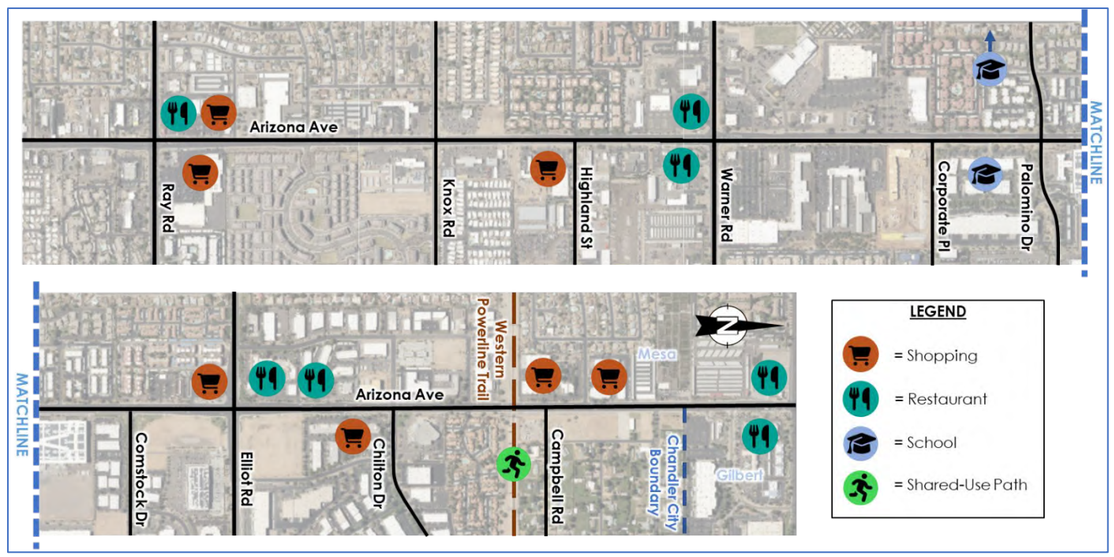


Figure 3: Surrounding Area Amenities and Facilities

Currently, undeveloped parcels are located within the alignment of the proposed shared-use path. Of the 2.8-mile project corridor, approximately 2,330 feet is undeveloped land on the east side of Arizona Avenue. Therefore, approximately 15.8% of the project corridor is undeveloped. Coordination with undeveloped parcels should be held to manage how the proposed shared-use path can be implemented while avoiding feasibility and right-of-way conflicts. The vacant parcels are shown in **Figure 4**.

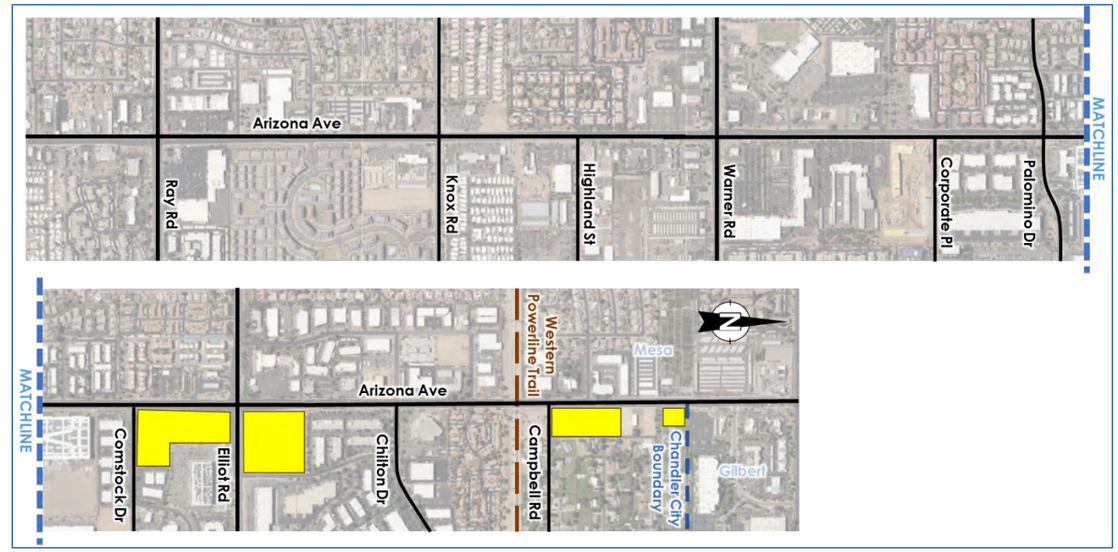


Figure 4: Undeveloped Parcels along the Alignment of the Proposed Path

3.2 Right-of-Way

Arizona Avenue (alternately named AZ-87) is maintained primarily by the City of Chandler and City of Chandler right-of-way encompasses the majority of the pathway project limits. North of the Western Canal, Arizona Avenue is within ADOT right-of-way. On the east side of Arizona Avenue, City of Chandler right-of-way typically parallels the roadway and contours around changes to the roadway width near right-turn lanes. Although the exact buffer dimension varies throughout the corridor limits, the right-of-way boundary line is typically located behind the existing sidewalk and roadway lighting (east of the roadway pavement width). However, in a few notable areas, the right-of-way boundary is immediately adjacent to the roadway pavement, which indicates the existing sidewalk (and potential utilities) are located on the property of various private parcels.

As the proposed shared-use path would extend the existing sidewalk on the east side of Arizona Avenue, the shared-use path may potentially fall into more private property or undeveloped land within the City of Chandler. It is advised to consider creating an Intergovernmental Agreement (IGA) between the City of Chandler and ADOT to define the responsibilities of each agency for the construction, maintenance, and operation of the pathway within ADOT right-of-way. An encroachment permit may be required from ADOT to construct the proposed pathway.

The Western Canal is located at the northern extent of the project. The canal is owned and operated by SRP. Portions of the pathway alignment connect and cross through the SRP canal right-of-way near Arizona Avenue. A License

Agreement (through SRP's Initial Plan Review process) will be required with SRP to construct the pathway within SRP's right-of-way.

3.3 Existing Roadways and Intersections

ARIZONA AVENUE

Arizona Avenue is identified as a Major Arterial in the *City of Chandler Transportation Master Plan (2019).* Arizona Avenue has a north-south alignment and a posted speed limit of 45 mph. Within the study area, Arizona Avenue has a seven-lane cross-section with three through lanes in each direction separated by a center two-way left-turn lane. The roadway is approximately 82 feet wide, from face-of-curb to face-of-curb for most of the study corridor. Sidewalk, curb, gutter, and streetlights are present on both sides of the street. Bike lanes are not available on Arizona Avenue. Arizona Avenue connects to US Route 60 approximately 1.75 miles north of the project limits.

RAY ROAD

Ray Road is classified as a Major Arterial per the *City of Chandler Transportation Master Plan (2019).* Ray Road has an east-west alignment and a posted speed limit of 45 mph. Within the vicinity of the project, Ray Road features two lanes in each direction with a center two-way left-turn lane. Sidewalks, curb, gutter, and roadway lighting are present on both sides of Ray Road. Bike lanes are not present on either side of Ray Road. Approximately three (3) miles west of the project, Ray Road connects to Loop 101.

WARNER ROAD

Warner Road has a Major Arterial classification per the *City of Chandler Transportation Master Plan (2019).* The roadway is aligned east-west and intersects with Arizona Avenue within the project limits. The posted speed limit on Warner Road is 45 mph. Warner Road features a five-lane cross-section which includes two lanes in each direction with a center two-way left-turn lane. Roadway facilities such as sidewalks, curb, gutter, and streetlights are available on both sides of the roadway. Bike lanes are not available on the roadway. Warner Road connects to Loop 101 approximately three (3) miles west of the project.

ELLIOT ROAD

Elliot Road is classified as a Major Arterial per the *City of Chandler Transportation Master Plan (2019)* and has an east-west alignment. The posted speed limit on the roadway is 45 mph. Within the vicinity of the project, Elliot Road features two lanes in each direction with a center two-way left-turn lane. Sidewalks, curb, gutter, and roadway lighting are present on both sides of Ray Road. Bike lanes are available on each side of Elliot Road. Elliot Road connects to Loop 101 approximately three (3) miles west of the project.

RAY ROAD & ARIZONA AVENUE

The intersection of Ray Road and Arizona Avenue is a four-legged signalized intersection. The northbound and southbound approaches feature dual left-turn lanes, three through lanes, a right-turn lane, and a bus lane. The eastbound and westbound approaches consist of dual left-turn lanes, two through lanes, and a shared through/right-turn lane. Pedestrian crosswalks are striped on all legs of the intersection and curb ramps are present on all corners of the intersection.

WARNER ROAD & ARIZONA AVENUE

Warner Road and Arizona Avenue is a four-legged signalized intersection located within the study area. The northbound and southbound approaches include a left-turn lane, three through lanes, a right-turn lane, and a bus lane. The eastbound and westbound approaches feature a left-turn lane, two through lanes, and a right-turn lane. All legs of the Warner Road/Arizona Avenue intersection have striped pedestrian crosswalks. All corners of the intersection are paved and have curb ramps.

ELLIOT ROAD & ARIZONA AVENUE

The Elliot Road and Arizona Avenue intersection is a four-legged signalized intersection. The northbound and southbound approaches consist of dual left-turn lanes, three through lanes, a right-turn lane, and a bus lane. The eastbound and westbound approaches to the intersection feature dual left-turn lanes, three through lanes, a right-turn lane, and a bike lane. Striped pedestrian crosswalks are present on all legs of the intersection and curb ramps are available on each corner of the intersection.

The existing lane configurations of the intersections within the study corridor are shown in Figure 5.

