West Phoenix Transportation Study

Technical Memorandum #3: Evaluation Criteria & Recommended Transportation Network Plan of Improvements Report

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Prepared for:

City of Phoenix
Street Transportation Department
Design and Construction Management Division
1034 E. Madison Street
Phoenix, AZ 85034

Prepared by:

Michael Baker International
2929 N Central Avenue, 8th Floor
Phoenix, AZ 85012

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Report Structure

This report is divided into four sections which each include a different topic and contain various levels of information relative to the objectives of the Study. The following four sections include:

1) **Introduction –** This section provides an overview of the WPTS area, an overview of the WPTS process, and an overview of the purpose of the Evaluation Criteria & Transportation Network Plan of Improvements Tech Memo.
2) **Project Prioritization –** This section provides an overview of the prioritization methodology and the evaluation criteria used for ranking transportation improvements and recommended future studies within the WPTS.
3) **Project Prioritization List –** This section includes a list of prioritized transportation improvements and recommended future studies within the WPTS area. The recommendations in this report are derived from a combination of past reports, planned PUD development reports, stakeholder outreach, public outreach and technical analysis.
4) **Next Steps –** includes WPTS planning and development process next steps.

1 Introduction

The City of Phoenix (City) and Arizona are currently undergoing rapid population growth similar to what is being experiencing in other large cities and states in the Mountain West and South. Due to this rapid growth, it is crucial that undeveloped areas adjacent to already developed areas of Phoenix are proactively planned and zoned with housing and transportation facilities to accommodate this population growth. The West Phoenix Transportation Study (WPTS) process builds upon extensive coordination, review, and documentation of future planned developments within the City and surrounding jurisdictions including Glendale, Avondale, Maricopa County, and Tolleson. ADOT was also consulted to understand planned improvements to the I-10/Loop 101 interchange and any traffic interchanges with local arterials. Future development plans and timing were factored into identification of multimodal active transportation system recommendations resulting from the WPTS. **Figure 1-1** illustrates the Maryvale Urban Village and the WPTS study area in the far western portion of the City running from the I-10/Loop 101 interchange along and northward up the Loop 101 corridor bounded to the south and west by the City of Avondale, to the north and east by the City of Glendale, and to the south by the City of Tolleson. The WPTS area is rapidly developing and represents many characteristics that are common to areas that serve as an urban/rural interface.

The City initiated the WPTS to develop a multimodal active transportation plan that considers the needs of all users in an area of the City that includes both established neighborhoods adjacent to and west of the Loop 101 Corridor and large tracts of agricultural land in various phases of approval for near-term development as shown in **Figure 1-2** . The City initiated the WPTS to develop a multimodal active transportation plan with a focus on active transportation through modifying and providing new infrastructure and enhanced connectivity to transit. This plan also includes attention to Green Stormwater Infrastructure (GSI) and identifying potential projects to alleviate local flooding, ponding, and increasing tree canopy and shade.

The WPTS vision builds upon the 99th Avenue Compass Study completed in 2015 by the Maricopa Association of Governments (MAG). This study identified a transportation network that includes multimodal active

transportation Complete Streets that support sustainable economic development in addition to providing new opportunities to generate enhanced business and sales tax revenues. Considering the partially built out nature of the WPTS Study Area, a unique opportunity exists to develop a more livable and sustainable development pattern on undeveloped parcels by encouraging a connected, safe, accessible, and reliable transportation system that places less emphasis on automobile reliant development by supporting and accommodating all transportation modes.

The WPTS helps facilitate development and implementation of community transportation goals, leading to transportation facility and service improvements by:

5) Focusing on providing a transportation system that provides equitable opportunities for users of all ages and abilities and modes to connect to neighborhood, municipal, and regional destinations;
6) Identifying desired future bicycle/pedestrian, transit, and/or automobile uses of arterials and collectors within the Study Area by reviewing and integrating feasible transportation system enhancement recommendations and policies from the City of Phoenix Complete Streets Policy, Phoenix Active Transportation Plan, Phoenix Bicycle Master Plan, 99th Avenue Compass Study, Avondale Transportation Plan, Avondale Active Transportation Plan, Glendale General Plan, Glendale Transportation Plan, Glendale Active Transportation Plan into project recommendations, and strategies from the Key Corridors Master Plan (yet to be adopted) into project recommendations;
7) Evaluating and recommending multimodal active transportation enhancements that will improve connectivity and safety on arterials and collectors within the Study Area;
8) Comparing future roadway connectivity and capacity needs to existing roadway conditions by evaluating future planned growth within the Study Area to identify future vehicle demands and Level Of Service (LOS), Level of Traffic Stress (LTS), bicycle/pedestrian needs, transit propensity, and incorporating mode-specific design features (dedicated bike lanes, sidewalks, bus pullouts, safety-driven lane width designations) into roadway cross-sections, and right-of-way needs for all future arterial and collector enhancements;
9) Recommending desired roadway widths, policies, and procedures to preserve the necessary right-of-way to ensure connectivity and multimodal active transportation functionality of all enhancements to existing and future recommended roadways in the Study Area;
10) Identifying ways to better connect City of Phoenix bicycle and pedestrian (active transportation) facilities to existing and planned facilities in the neighboring jurisdictions of Avondale and Glendale;
11) Identifying areas where Green Stormwater Infrastructure (GSI) facilities could be constructured;
12) Identifying recommendations to deliver sufficient capacity and multimodal active transportation infrastructure for the City of Phoenix to accommodate future planned residents, businesses, and visitors in the Study Area;