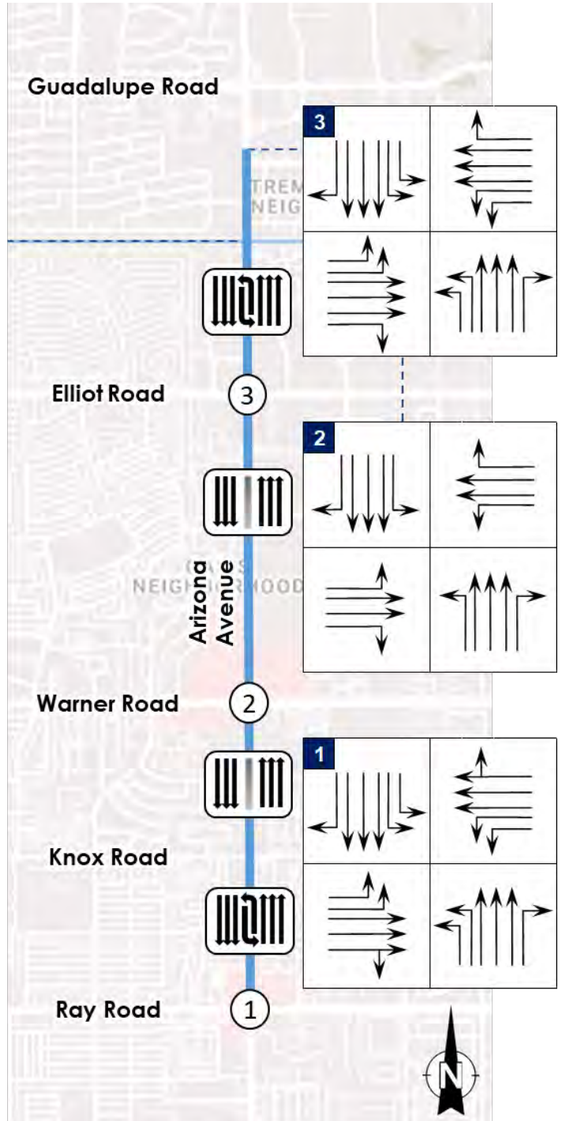


Figure 5: Existing Roadway Configuration

3.4 Existing Traffic Volumes

Traffic volumes and speed counts were not collected as part of this project. However, to understand a general estimate of the daily traffic volumes on Arizona Avenue, the Arizona Department of Transportation (ADOT) Traffic Data Management System (TDMS) was referenced[1].

Historical volumes in the database show Arizona Avenue served approximately 33,013 vehicles per day (combined northbound and southbound) in 2023. Considering the roadway provides three northbound and three southbound through lanes, the capacity of the roadway was determined to be sufficient based on MCDOT guidelines for roadway capacity outlined in the MCDOT *Roadway Design Manual* (March 2024).

3.5 Pedestrian, Bicycle, and Transit Facilities

Within the study area, sidewalks exist on all intersecting east-west roadways: Ray Road, Knox Road, Warner Road, Elliot Road, as well as all residential roadways. Five-foot-wide bike lanes are present on Knox Road and Elliot Road.

WESTERN CANAL

The Western Canal spans over 20 miles and connects the cities of Chandler, Mesa, Gilbert, Tempe, and Phoenix. In the vicinity of the Arizona Avenue Shared-Use Path project, the Western Canal is located near the north end of the corridor, near the northern City of Chandler boundary. A paved concrete path exists along the north side of the canal, providing a direct connection from the project area to the City of Gilbert to the east and the City of Tempe to the west. Overhead lighting is present along the paved path. The pedestrian curb ramps at the Arizona Avenue roadway crossing are ADA-compliant with truncated dome tactile strips.

NEARBY TRANSIT STOPS

The Valley Metro System Map is shown in **Figure 6**. Valley Metro Bus Route 112 serves the Arizona Avenue corridor in Chandler and connects to the cities of Gilbert and Mesa to the north. Bus Route 112 also connects the uptown and downtown areas of the City of Chandler. Bus Route 108 serves Elliot Road and Bus Route 140 serves Ray Road within the vicinity of the project site. A bus route does not exist on the other arterial road within the study area, Warner Road. Within the study area of the Arizona Avenue Shared-Use Path project, there are 19 bus stops on either side of Arizona Avenue.

Figure 7 depicts the approximate locations of the 19 bus stops along the corridor limits. The bus stops along the corridor are spaced in closer proximity and more frequently than typical bus stops throughout metropolitan Phoenix. This is due to Arizona Avenue's designation as a high-capacity transit corridor for bus rapid transit, as well as the guidelines noted in the *Valley Metro Bus System Handbook* (June 2019) which states at least four stops per mile are recommended near high-density areas such as major business or commercial districts.

[1] ADOT Traffic Data Management System:

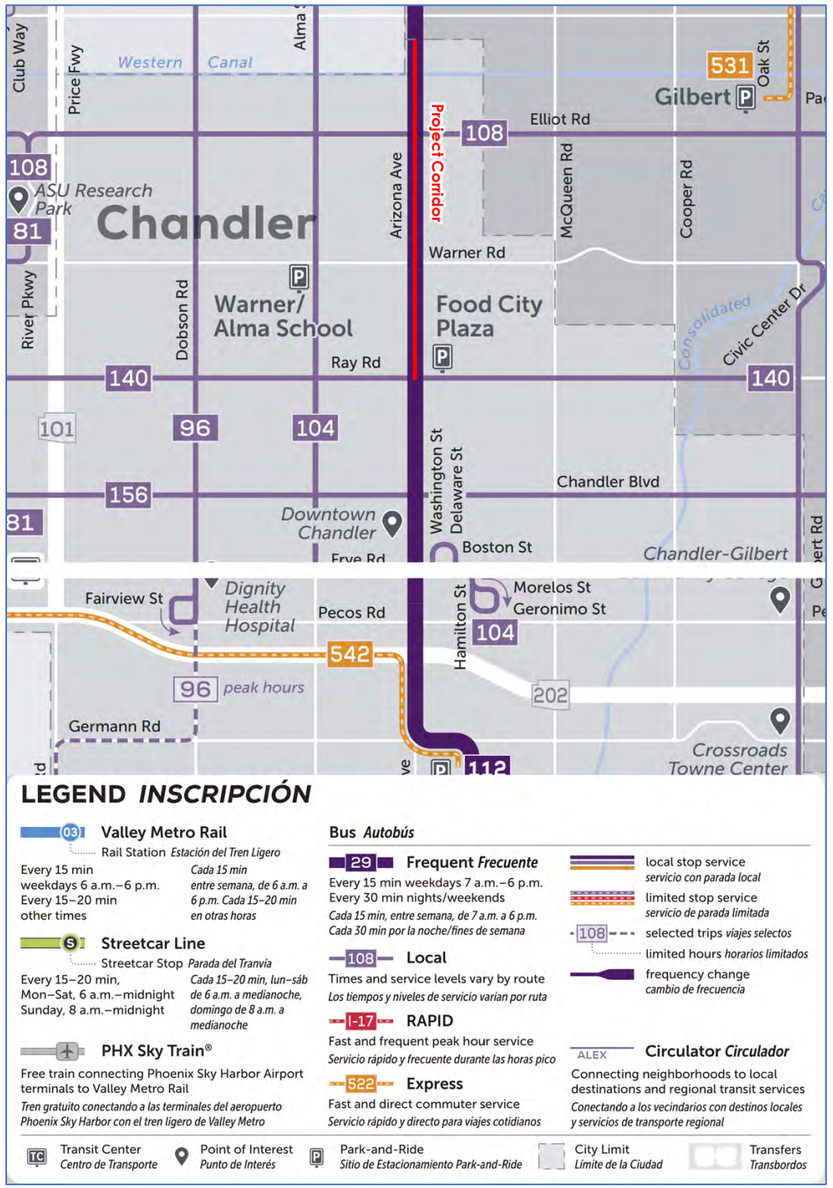


Figure 6: Valley Metro System Map

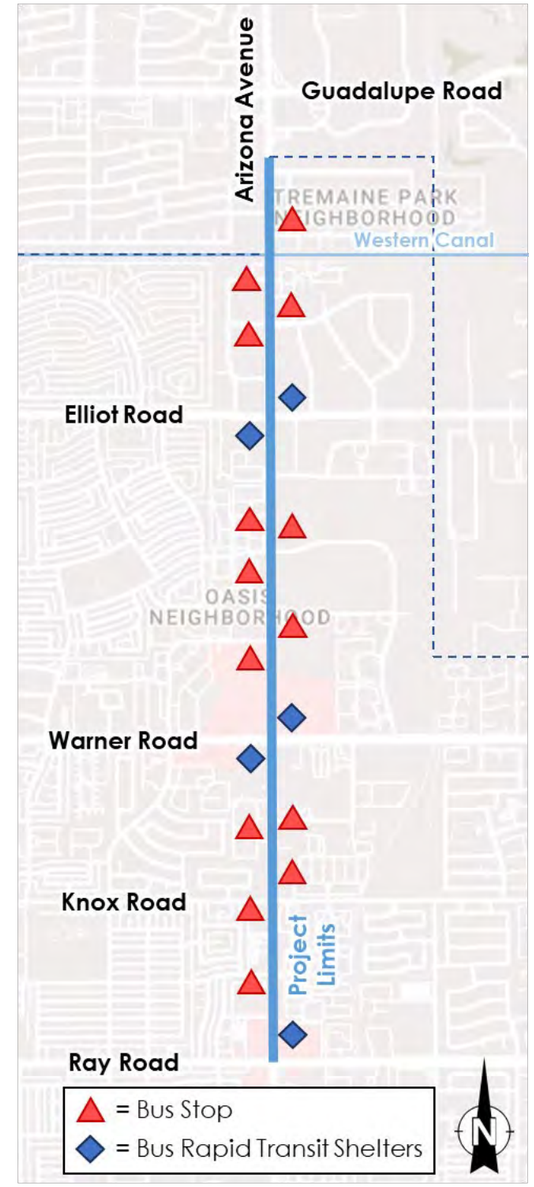


Figure 7: Location of Bus Stops

BUS SHELTER DESIGN

The bus rapid transit shelters along the corridor are located on the far side of the major arterial streets (Ray Road, Warner Road, and Elliot Road) and provide larger shelters with more shade and screening. The platform height is raised adjacent to the bus area to allow passengers with limited mobility an easier time transversing between the bus and the curb. Typically, buses will use a hydraulic or pneumatic 'kneeling device' to lower themselves to match the height of a platform, making it easier to traverse between the sidewalk and the bus; despite this lowering, a gap is still typically present. At these enhanced bus stop facilities, the raised curb ensures the gap is minimal to increase patron comfort. Furthermore, the bus rapid transit shelters are accompanied by a bus bay, typically from a queue jump lane or within existing continuous right-turn lanes along the frontage of commercial areas. This allows the buses to remove themselves from the northbound through traffic and serve large volumes of passengers without worries to through traffic congestion. This also allows the bus stops to be used as a 'time point' if needed, in which buses may stay for a few extra moments to maintain schedule. Additionally, the location of the bus bays within the queue jump lanes and continuous right-turn lanes offers ample distance for not only large buses (40 feet long), but also articulated buses (60 feet long).

A look at the enhanced bus stops immediately north of Warner Road and Ray Road is provided in **Figure 8** and **Figure 9**, respectively. A close-up view of the higher curb adjacent to the shelter is shown in **Figure 10**.

The regular bus stops along the corridor have smaller, more typical bus stop facilities with benches, shade structures, and normal curb heights that are consistent with the surrounding sidewalk heights. These stops are placed at mid-block locations further upstream of the rapid bus transit stops. **Figure 11** provides an example of the typical bus stops.

Figure 8: Enhanced Bus Stop Immediately North of Warner Road

Figure 9: Enhanced Bus Stop Immediately North of Ray Road

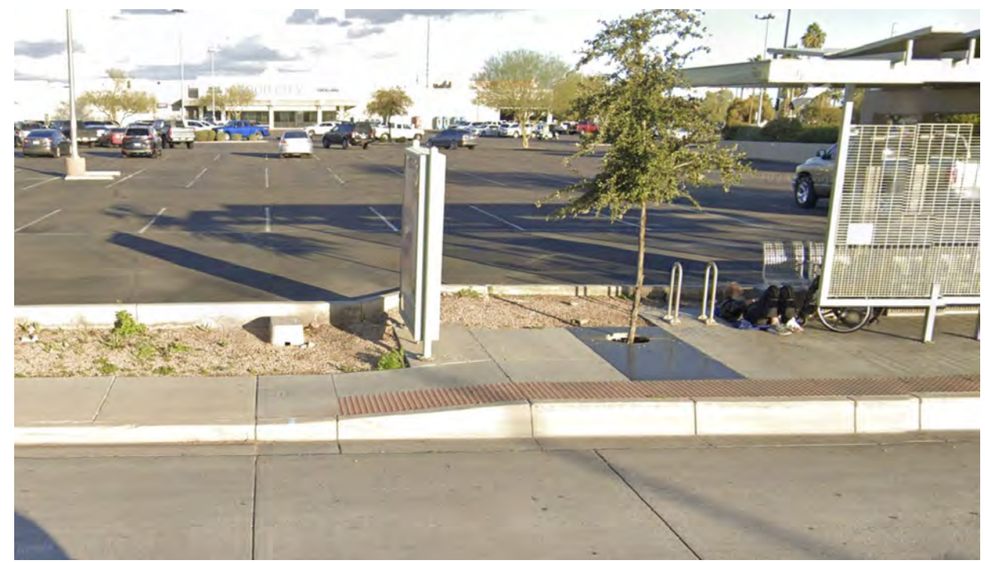


Figure 10: Close-Up View of Curb Height Difference Near Ray Road Bus Stop

Figure 11: Typical Smaller Bus Stop Facility

3.6 Historical Pedestrian and Bicycle Crash Analysis

A five-year historical crash review was conducted for motor vehicle crashes involving pedestrians and bicyclists within the study area using crash data from the ADOT crash database. The analysis reviewed crashes from 2018 to 2022, from Ray Road to the northern Chandler city boundary. The crashes are summarized in **Table 1**, in terms of crashes involving bicyclists ("B"), crashes involving pedestrians ("P"), and total non-motorized user crashes ("T"). Non-motorized crashes were infrequent along the study corridor was analyzed.

During the 5-year period, a total of nine (9) non-motorized user crashes were reported within the analyzed Arizona Avenue corridor. Six crashes involved bicyclists and three crashes involved pedestrians. A map of pedestrian-related and bicycle-related crashes is depicted in **Figure 12**. Most crashes (78%) occurred during daylight hours. In terms of crash severity, there was one (1) fatal crash, six (6) minor injury crashes, one (1) possible injury crashes, and one (1) crash that resulted in property damage only.

Table 1: Crashes Per Segment

Injury Severity	2018			2019			2020			2021			2022			5-Year Total
	B	P	T	B	P	T	B	P	T	B	P	T	B	P	T	
No Injury	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	**1**
Possible Injury	0	0	**0**	0	1	**1**	0	0	**0**	0	0	**0**	0	0	**0**	**1**
Minor Injury	1	0	**1**	3	1	**4**	0	1	**1**	0	0	**0**	0	0	**0**	**6**
Fatal	0	0	**0**	0	0	**0**	0	0	**0**	0	0	**0**	1	0	**1**	**1**
Total	1	1	**2**	3	2	**5**	0	1	**1**	0	0	**0**	1	0	**1**	**9**

B = Bicycle-Related Crashes, P = Pedestrian-Related Crashes, T = Total Non-Motorized User Crashes

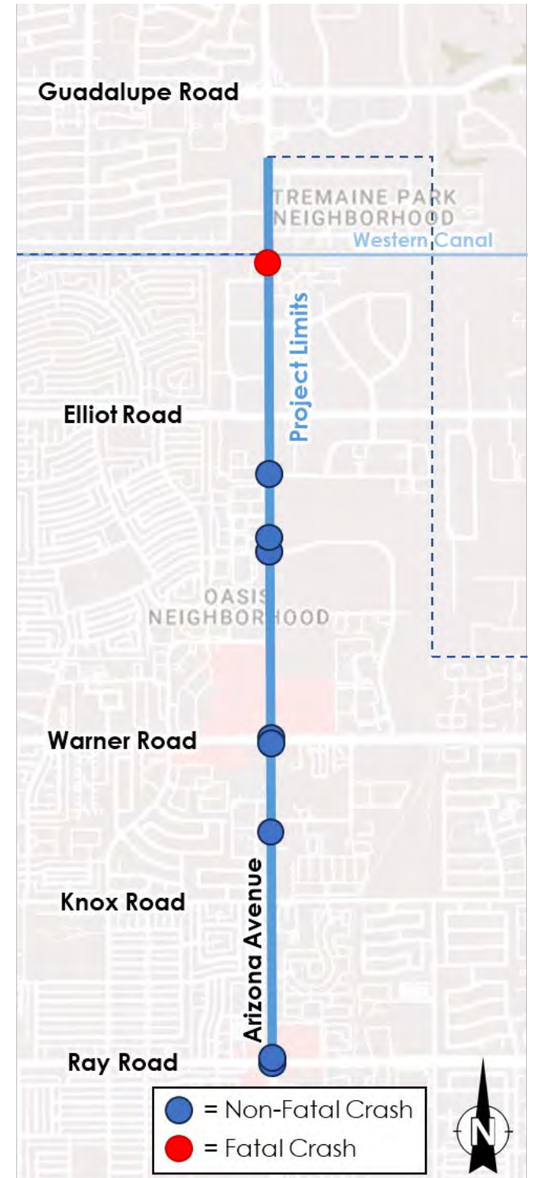


Figure 12: Reported Crashes Involving Pedestrians and Bicyclists

3.7 Existing Utilities

Existing utilities were identified based on Arizona 811. **Table 2** lists the owner and type of utility found along the corridor. If the project progresses through more advanced stages of design, the existing utilities should be verified through further investigation and documentation.

Table 2: Existing Utilities

Utility	Facility Type
AT&T	Coaxial Fiber Optics
American Traffic Solutions / Verra Mobility *(Red Light Cameras at Ray and Warner Intersections)*	CATV Communications Electric Telephone
ADOT	Culverts Electric Fiber Optics Gas Irrigation Sewer Storm Drain Telephone Traffic Signals Water
Arizona Public Service (APS	Electric
City of Chandler	Reclaimed Water Sewer Water
City of Chandler Traffic Signals	Electric Fiber Optics Telecommunications Traffic Signals
City of Mesa Utilities	Gas Sewer Water Street Lights
Cox Communications	CATV Fiber Optic
CTLQL – CenturyLink	Coaxial Fiber Optics
Gigapower, LLC	Fiber Optics
EPNG / Kinder Morgan *(At Western Power Trail)*	High Pressure Gas
MCI – (Verizon Business)	Fiber Optics
Salt River Project – Maricopa County	Communications Electric Fiber Optics Irrigation
Southwest Gas	Gas High Pressure Gas
Town of Gilbert	Fiber Optics Reclaimed Water Sewer Street Lights Traffic Signals Water
Ubiquity – Arizona, LLC	Fiber Optics
Verizon / MCI	Communications Fiber Optics
Zayo Group FKA AGL	Communications Fiber Optics

4.0 Best Practices and Design Criteria

The guidelines and criteria used in the development of this section are from the current editions of the AASHTO Guide for the Development of Bicycle Facilities, the AASHTO Guide for the Development of Pedestrian Facilities, A Policy on Geometric Design for Highways and Streets (AASHTO), the Manual on Uniform Traffic Control Devices (MUTCD), MAG Pedestrian Policies and Design Guidelines 2005, and the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide. The guidelines for vehicle, bicycle, and pedestrian facilities are described in the following sections.

The design criteria applicable to this project include, but are not limited to:

1. Chandler Specifications & Standard Details (Supplement to MAG), 2023;
2. Chandler Engineering and Design Standards Manual for Public Works Construction, 2023;
3. AASHTO A Policy on Geometric Design of Highways and Streets, 7th Edition
4. AASHTO Guide for the Development of Bicycle Facilities, 2012, Fourth Edition;
5. Manual on Uniform Traffic Control Devices (MUTCD), 2009;
6. Arizona Supplement to the 2009 MUTCD;
7. FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, 2018;
8. FHWA Evaluation of Safety, Design, and Operation of Shared-Use Paths, 2006;
9. National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, 2012;
10. MAG Uniform Standard Specifications and Details for Public Works Construction, 2019 Revision;
11. MAG Valley Path Brand and Wayfinding Signage Guidelines, 2015;
12. MAG Complete Streets Design Guide, 2011;
13. MAG Pedestrian Policies and Design Guidelines 2005;
14. MAG Regional Off-Street System (ROSS) Plan, 2001;
15. MAG Pedestrian Master Plan, 2000;
16. Arizona Avenue High-Capacity Transit Long Range Study, 2012;
17. Arizona Avenue Alternatives Analysis Final Report, 2021;
18. ADOT Temporary Traffic Control Design Guidelines, 2019;
19. ADOT Roadway Design Guidelines, 2014;
20. Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way, 2023;
21. ADA Standards for Accessible Design, 2010

4.1 Shared-Use Path

TYPICAL CROSS-SECTION

The typical cross-section for a shared-use path depends on the context, volume of users, and use type. Based on the 2012 AASHTO Guide for the Development of Bicycle Facilities, the typical width for shared-use paths ranges from 10 feet to 14 feet wide. In general, the minimum width for a two-directional shared-use path is 10 feet but may be reduced in physically constrained areas. Wider paths are appropriate if high pedestrian and bicyclist use is anticipated or the path will be used by maintenance vehicles. Lateral obstructions, such as shrubs, large rocks, signposts, and poles, should be placed at least 2 feet from the edge of the path.