13) Reviewing existing zoning and land use to identify areas where potential modifications to land use designations and/or design principles may be acceptable to provide an opportunity to increase bicycle, pedestrian, and transit modeshare;
14) Coordinating timing of all on street recommended bikeway enhancements with the pavement maintenance program to identify opportunities for "quick wins" through striping plans modifications;
15) Identifying opportunities to enhance bicycle and pedestrian connectivity across Loop 101 by providing on-street, above and/or below grade improvements;
16) Identifying potential grant and other funding sources at the regional, state, and national levels to implement recommended solutions (i.e., U.S. Department of Transportation (USDOT) Reconnecting Communities Program (RCP), RAISE, etc.);
17) Developing planning level cost estimates that incorporate City of Phoenix design soft costs and delivery timeframes into programming considerations for recommendation of short-, mid-, and long-term capital improvements that can be programmed in the City of Phoenix Street Transportation Department Capital Improvement Program.

Figure 1-1: West Phoenix Regional Vicinity Map

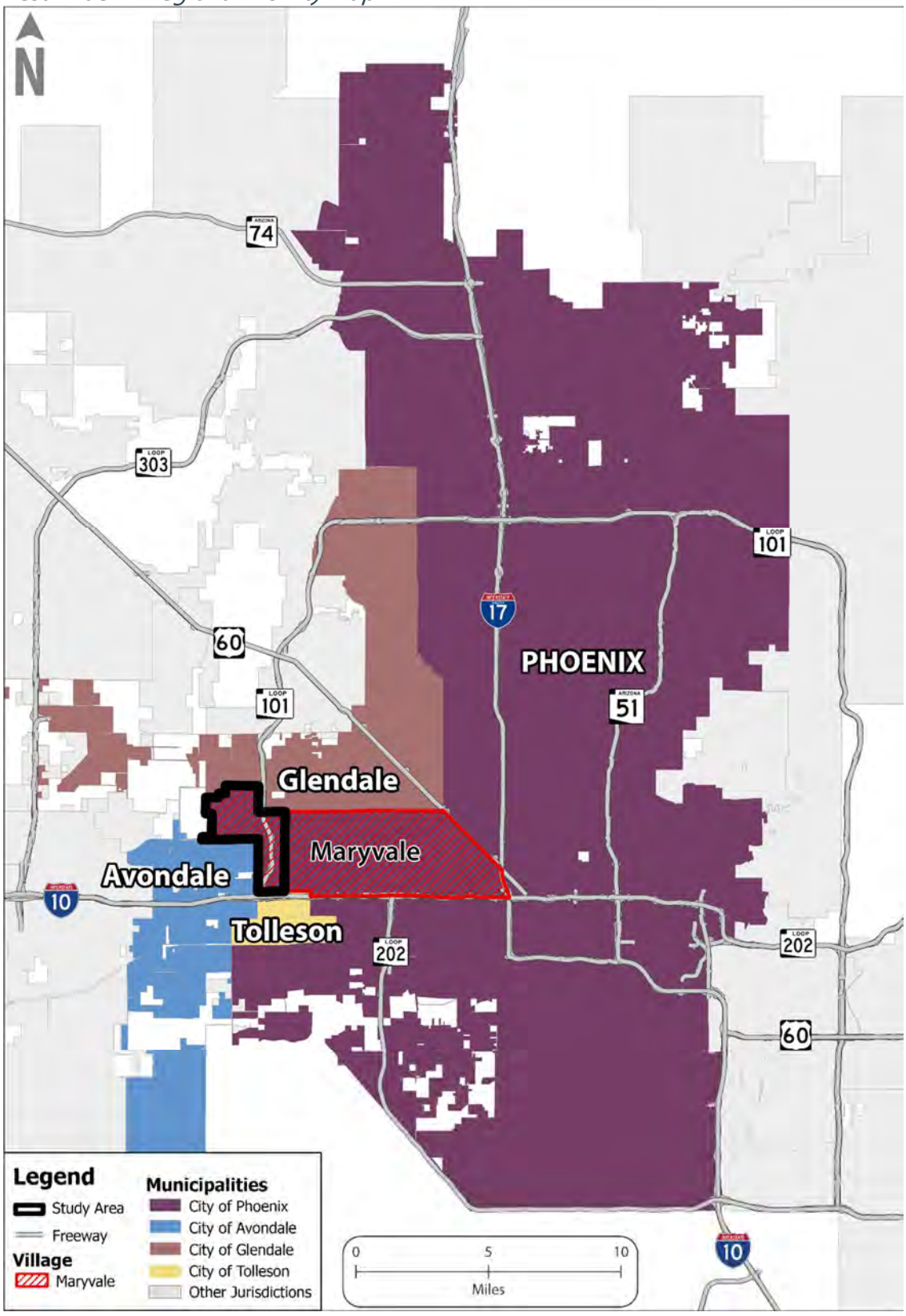
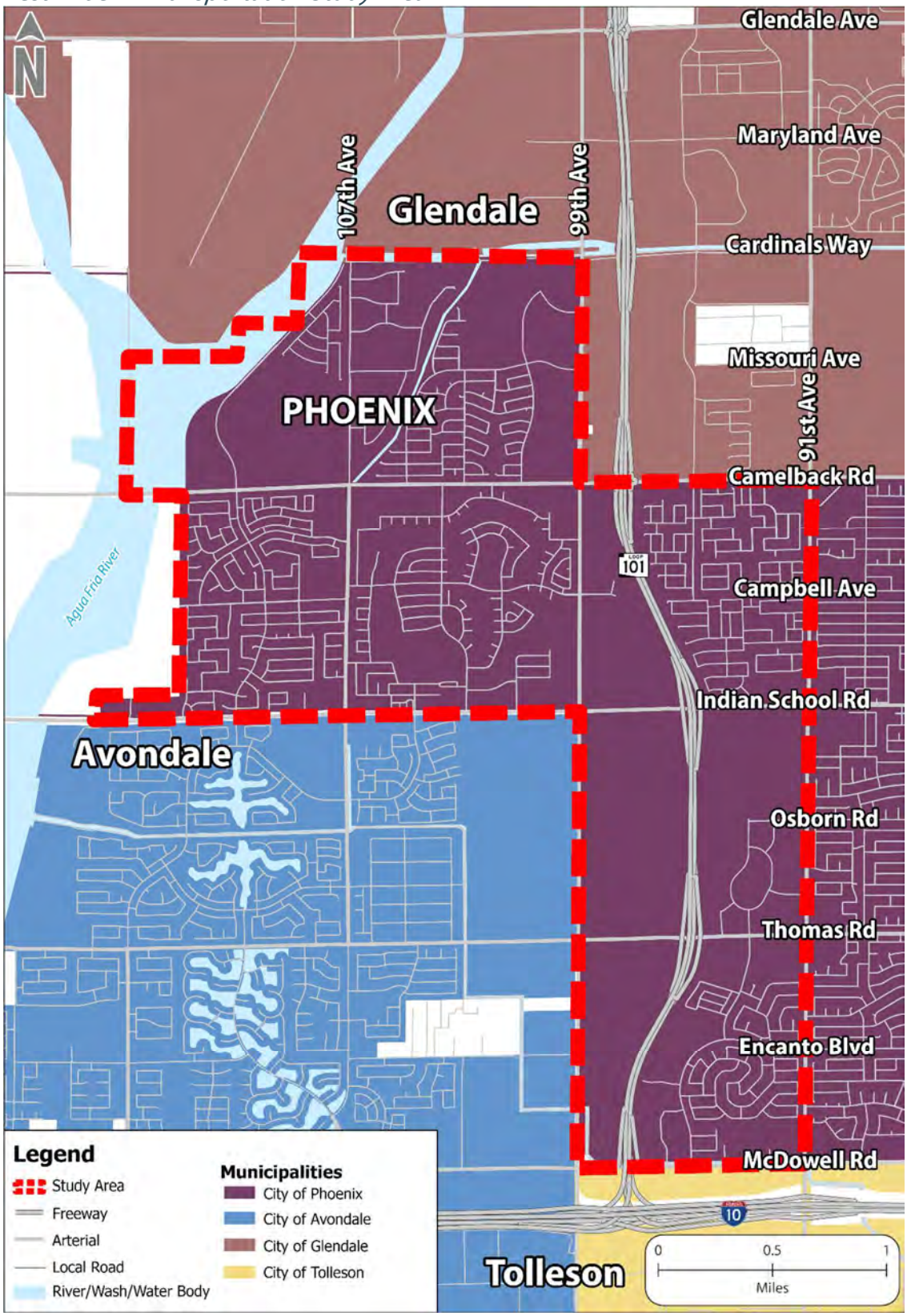


Figure 1-2: West Phoenix Transportation Study Area



Study Area Overview

The WPTS area encompasses 6.5-square miles in far west Phoenix, centered on the State Route 101 Loop (Loop 101) Corridor from Camelback Road in the north to McDowell Road in the south, 91st Avenue to the east, and 99th Avenue to the west. The Sheely Farms, Terracita, and newly developed Western Enclave neighborhoods are located in the area to the east of Loop 101. Additionally, the study area includes the Villa de Paz, Camelback Ranch, and Larissa neighborhoods west of the Loop 101 extending to the Agua Fría River between the Grand Canal on the Bethany Home Road alignment to the north and Indian School Road to the south. The City of Glendale borders the study area to the north and northeast, and the City of Tolleson and the City of Avondale border it to the south and west, respectively.