HORIZONTAL ALIGNMENT

Guidance for the horizontal alignment of the path is provided in the 2012 AASHTO Guide for the Development of Bicycle Facilities. The criteria is based on the safety and comfort of bicyclists on path curves. The minimum radius for horizontal curves is based on a design speed and a desirable maximum 20% lean angle of the bicyclist. The minimum radii for horizontal curves on shared-use paths are shown in Table 3.

Table 3: Minimum Radii for Horizontal Curves on Paved, Shared-Use Paths at 20-Degree Lean Angle

Design Speed (mph)	Minimum Radius (ft)
12	27
14	36
16	47
18	60
20	74
25	115
30	166

Source: AASHTO Guide for the Development of Bicycle Facilities, Table 5-2

In general, the curve radius should be based on design speeds of 18 to 30 mph, resulting in a minimum radius of 60 feet. Lower design speeds of 12 to 16 mph may be used if environmental or physical constraints limit the geometrics. In these cases, the minimum radius that may be used is 27 feet.

5.0 Conceptual Path Design

The 15% design concept plans for the Arizona Avenue Shared-Use Path project are provided in Appendix A. Design details are described in the subsequent sections.

5.1 Preliminary and Refined Path Alignment

The design for the pathway alignment considered existing constraints such as: electrical poles, bus stop shelters, existing driveway and right-turn lane conflicts, drainage basins, drainage structures, various utility boxes, commercial signs, landscaping, and availability of right-of-way.

During the process of drafting the potential placement of the path, it was observed that some areas provide limited space for the 10-foot wide path. These areas were typically along existing commercial parcels with numerous driveways and utilities, significant drainage basins, and limited right-of-way along Ray Road. While it is ideal to maintain a gradual bend to the path and avoid sharp changes to alignment, some areas within the design corridor will present significant challenges to maintaining a straight pathway without incurring significant cost from moving/reconstructing existing infrastructure.

Other areas along the path alignment will present relatively few challenges to place the proposed shared-use path. Other areas along the path alignment will present only minor challenges to place the proposed shared-use path. These areas were typically along undeveloped parcels, or along developed parcels with large right-of-way availability and minimal driveways and utilities.

To visually identify the areas along the alignment that will present significant challenges, a red, blue, and green color attribute was added to the 15% design plans. Two separate evaluations were performed independently; One evaluation reviewed feasibility of the path, without consideration of right-of-way, and the second evaluation reviewed right-of-way impact of the path. The path feasibility evaluation can be seen in Figure 13.

Red represents high-conflict areas along the study corridor where path feasibility is lower. Some example areas are immediately north of Ray Road and Warner Road along the commercial frontage. Typically, these are areas where commercial developments are utilizing the space for parking or drive aisles, where significant drainage basins detain roadway and site stormwater, or where a new path would impact a number of utilities and landscaping features. Although the feasibility is lower than other portions of the project area, these areas are not likely to be technically infeasible.

Blue is attributed to areas with some utility conflicts, minor landscaping impacts, marginal impacts to commercial use of the land, and slight impacts to drainage and grading where the path feasibility is moderate. Some example blue areas are immediately north of Knox Road and Palomino Drive.

Green denotes areas with little to no utility conflicts, few drainage basins, minimal driveways, and where the feasibility for construction of a new 10-foot path is high. Some example green areas are immediately north of Comstock Drive, Elliot Road, and Chilton Drive.

The right-of-way conflict evaluation can be seen in Figure 14. The red areas represent parcels where the path will require significant right-of-way acquisition. Blue represents areas where moderate right-of-way acquisition will be required, or where temporary construction easements will need to be needed to allow for grading and drainage improvements adjacent to the path. Green represents areas where the path can likely be constructed with little to no right-of-way acquisition or with only minor temporary construction easements.

A more detailed look at these conflict areas can be seen in Appendix A.

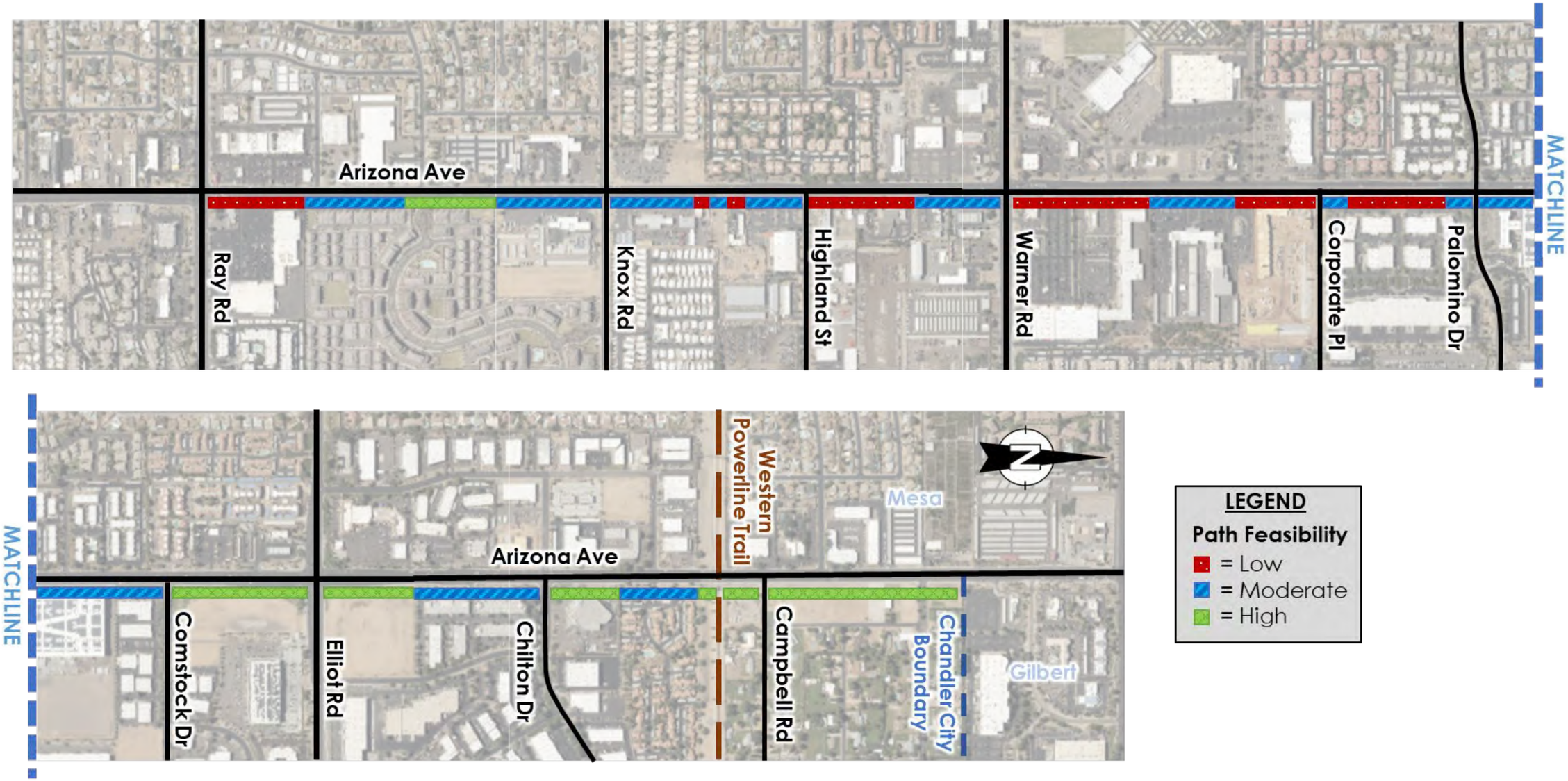


Figure 13: Path Feasibility of Proposed Path Location

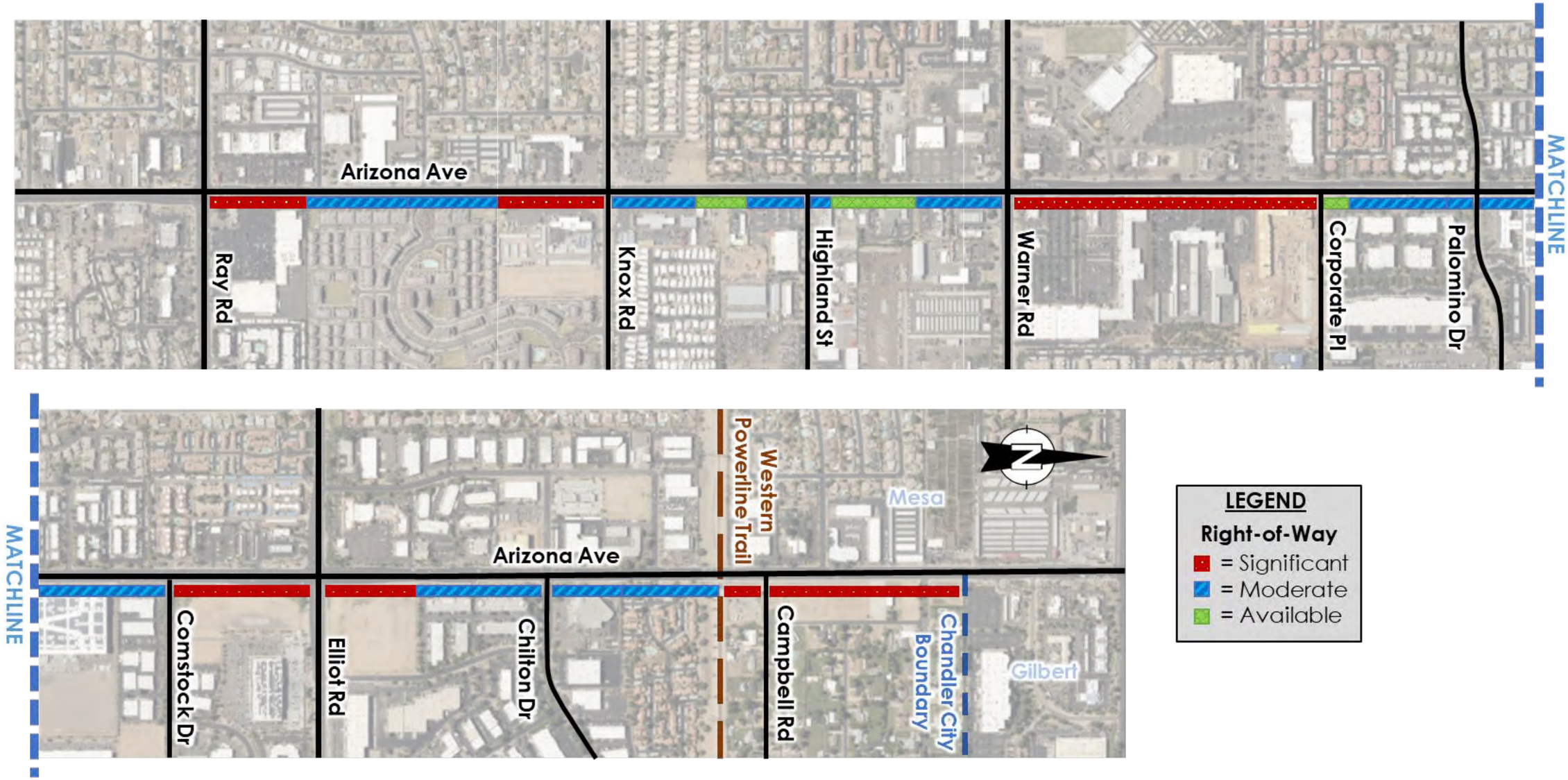


Figure 14: Right-of-Way Conflicts of Proposed Path Location

DESIGN CHALLENGES

The shared-use path is proposed on the east side of Arizona Avenue from Ray Road to the northern Chandler border. Approximately 600 feet north of Ray Road, the east side of Arizona Avenue features a sidewalk and a narrow landscape buffer that borders existing parking lots and driveways. It would be a challenge to install a shared-use path in this area due to the existing configuration of the sidewalk and the connection to multiple driveways. There is a bus stop located in this stretch that would need to be taken into consideration when installing a path, and a fire hydrant and streetlights would need to be relocated.

Approximately 570 and 800 feet north of Knox Road, there are two sections on the east side of Arizona Avenue where installing a shared-use path would be difficult. In the former section, an existing wall and commercial sign for an adjacent business restricts the space necessary for a shared-use path. In the former section, drainage facilities create a challenge for path implementation, and streetlights need to be relocated.

Several driveways are located along a 690-foot section of Arizona Avenue north of Highland Street. The multitude of driveways makes path feasibility in the area low. A shared-use path along this stretch of the roadway would require fire hydrant and streetlight relocations while also conflicting with existing drainage facilities.

A 530-foot section south of Corporate Place is currently under construction with the previous sidewalk area removed. This area would need to be reevaluated in a future study when the development has finished. It should be noted that there are drainage facilities in this section that could present problems with installing a shared-use path.

160 feet north of Corporate Place is where another high-conflict area is present. The existing landscaping and commercial signage restrict the proposed alignment of the shared-use path, so it would be situated directly alongside Arizona Avenue, following the existing right-turn bay. Streetlights and fire hydrants would require relocation and conflicts with drainage facilities are apparent in this section.

5.2 Desired Cross-Section

The proposed path consists of concrete sections. When right-of-way allows, the shared-use path will have a 10-foot width. Some areas with several conflicts and limited right-of-way will provide a slightly narrower path width. Similarly, whenever right-of-way allows, the shared-use path will be positioned a few feet east of Arizona Avenue to provide a buffer space and enhance comfort for users. In areas with limited right-of-way, the path will be located immediately adjacent to Arizona Avenue. In areas where a bus shelter/benches are present and limited right-of-way exists, the path will be split to traverse both the east and west sides of the bus shelter to reduce the impacts and/or right-of-way acquisition.

Grading improvements are anticipated in several locations within the study area to ensure a safe, comfortable, and accessible experience for all users. The pathway area should be excavated and prepared to comply with City of Chandler standards. To maintain compliance with the ADA Standards for Accessible Design and the latest Public Right-of-Way Accessibility Guidelines, the pathway is designed to connect across all driveways further east of Ray Road to minimize the grade difference and ensure a reasonable slope. All facilities shall be evaluated for ADA compliance in final design, ensuring all necessary improvements are made.

The desired path cross-section is depicted in **Figure 15**.

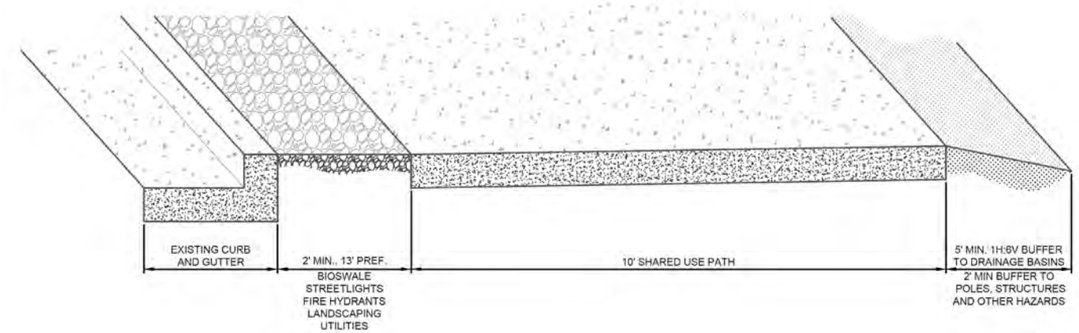


Figure 15: Desired Path Cross-Section

5.3 Lighting

Overhead lighting is present along both sides of Arizona Avenue throughout the path limits. Although the light poles are located behind the existing sidewalk path, the proposed shared-use path plans to widen the existing sidewalk width to provide a 10-foot-wide path, which may conflict the location of existing light poles. Where conflicts are present, the existing overhead light poles will need to be relocated behind the shared-use path (further east of Arizona Avenue). When the City initiates a capital project in the corridor, existing direct-bury light poles will need to be replaced with light poles set on concrete foundations.

The shared-use path project does not plan to construct any new pedestrian-level lighting such as bollards. The existing and relocated overhead streetlights are anticipated to adequately illuminate the path. However, the illumination of the roadway lighting along Ray Road should be verified to ensure adequate nighttime illumination.

5.4 ADA Accessibility

PROWAG standards were recently published and adopted in 2023 and are outlined in the *Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way*. Per the guidelines, the cross-slope of the path should be a maximum of 2.1%.

All existing or proposed curb ramps should be upgraded per the ADA Standards for Accessible Design and the latest Public Right-of-Way Accessibility Guidelines. All facilities shall be evaluated for ADA compliance in final design, ensuring all necessary improvements are made.

5.5 Traffic Signs

All existing traffic signs within the proposed path alignment will need to be relocated. The relocated signs should be installed per the MUTCD and Chandler Specifications & Standard Details.

5.6 Landscaping

The pathway will predominantly be aligned adjacent to the east side of Arizona Avenue. Although a landscape buffer to separate vehicles from pedestrians and bicyclists is not proposed, landscaping vegetation should still be considered as part of construction if right-of-way and budget allow. Providing landscaping, particularly trees with ample shade, can increase the comfort for multimodal users and provide relief from the Arizona heat. Furthermore, trees and vegetation can help enhance the feel of Arizona Avenue, as it aligns with the goals of a complete street. Based on right-of-way constraints, landscaping opportunities are limited near the southern side of the path, and more feasible near the northern end of the path.

Landscaping for the project should be designed following the City of Chandler Engineering and Design Standards Manual and the MAG Pedestrian Policies and Design Guidelines (2005). Landscaping should be limited to low-water-use and drought-tolerant plants. New trees shall meet size requirements as specified in the latest edition of the Arizona Nursery Association "Recommended Tree Specifications". New shrubs shall have a minimum mature growth height of 18 inches and at least half of the new shrubs (including ground cover and accent) shall be a minimum of 5 gallons upon installation.

Furthermore, all vegetation along the corridor, including any potential new vegetation, should be trimmed to maintain minimum clearance distances per the Valley Metro Bus System Handbook (June 2019). The Handbook advises overhead obstruction (such as tree canopies) to be a minimum of 12 feet above the street surface. Vertical obstructions (such as shrubs or tree trunks) should be located at least 2 feet from the edge of the street to avoid blocking the visibility of the bus and avoid being struck by a bus mirror. An example diagram from the Valley Metro Bus System Handbook that depicts the minimum clearances around a bus (either along a through travel lane or near a bus stop) is shown in **Figure 16**.