Arterial roadways within the study area facilitate connections between West Phoenix neighborhoods including the remainder of Maryvale Village, the balance of Phoenix, and the greater metropolitan area. Roadways include one major arterial, six arterials, eleven major collectors, and four collectors. In terms of active transportation connections, bike lanes and sidewalks are present in the Villa de Paz, Camelback Ranch, Larissa, and Sheely Farms neighborhoods, especially on the collector roads. However, there is a lack of active transportation facility connections between neighborhoods and throughout the study area primarily due to the barrier created by the Loop 101 Corridor.

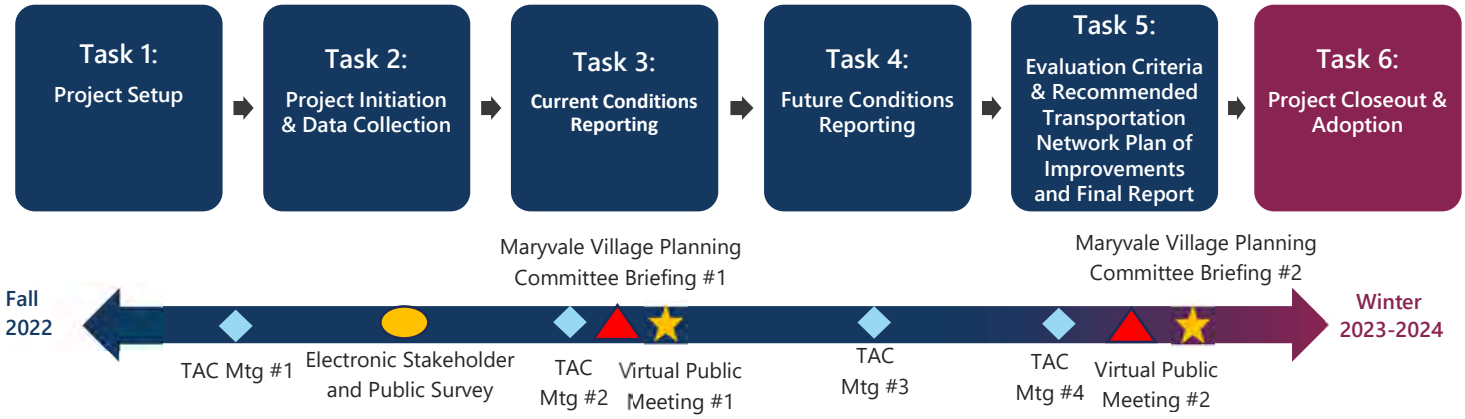
The study area contains approximately 600 acres of open, agricultural land surrounding the Loop 101 Corridor between Campbell Avenue and McDowell Road that will be developed in the near future. This development is trending toward higher density single-family and multi-family residential than previously seen in the area with an increasing supply of rental options. Other future development includes employment and mixed-use land uses. A large residential development just outside the study area in the City of Avondale to the west of 99th Avenue is currently under construction that will also add vehicular traffic within the study area, primarily on 99th Avenue. To the south of the undeveloped agricultural land within the study area is the Phoenix Events and Entertainment Complex that comprises 16 sport fields spread across 50 acres. The complex regularly hosts soccer, rugby, flag football, lacrosse, and other sports throughout the year. Consecutive sporting events on weekends can last the entire day, bringing continuously high traffic volumes to the area. Due to these regular events combining with Avondale's nearby major retail destination Gateway Pavilions and the regular presence of slow-moving agricultural vehicles, City of Phoenix roads near the Phoenix Events and Entertainment Complex are frequently congested.

The other unique factor that influences the study area is the presence of a ballpark at Camelback Ranch, within the study area in the City of Phoenix, and State Farm Stadium, just outside of the study area in the City of Glendale. Both of these venues regularly host large sporting events and other activities that draw large crowds greatly increasing traffic on roads in and around the study area at random and sporadic intervals.

Planning Process

As illustrated in **Figure 1-3**, this Study is being completed within six tasks that incorporate comprehensive and collaborative public and stakeholder outreach. The entire planning process is being supported by invaluable contributions from stakeholders and members of the public that will be garnered during Technical Advisory Committee (TAC) meetings, an electronic stakeholder and public survey, Maryvale Village Planning Committee briefings and virtual public meetings at key milestones during development of the plan.

Figure 1-3: Project Schedule



The WPTS process includes data analysis and facilitation of discussions between several internal and external City departments and stakeholders, including Phoenix Street Transportation, Phoenix Planning & Development, the Phoenix Neighborhood Services Department, the Flood Control District of Maricopa County, and other agencies to develop a coordinated and sustainable transportation plan for the area that connects to the balance of Phoenix and the neighboring communities of Avondale, Glendale, and Tolleson.

Analysis of Phoenix land use and zoning policies and planned developments led to identification of planned future growth and Planned Unit Development (PUD) design elements that may lead to development of large blocks with minimal intersection frequency and through connectivity to adjacent development, land uses, and key destinations that will hinder active transportation and multimodal uses. Recommendations for land use, zoning policy, and planned development modifications were coordinated between the Street Transportation Department and Planning & Development Department to enact potential policy changes to the extent necessary and feasible.