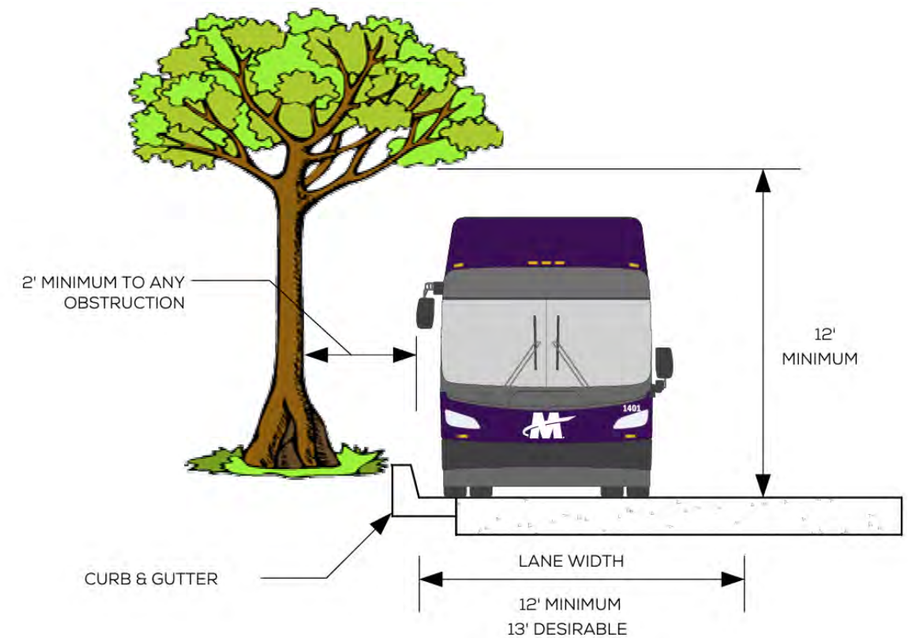


Figure 16: Valley Metro Guideline for Landscaping Clearance

6.0 Proposed Shared-Use Path Design

The Arizona Avenue Shared-Use Path project will feature three different proposed path designs. The design is dependent on the location of the path and its proximity to surrounding roadway facilities. The three designs are as follows:

- Detached from the curb of the adjacent roadway with a landscaped buffer between the roadway and path
- Attached to the curb of the adjacent roadway
- Split path with both attached and detached sections that proceed around a bus stop shelter

6.1 Detached Shared-Use Path

The sections of the proposed path that feature a detached path from the roadway will include a 10-foot concrete path per City of Chandler standards. The path will be separated by a landscaped buffer that acts as a bioswale to allow water to drain along the length of the path. The width of the bioswale will vary with the available right-of-way. On the east side of the proposed path, existing landscaping and/or adjacent developments exist. The proposed detached shared-use path is the recommended and preferred option. The detached shared-use path should be implemented as a primary option where applicable. A rendering of the detached section of the proposed shared-use path is shown in Figure 17.

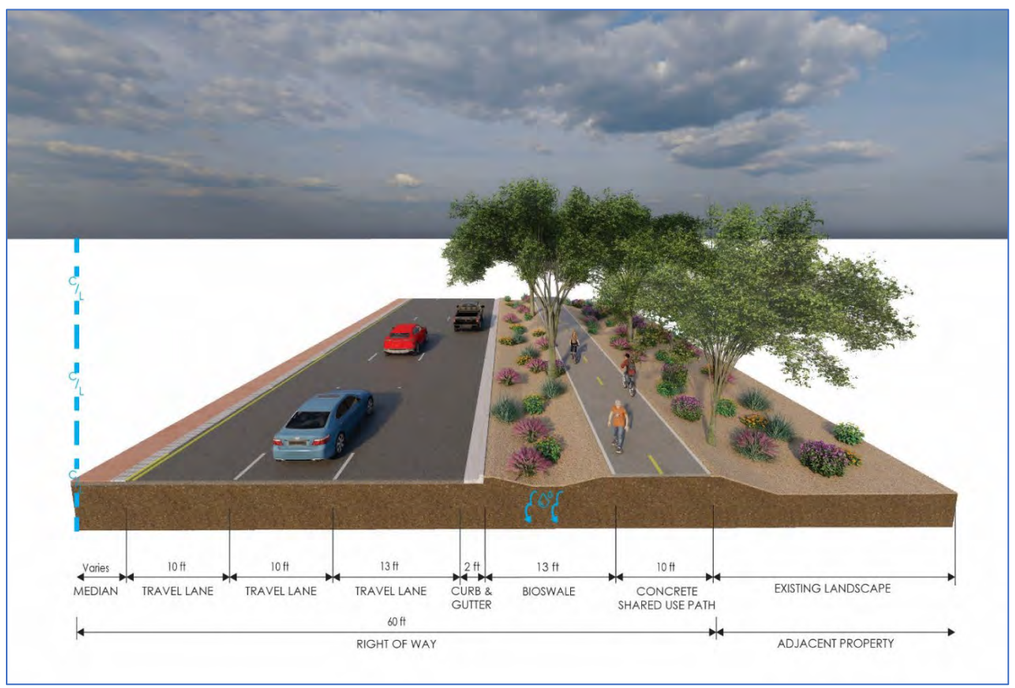


Figure 17: Proposed Shared-Use Path – Detached Section

6.2 Attached Shared-Use Path

The attached sections of the shared-use path will feature a 10-foot concrete path following Chandler standards. The path will be attached directly to the curb on the east side of Arizona Avenue. The existing landscape and/or adjacent property will border the east side of the proposed path. The attached shared-use path should be used when it is not feasible to implement the detached shared-use path concept. The proposed attached shared-use path section is displayed in Figure 18.

Figure 18: Proposed Shared-Use Path – Attached Section

6.3 Split Shared-Use Path

At locations where there are bus shelters along the proposed alignment of the path, the path will split into separate attached and detached pathways. Both the attached and detached pathways will be approximately 5 feet wide. The existing bus shelter will be positioned between the two separate pathways. The splitting of the proposed path allows path users to continue along the path without being interrupted by or interrupting transit users accessing the bus. Existing landscaping and/or adjacent developments border the east side of the proposed path. The split section of the proposed path is displayed in **Figure 19**.

Figure 19: Proposed Shared-Use Path – Split Section

7.0 Development Considerations

7.1 Required Coordination

ADOT owns and maintains State Route 87 (SR87). Coordination with ADOT may be required for any work within the state right-of-way, including highways, driveway, grading, fence removal and replacement, surveying, and geotechnical investigation.

7.2 Right-of-Way Requirements

Right-of-way acquisition is anticipated for this project. The path is proposed within City of Chandler and ADOT right-of-way, along with the northern border near SRP right-of-way; modifications to land ownership are not anticipated. Intergovernmental agreements (IGAs) with ADOT will be needed to facilitate path design, construction, operation, and maintenance needs.

Table 4 is an initial list of areas where right-of-way acquisition is necessary and is not likely to be available, or will be very challenging to attain due to property, drainage, or utility conflicts.

Table 4: Parcels with Difficult Right-of-way Acquisition

Address	Parcel Land Use	Approximate Location
1001	Fast Food – Burger King	North of Ray Road
1007 and 1033	Strip Mall – Food City, Family Dollar	North of Ray Road
1461	Used Car Dealer – Maxum Motors	North of Knox Road
1505	Mechanic – Caliber Collision	North of Knox Road
1701	Retail Business – Patio Star AZ	North of Highland Street
1715	Non-Retail – Frye Construction, Inc.	North of Highland Street
1721 and 1727	Strip Mall – TechBud Solutions, IntelliSchool, State Farm Agent	North of Highland Street
2001	Fast Food – Dunkin' Donuts	North of Warner Road
2031 and 2051	Strip Mall – PGA Tour Superstore, Barro's Pizza, NAPA Auto Parts	North of Warner Road
2121	Car Dealership – Earnhardt Chevrolet	North of Warner Road
2551	Business Park – Primavera Online High School, Praise and Worship	North of Corporate Place

7.3 Utility Requirements

The primary utilities impacted by the Shared-Use Path will be City of Chandler streetlights, City of Chandler fire hydrants, and telecommunications vaults within the footprint of the proposed path. Streetlights, fire hydrants, water meters, and vault boxes will need to be relocated to be outside of the Shared-Use Path. Other linear underground utilities, such as underground electrical power and communications conduits, may be able to remain below the Shared-Use Path with approval of the appropriate agency. During design construction, the utility agency's minimum depth of cover should be considered and maintained to ensure conduits and pipes are not damaged.

Coordination with each agency and utility provider is essential in the early stages of design to identify any further conflicts, requirements, prior rights, and any relocation needs.

7.4 Drainage

Throughout the Project Area, on-street stormwater is conveyance consists of curb and gutter and a series of concrete scuppers. The concrete scuppers allow stormwater to flow off the roadway into concrete basins, at which point the stormwater is discharged to a dry well or an underground stormwater conveyance system. The drainage facilities appear to collect both on-site and roadway stormwater flows. An example of one of these scupper systems is shown in Figure 20.

Figure 20: Concrete Drainage Scupper

Some areas of the project include deeper basins, occasionally with riprap bottoms, that appear to act as retention basins, allowing stormwater to pool and infiltrate into the ground over time. These retention basins may also include overflow inlets to a subsurface conveyance system or dry wells if water rises to a predetermined elevation. An example of a retention basin is shown in Figure 21.

Figure 21: Retention Basin

Each stormwater basin and associated inlets is likely sized for detention capacity by calculations performed by a design engineer for each unique situation. Construction of a pathway that reduces the capacity of the basins or impacts the existing scupper should be carefully evaluated on a case-by-case basis to ensure that stormwater will be properly conveyed from the roadway. Some drainage basins may not be maintained and do not meet current standards. During final design, drainage basins would need to be reviewed where the pathway is proposed.

Reductions to the size of existing drainage basins may be possible with the addition of new dry wells, new underground stormwater conveyance systems, new subsurface infiltration beds, or other stormwater quality Best-Management-Practices and Low-Impact-Development tools. A significant challenge that the concrete scuppers create, as it relates to a shared-use path, is the AASHTO requirement of a 5-foot buffer prior to steep drops in elevation. Therefore, each scupper will need to be extended to encompass the proposed 10-foot shared-use path and an additional 5 feet for the buffer area.

7.5 Traffic Requirements

The construction of this project should be designed and constructed to minimize impacts to road users on intersecting arterial roads, collector roads, and local driveways. Considering the path's proximity to Ray Road, one or two outside lanes at the northbound approach of the Arizona Avenue/Ray Road intersection may need to be closed during some phases of the construction. Full road closures on Ray Road near the Arizona Avenue project corridor are not anticipated. However, the collector and local roads/driveways near the Arizona Avenue/Ray Road intersection may be temporarily closed or restricted to local traffic only as part of constructing the path and associated ADA curb ramps.

Traffic control plans should conform to the Chandler Engineering and Design Standards Manual for Public Works Construction and the ADOT Temporary Traffic Control Design Guidelines, which were prepared in conformance with the MUTCD. Traffic control plans should include signing, pavement marking and barricades to route pedestrian, bicyclists, and motorists around work zones.

7.6 Survey Mapping Requirements

A control survey for the project will be collected during final design. The control survey for the project should include datum control surveys, ground control for topographic completion surveys, and control surveys for road ROWs. Property corners discovered during the field survey should be surveyed and included in project basemaps.