This Evaluation Criteria & Recommended Transportation Network Plan of Improvements working paper includes preliminary prioritized candidate lists of innovative roadway and multimodal active transportation solutions supported by data and stakeholder input. These solutions were tailored for direct inclusion in the Phoenix Street Transportation Department Capital Improvement Program. Recommended projects can be implemented as part of the City's on-going project delivery efforts (i.e., striping bike lanes as part of pavement preservation efforts) or utilized by Street Transportation Department staff to seek local, state, and federal funding opportunities.

Evaluation Criteria & Recommended Transportation Improvements Purpose

The purpose and intent of the Evaluation Criteria & Recommended Transportation Network Plan of Improvements Report is to prioritize candidate solutions into near through long-term implementation timeframes. The near-term improvements will have a planning horizon 0 to 10 years in the future, the mid-term improvements will have a planning horizon 10 to 20 years in the future, and the long-term improvements will have a planning horizon 20+ years in the future. The recommendations presented in this report are preliminary and will be reviewed by the TAC, Maryvale Village Planning Committee and the public before being finalized.

2 Project Prioritization Methodology

This section provides an overview of the project prioritization approach which includes the evaluation criteria and methodology. Once a complete set of multimodal active transportation infrastructure improvement needs were identified, a prioritization tool was developed to quantify the magnitude of each project's impact and contribution to transportation system goals and objectives identified during public meeting #1, as a result of the electronic survey, a Maryvale Village Planning Committee briefing, and TAC meetings 1 through 3. The prioritization tool provides a flexible approach, intended to identify clear direction for proactively seeking project funds and completing design and engineering of the most critical projects, while still allowing for opportunistic implementation of enhancements to the entire network.

Evaluation Criteria

A total of eight evaluation criteria were developed to measure the anticipated overall positive impact of each candidate project by utilizing a numeric scoring structure. The eight evaluation criteria were categorized into four key prioritization areas, and weights were assigned based on their overall contribution to the goals of the WPATS. The weights of the four key prioritization areas sum up to a total of 100 possible points. **Table 2-1** provides a description of evaluation criteria key prioritization focus areas and corresponding weights.

Table 2-1: Evaluation Criteria

Key Prioritization Focus Areas	Weight
Safety: project addresses a location that has a history of crashes and provides a less stressful facility for users of all ages and abilities.	35
Operational Improvement: Project provides a better roadway user experience through improved roadway operations.	30
Proximity and Connectivity: project improves access to key destinations and critical facilities and/or project fills a gap in the system.	25
Deliverability & Constructability: project has few physical constraints and is a modest investment.	10

The key prioritization focus area with the highest weight is safety with 35 total points assigned to safety-related evaluation criteria. The City recently adopted the Road Safety Action Plan (RSAP) as part of a crucial effort to achieve the goal of Vision Zero – the elimination of all traffic related fatalities and severe injuries on city roadways, and as a result, assigning the most possible points to safety-related evaluation criteria could help the City achieve this goal. Operational Improvement and Proximity and Connectivity are the key prioritization areas with the second and third highest weights because these two areas measure the return on investment associated with a project from a connectivity and user perception perspective, ensuring projects enhance quality of life and provide new or improved connections to key destinations and critical facilities.

The first step in the scoring of each project was determining the score associated with each evaluation criteria to assess the value of each project based on linkages to the objectives of the study and the levels of importance defined in the key prioritization focus area weights. **Table 2-2** through **Table 2-5** outline the key focus area weights, evaluation criteria, goals and objectives, metrics, points possible, and scoring point ranges.

It is important to note that the results of the prioritization process are not intended to preclude projects from receiving outside funding or from being a part of construction associated with future development plans as those opportunities present themselves. All recommended transportation improvement projects have merit and should be implemented as timely and cost-effective opportunities arise.

Table 2-2: Proximity and Connectivity

Proximity and Connectivity *Project fills a gap in the system and improves access to key destinations and critical facilities*					
Weight	Evaluation Criteria	Description	Metric	Score	Scoring Thresholds
25	Connectivity Enhancement	Project improves connections to and/or direct access to critical facilities such as activity/entertainment centers, schools and medical services.	Spatial inventory of the total number of critical facilities within 1/4 mile.	10	0 to 1 = 3 points 2 to 4 = 6 points 5+ = 10 points
	Network Expansion	Project addresses infrastructure gaps or connects to the current system to create a continuous network.	Spatial overlay to determine the number of connections made to the existing network.	15	0 to 1 = 3 points 2 to 4 = 6 points 5+ = 10 points

Table 2-3: Safety

Safety *Project addresses a location that has a history of crashes and provides a less stressful facility for users of all ages and abilities*					
Weight	Evaluation Criteria	Description	Metric	Score	Scoring Thresholds
35	Reduction in crashes	Project may address areas with a high number of all types of crashes.	Spatial inventory of pedestrian and or bicycle related crashes within 250 ft.	15	0 to 80 = 5 points 81 to 230 = 10 points 230+ = 15 points
	Reduction in crashes resulting in serious injuries or fatalities	Project may address areas with crashes that resulted in an incapacitating injury or fatality.	Spatial inventory of crashes within 250 ft that resulted in an incapacitating injury or fatality.	20	0 = 10 points 1 = 15 points 3+ = 20 points

Table 2-4: Operational Improvement

Operational Improvement *Project provides a better roadway user experience through improved roadway operations*					
Weight	Evaluation Criteria	Description	Metric	Score	Scoring Thresholds
30	Improved Level of Service or Level Of Traffic Stress	Project provides an improved roadway user experience by enhancing operations through improved Level Of Service for roadway capacity projects or Level of Traffic Stress for bike projects.	Qualitative measure identifying an improvement across the entirety of the project limits, partially within the project's limits, or no improvement at all.	30	Yes = 30 Partial = 15 No = 0

Table 2-5: Deliverability and Constructability

Deliverability & Constructability *Project has few physical constraints and is a modest investment*					
Weight	Evaluation Criteria	Description	Metric	Score	Scoring Thresholds
10	Project Cost	Opinion of probable cost for construction of the project.	Quantitative measure evaluating the range of opinions of probable costs relative to all other projects.	4	$0 to $256,000 = 4 $256,000 to $1,351,000 = 3 $1,351,000 to $6,699,000 = 2 $6,699,000+ = 1
	Roadway Ownership Status	Project is located on a roadway owned and maintained by the city.	Qualitative measure identifying if a project is on a roadway completely, partially, or not at all owned by the City of Phoenix.	3	Yes = 3 Partially = 2 No = 1
	Project is Correlated With a Future Development Project	Project is correlated with future development.	Qualitative measure identifying if a project will be entirely, partially, or not at all funded as part of future development.	3	No = 3 Partially = 2 Yes = 1

3 Project Prioritization List

This section summarizes the project scores derived from application of the evaluation criteria, a project's total score and rank. Refer to Appendix A for a full inventory of results from the project prioritization model, which includes the detailed results of the inputs and outputs for each of the sub-criteria and the resulting score for each project. A total of 93 recommended projects were identified as part of this Plan. Each of the projects were scored through the previously mentioned evaluation criteria on a scale from 0 to 100. The highest ranked project received a score of 78 points while the lowest ranked project scored 24 points.

The projects identified in this Plan can each be considered building blocks of the full proposed transportation network. Implementation of the full proposed network that delivers on the goals and objectives of the WPTS will be phased over the next 20 years and beyond due to fiscal constraint and project delivery timeframes. All 93 projects have been prioritized and divided into three different implementation timeframes based on the results of the evaluation criteria and project ranking. The three implementation timeframes include:

- Short-term: 0-10 years
- Mid-term:10-20 years
- Long-term: 20+ years

There are 31 projects in each suggested implementation timeframe. Projects considered high priority within the short-term period are proposed to be developed within 10 years. It is highly recommended that around three projects be completed each year to meet this goal. Projects in the mid-term of network development will build upon the connected network and will be built within 10 to 20 years. Projects within the long-term horizon will further enhance the network and will be completed 20 years and beyond into the future.

The proposed transportation infrastructure includes roadway network and multimodal active infrastructure recommendations. In combination with study recommendations from previously completed studies, WPTS proposed transportation infrastructure will establish a diverse and seamless multimodal active transportation network that connects study area residents and visitors with the regional multimodal active transportation system while also creating efficient and safe multimodal options for travel within the study area.

It is important to note that project recommendations are separated by facility type at this time for project evaluation, scoring, and prioritization; and it is assumed certain projects will be constructed simultaneously irrespective of project score or rank. This effect is known as project bundling which involves combining multiple smaller projects or elements into a single, larger project to achieve various benefits, such as cost savings, improved efficiency, and better overall project outcomes. This bundling approach can be used to optimize resources and streamline project delivery. For example, additional bike lane and sidewalk projects may be constructed in tandem with roadway capacity projects that require widening of the roadway.

The recommendations were developed in accordance with the City's adopted Street Planning and Design Guidelines Manual (SPDGM) – as adopted on June 28, 2023, Ordinance #S-49991. All roadway, multimodal active transportation, and mobility facility designs will include safe accommodation of roadway users of all ages and abilities in adherence to the City's Complete Streets Policy and ordinance. In final design, project managers should utilize additional resources to refine and enhance designs where and when feasible.

Short-Term Transportation Improvement Projects

Short-term transportation improvement projects include a combination of intersection capacity recommendations, future safety and operations studies, bus stop improvements, roadway widening, sidewalk infill, bike lanes, and traffic calming applications. The prioritized short-term transportation improvements are included in **Table 3-1** and shown in **Figure 3-1** . **Table 3-1** includes the rank (map ID), project name/type, description, issue(s) mitigated, and an opinion of probable cost. The short-term project prioritization list includes a total of one bus stop improvement, one intersection improvement project to address operations, nearly 24.18 lane miles of widened roadways, 1.03 miles of traffic calming, 13.53 miles of bike lanes, 12.31 miles of sidewalk infill, and two suggested safety/operations studies throughout the study area.