Ground-based topographic surveys should be provided to generate basemaps at a 1"=20' scale and to prepare DTM generated 1-foot contours. Primary streets should be surveyed to 50-feet beyond the curb returns with cross streets surveyed to 30-feet beyond the curb returns.

Surveys should include roadway centerline, top and bottom of curb (flowline), back of sidewalk and grade changes. A sufficient number of survey data points shall be collected to determine the approximate location of the road crown and to construct a surface model. Transportation features, pavement markings, signs, ROW, curb returns and bulbs, surface utilities, underground features, overhead utilities, landscaping, and natural features should be included in the survey.

8.0 Cost Estimate

Conceptual project costs were developed to provide an order of magnitude level of funding that might be required for the project. A table of Unit Prices for major expected items was developed to provide a basis for the cost estimate, with each item including a significant margin of contingency to account for all associated aspects and unanticipated utility conflicts that might be costed separately at advanced stages of the project design. The primary cost items are as follows:

1) Existing Sidewalk Removal - $20 per LF
    a. Assumes a typical 4-foot-wide existing concrete sidewalk (4 SF / LF)
2) New Shared-Use Path - $120 per LF
    a. Assumes a 10-foot-wide concrete path (10 SF / LF) with 6-inch aggregate bedding (0.19 CY / LF)
3) Landscaping Buffers - $15 per LF
    a. Assumes 8-foot combined width of decomposed granite buffers, misc. re-plantings
4) Streetlight Relocation - $4,000 Each
    a. Assumes Removal, Conduit Relocation, Pull Box Relocation, New Foundation, and Pole Relocation
5) Fire Hydrant Relocation - $5,000 Each
    a. Assumes Removal, Trenching, Valve Relocation, Additional Pipes, Fittings, and Thrust Blocks
6) Drainage Scupper Reconstruction - $7,500 Each
    a. Assumes removal and construction of a new 17-foot Length Drainage Scupper
7) Driveway Reconstruction - $20,000 Each
    a. Assumes removal of existing concrete, new concrete pavement, and asphalt for grade tie-in
8) Bus Stop Reconstruction - $15,000 Each
    a. Assumes new Concrete Pad and relocation of Bus Shelter and Amenities
9) Commercial Sign - $15,000 Each
    a. Assumes Removal and Reconstruction of a New Equivalent Commercial Sign
10) Drainage Basin Impacts - $125 per LF
    a. Assumes soil import and re-grading of 2 CY per LF of impact
11) Drainage Basin Reconstruction - $50,000 Each
    a. Assumes drywell modifications or subsurface infiltration bed for each instance
12) Path Feasibility Low Areas - $200 per LF
    a. Additional cost for landscape remediation, site improvements, and driveway reconfigurations
13) Path Feasibility Moderate Areas - $100 per LF
    a. Additional cost for minor landscaping, utility vault relocations, and driveway improvements
14) Path Feasibility High Areas - $0 per LF
    a. Assumes that minimal relocations are required
15) Right of Way and Temporary Easements – $1,000,000 Lump Sum

Unit prices are reflective of industry experience and historical bid tabulations to provide an order of magnitude basis for costs but are not intended to be reflective of actual expected unit prices for construction. The conceptual level cost estimate is provided in **Table 5**. The construction cost of the Arizona Avenue Shared-Use Path project is estimated to be approximately $12.2 million.

City of Chandler - Arizona Avenue Shared Use Path
15% Submittal - Construction Cost Estimate
September 2024

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	Remove Sidewalk	L.F.	14,500	$ 20.00	$ 290,000.00
2	Concrete Path	L.F.	14,500	$ 120.00	$ 1,740,000.00
3	Landscaping Buffers	L.F.	14,500	$ 15.00	$ 217,500.00
4	Streetlight Relocation	EA.	46	$ 4,000.00	$ 184,000.00
5	Fire Hydrant Relocation	EA.	11	$ 5,000.00	$ 55,000.00
6	Drainage Scupper Reconstruction	EA.	32	$ 7,500.00	$ 240,000.00
7	Driveway Reconstruction	EA.	29	$ 20,000.00	$ 580,000.00
8	Bus Stop Reconstruction	EA.	8	$ 15,000.00	$ 120,000.00
9	Commercial Sign	EA.	3	$ 15,000.00	$ 45,000.00
10	Drainage Basin Impacts	L.F.	2,300	$ 125.00	$ 287,500.00
11	Drainage Basin Reconstruction	EA.	12	$ 50,000.00	$ 600,000.00
12	Path Feasibility Low	L.F.	3,870	$ 200.00	$ 774,000.00
13	Path Feasibility Moderate	L.F.	6,475	$ 100.00	$ 647,500.00
14	Path Feasibility High	L.F.	4,155	$ -	$ -
15	Right of Way and Temporary Easements	L.S.	-	$ 1,000,000.00	$ 1,000,000.00
				SUBTOTAL	$ 6,780,500.00
16	Contingency and Unpriced Items (35%)	%		35%	$ 2,373,175.00
17	Traffic Control (5%)	%		5%	$ 339,025.00
18	Construction Administration and Mobilization (20%)	%		20%	$ 1,356,100.00
19	Engineering and Design (10%)	%		10%	$ 678,050.00
20	Owners Allowance (10%)	%		10%	$ 678,050.00
					$ -
				TOTAL	**$12,204,900.00**

Table 5: Conceptual Level Cost Estimate

9.0 Conclusion

The Arizona Avenue Shared-Use Path project represents a significant advancement in urban transportation and community connectivity for the City of Chandler. This initiative will enhance connectivity within Uptown Chandler and facilitate smoother access between the uptown and downtown areas of Chandler. The project path will seamlessly connect to the Western Powerline Trail, providing an extended route for cyclists and pedestrians. The Arizona Avenue project corridor was highlighted as an important corridor due to its connectivity to the surrounding transportation network and its importance as a high-capacity transit corridor as shown in the City of Chandler Transportation Master Plan (2019). The corridor currently lacks bike lanes, making the proposed shared-use path an important addition to enhancing bicycle infrastructure in the area. The Arizona Avenue Shared-Use Path project emphasizes a commitment to enhancing transportation infrastructure and bolstering community life and urban vitality.

Various challenges are presented in the Arizona Avenue Shared-Use Path project including path feasibility and right-of-way conflicts. As Uptown Chandler is redeveloped, this study serves as a vision for developers to include the proposed shared-use path within their property. To alleviate future conflicts with new developments, it is recommended that the City of Chandler incorporate the Arizona Avenue shared-use path into the Transportation Master Plan and Capital Improvement Program to help best position the corridor for competitive grant funding. The Transportation Master Plan recommends bike lanes on the Arizona Avenue corridor, but it is recommended that the proposed shared-use path take its place. The City should also require new developments and redevelopments requiring rezoning to dedicate approximately 70 feet of right-of-way, as measured from the roadway centerline. Additionally, the City could request that any developer that is willing to construct the 10-foot-wide path do so on the condition that a minimum of 100 feet of continuous path can be constructed and transitions to narrower sidewalks can be implemented at driveways or intersections.

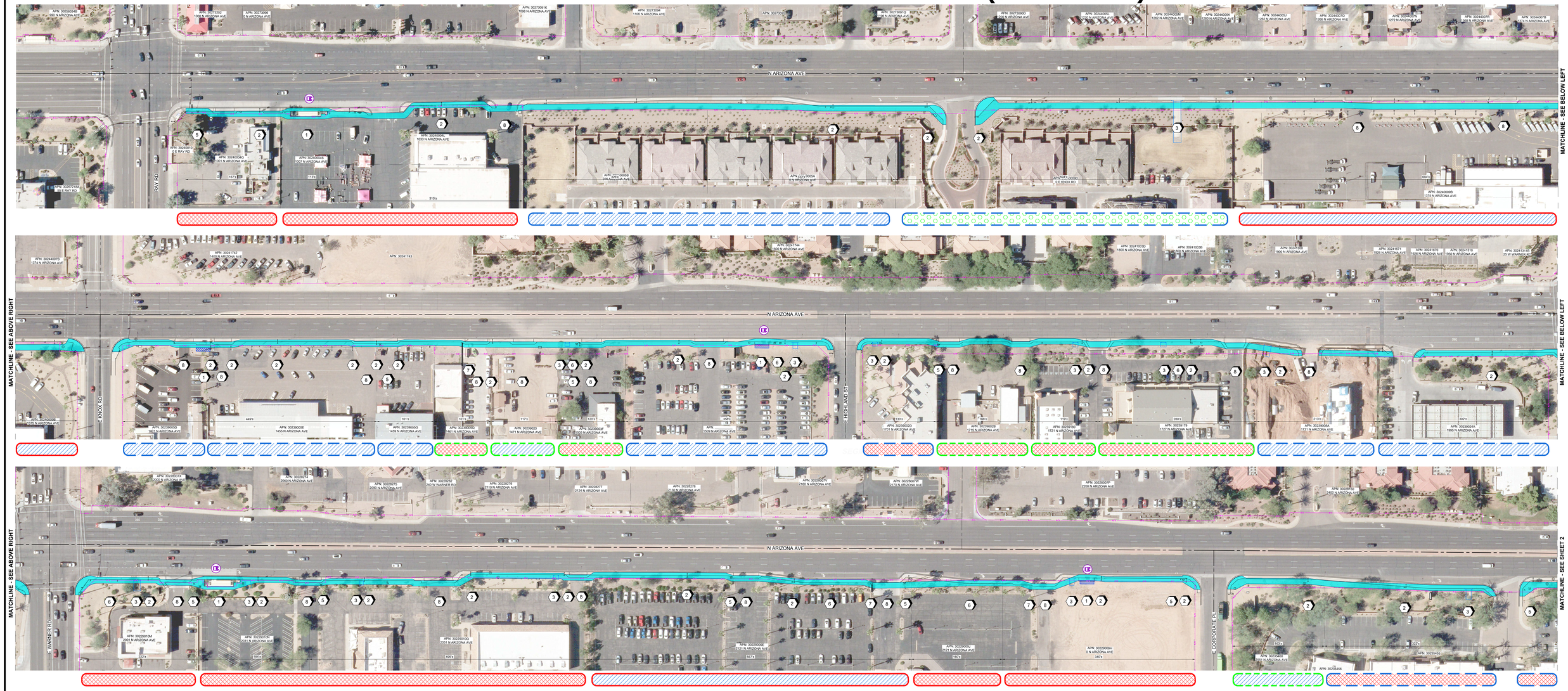
The Arizona Avenue Shared-Use Path project aligns with the goals and vision of the City of Chandler. It contributes to a multimodal transportation system, prioritizing connectivity and offering a variety of travel options. The project, with an estimated cost of $12.2 million, involves extensive modifications to the east side of the Arizona Avenue roadway. This includes curb reconstructions, sidewalk widening, utility relocation, landscaping improvements, and more. The project embodies a collaborative effort between the City of Chandler, local businesses, and community stakeholders, ensuring it aligns with the needs of the community and local developers.