Table 3-1: Short-Term Transportation Improvements

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
1	Network/Capacity	91st Avenue: Indian School Road to Thomas Road	Add two additional travel lanes (one in each direction). It is assumed this project may be constructed simultaneously with Project 17 and 77.	Traffic congestion/ delay	Roadway Capacity Project	1	$6,699,000	78	Short
2	Active Transportation & Mobility	Thomas Road: 99th Avenue to 91st Avenue	Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 20 and 26.	Gaps in bikeway network	Bike Lanes	1	$349,000	74	Short
3	Active Transportation & Mobility	101st Avenue: Oregon Avenue to Camelback Road	Install to standard width or greater buffered bike lanes between Oregon Avenue and Camelback Road.	Gaps in bikeway network	Bike Lanes	0.33	$117,000	68	Short
4	Active Transportation & Mobility	Indian School Road: 113th Drive to 99th Avenue	Install to standard width or greater buffered bike lanes between 113th Drive and 99th Avenue. Add two additional travel lanes (one lane in each direction). It is assumed this project may be constructed simultaneously with Project 7, 18, and 21.	Gaps in bikeway network	Bike Lanes	2.13	$744,000	68	Short
5	Network/Capacity	Camelback Road: 113th Drive to 95th Avenue	Add two additional travel lanes (one lane in each direction). It is assumed this project may be constructed simultaneously with Project 91.	Traffic congestion/ delay	Roadway Capacity Project	2.48	$16,554,000	67	Short

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
6	Active Transportation & Mobility	105th Avenue: Missouri Avenue to Camelback Road	Install to standard width or greater buffered bike lanes between Missouri Avenue and Camelback Road.	Gaps in bikeway network	Bike Lanes	0.4	$142,000	66	Short
7	Active Transportation & Mobility	Indian School Road: 99th Avenue to 91st Avenue	Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 4, 18, and 21.	Gaps in bikeway network	Bike Lanes	1	$351,000	64	Short
8*	Active Transportation & Mobility	99th Avenue: Camelback Road to Indian School Road	Install to standard width or greater buffered bike lanes between Camelback Road and Indian School Road. Add two additional travel lanes (one lane in each direction). Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 12, 15, 22, and 78.	Gaps in bikeway network	Bike Lanes	1	$350,000	64	Short
9	Active Transportation & Mobility	West Campbell Avenue: 107th Avenue to West of 113th Avenue Bike Lanes	Install to standard width or greater buffered bike lanes between 107th Avenue and just west of 113th Drive.	Gaps in bikeway network	Bike Lanes	0.73	$256,000	63	Short
10	Active Transportation & Mobility	Missouri Avenue: 105th Avenue to 101st Avenue	Install bike lanes between 105th Avenue and 101st Avenue while preserving on street parking where permissible.	Gaps in bikeway network	Bike Lanes	0.52	$183,000	63	Short

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
11	Active Transportation & Mobility	McDowell Road: 99th Avenue to 91st Avenue	Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 74 and 92.	Gaps in bikeway network	Bike Lanes	1	$350,000	63	Short
12	Active Transportation & Mobility	99th Avenue: Indian School Road to McDowell Road	Install to standard width or greater buffered bike lanes between Indian School Road and McDowell Road. It is assumed this project may be constructed simultaneously with Project 8, 15, 22, and 78.	Gaps in bikeway network	Bike Lanes	2	$701,000	63	Short
13	Active Transportation & Mobility	99th Avenue: Cardinals Way to Camelback Road	Install to standard width or greater buffered bike lanes between Cardinals Way and Camelback Road	Gaps in bikeway network	Bike Lanes	0.99	$347,000	62	Short
14	Active Transportation & Mobility	103rd Avenue: Missouri Avenue to Camelback Road	Install to standard width or greater buffered bike lanes between Missouri Avenue and Camelback Road	Gaps in bikeway network	Bike Lanes	0.5	$175,000	61	Short
15*	Network/Capacity	99th Avenue: Camelback Road to McDowell Road	Add three additional travel lanes (one lane in each direction with a TWLTL). It is assumed this project may be constructed simultaneously with Project 8, 12, 22, and 78.	Traffic congestion/ delay	Roadway Capacity Project	3	$23,398,000	60	Short
16	Active Transportation & Mobility	91st Avenue: Camelback Road to Indian School Road	Install to standard width or greater buffered bike lanes between Camelback Road and Indian School Road	Gaps in bikeway network	Bike Lanes	0.99	$347,000	60	Short

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
17	Active Transportation & Mobility	91st Avenue Sidewalk Infill	Construct 6-8' separated sidewalk from Camelback Road to McDowell Road. It is assumed this project may be constructed simultaneously with Project 1 and 77.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	3.01	$230,000	54	Short
18	Network/Capacity	Indian School Road: Copenhagen Drive to 91st Avenue	Add two additional travel lanes (one lane in each direction). Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 4, 7, and 21.	Traffic congestion/ delay	Roadway Capacity Project	3.11	$20,767,000	51	Short
19	Safety/Operations Study	99th Avenue - Speed Study: Cardinals Way to McDowell Speed Study	Conduct a speed study	Speeding on 99th Avenue	Safety/ Operations Study	N/A	$20,000	48	Short
20	Network/Capacity	Thomas Road: 99th Avenue to 91st Avenue	Add two additional travel lanes (one lane in each direction). It is assumed this project may be constructed simultaneously with Project 2 and 26.	Traffic congestion/ delay	Roadway Capacity Project	1	$6,665,000	43	Short