The Arizona Avenue project corridor is part of a planned paved shared-use path along the entirety of Arizona Avenue by 2040 as shown in the City of Chandler Transportation Master Plan (2019). The corridor is a major employment corridor that also houses a large population of residents, so the corridor must be accommodating to pedestrians, bicyclists, and transit users. The Maricopa Association of Governments (MAG) adopted an Active Transportation Plan for the county region in January 2020 with the aim of shifting the Valley's culture from being car-centric to people-centric and creating a happier, healthier, and more economically competitive region. According to the MAG Active Transportation Plan, improving active transportation positively affects health, community, and economy.

Overall, the Arizona Avenue Shared-Use Path project is a significant initiative for the City of Chandler. It demonstrates the City's dedication to fostering a safer, more connected, and attractive environment.

Appendix A: 15% Design Concept Plan

ARIZONA AVE: RAY ROAD TO GUADALUPE ROAD (SHEET 1 OF 2)



1 BUS STOP
2 STREETLIGHT RELOCATION
3 DRAINAGE SCUPPER
4 UTILITY POWER POLE
5 FIRE HYDRANT RELOCATION
6 DRAINAGE BASIN IMPACTS
7 COMMERCIAL SIGN
8 COMMERCIAL DRIVEWAY

BUS STOP
BUS SHELTER RELOCATION

PROPOSED 10' SHARED USE PATH
PATH FEASIBILITY LOW
PATH FEASIBILITY MODERATE
PATH FEASIBILITY HIGH

REQUIRES RIGHT-OF-WAY ACQUISITION
LOW TO MODERATE RIGHT-OF-WAY ACQUISITION
RIGHT-OF-WAY AVAILABLE

0 20' 40' 80'
SCALE: 1" = 40'

NORTH

PRELIMINARY
15% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

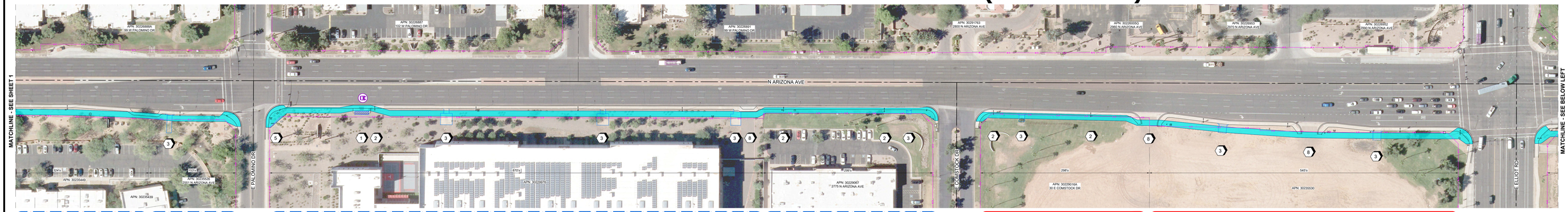
Y2K ENGINEERING, LLC.
480.696.1701
www.y2keng.com

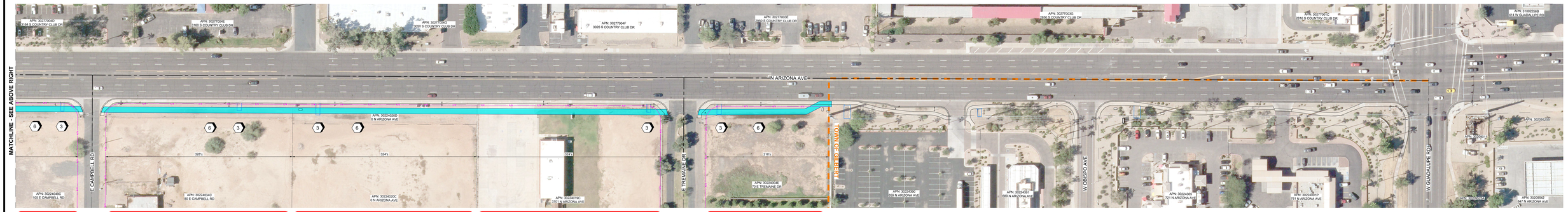
CITY OF CHANDLER

ARIZONA AVE SHARED USE PATH

DATE: June 2024

ARIZONA AVE: RAY ROAD TO GUADELUPE ROAD (SHEET 2 OF 2)





1. BUS STOP
2. STREETLIGHT RELOCATION
3. DRAINAGE SCUPPER
4. POWER TRANSMISSION CROSSING
5. FIRE HYDRANT RELOCATION
6. DRAINAGE BASIN IMPACTS
7. COMMERCIAL SIGN
8. COMMERCIAL DRIVEWAY

BUS STOP
BUS SHELTER RELOCATION

PROPOSED 10' SHARED USE PATH
PATH FEASIBILITY LOW
PATH FEASIBILITY MODERATE
PATH FEASIBILITY HIGH

REQUIRES RIGHT-OF-WAY ACQUISITION
LOW TO MODERATE RIGHT-OF-WAY ACQUISITION
RIGHT-OF-WAY AVAILABLE

0 20' 40' 80'
SCALE: 1" = 40'

NORTH

PRELIMINARY
15% REVIEW
NOT FOR CONSTRUCTION OR RECORDING

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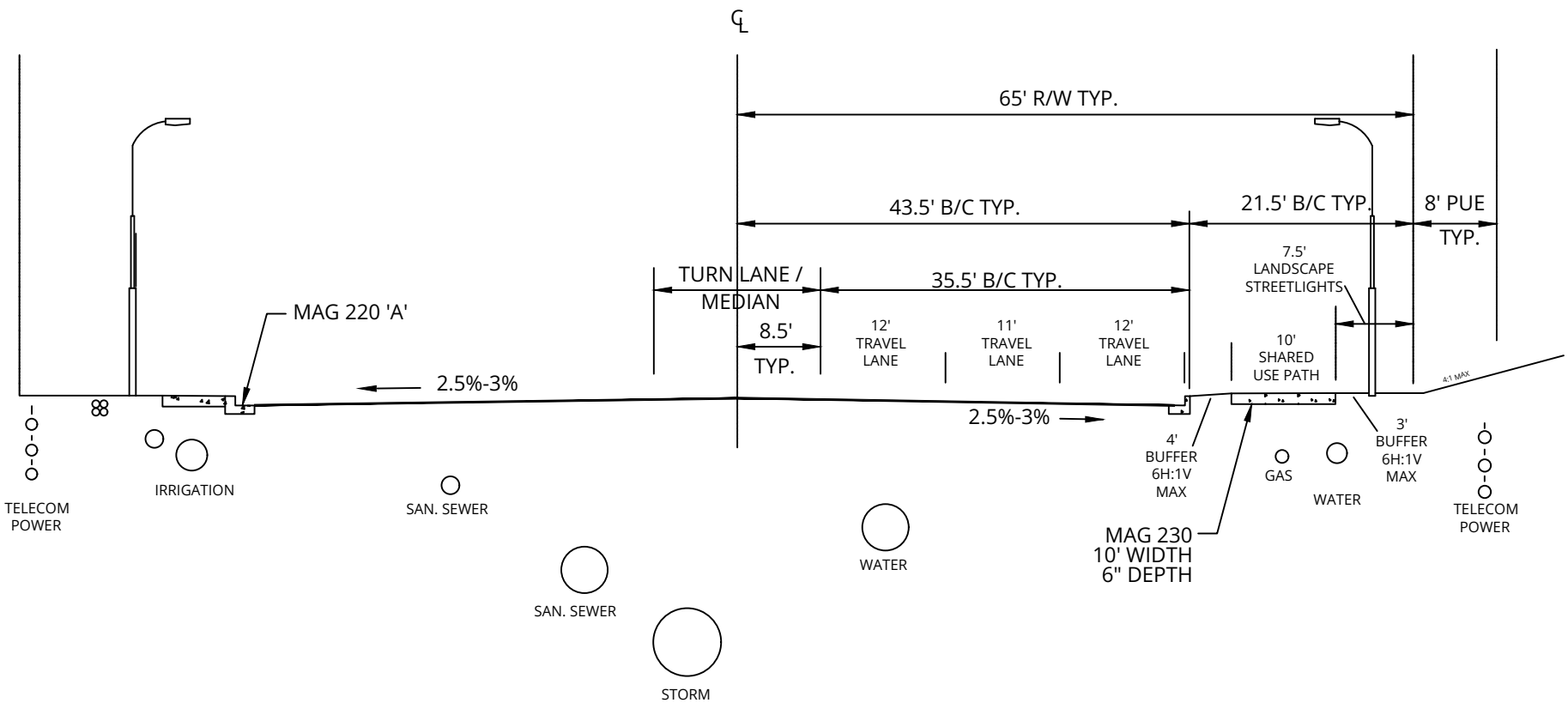
CITY OF CHANDLER

ARIZONA AVE SHARED USE PATH

DATE: June 2024

Appendix B: Typical Project Cross-Section



NOTES:

1. THIS DETAIL IS ONLY TO BE APPLIED TO ARIZONA AVENUE FROM RAY ROAD TO THE WESTERN CANAL
2. THIS DETAIL'S PERSPECTIVE IS LOOKING NORTH (SHARED USE PATH TO ONLY BE CONSTRUCTED ON THE EAST SIDE OF ARIZONA AVENUE)
3. SHARED USE PATH SHOULD NOT MEANDER
4. THE MEDIAN MAY BE FLUSH WITH TRAVEL LANES FOR MUCH OF THE CORRIDOR

DETAIL NO.			APPROVED:	DETAIL NO.
C-203-2	CHANDLER arizona	MAJOR ARTERIAL STREET WITH DESIGNATED BICYCLE SIDEPATH TYPICAL CROSS SECTION	DRAFT	C-203-2