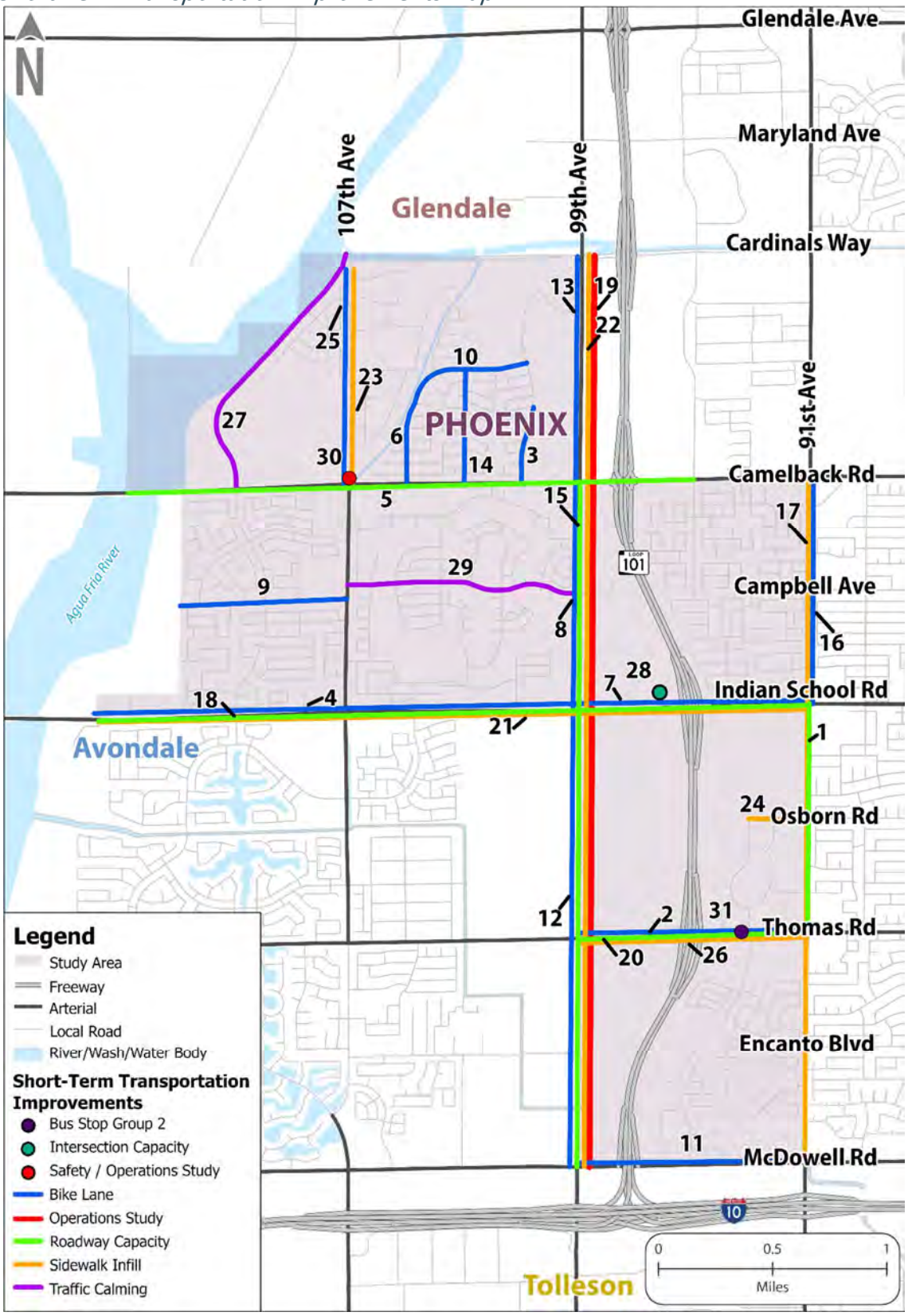
Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
21	Active Transportation & Mobility	Indian School Road Sidewalk Infill	Construct 6-8' separated sidewalk from Horf Drive to 91st Avenue. Add two additional travel lanes (one lane in each direction). Install to standard width or greater buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 4, 7, and 18.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	3.11	$1,351,000	43	Short
22*	Active Transportation & Mobility	99th Avenue Sidewalk Infill	Construct 6-8' separated sidewalk from 270' south of Indian School Road to McDowell Road. It is assumed this project may be constructed simultaneously with Project 8, 12, 15, and 78.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	4	$3,010,000	41	Short
23	Active Transportation & Mobility	107th Avenue Sidewalk Infill	Construct 5' sidewalk from Camelback Road to Bethany Home Road. It is assumed this project may be constructed simultaneously with Project 25.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.94	$604,000	40	Short
24	Active Transportation & Mobility	Osborn Road Sidewalk Infill	Construct 5' sidewalk from 93rd Avenue to 91st Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.26	$94,000	39	Short

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
25	Active Transportation & Mobility	107th Avenue: Bethany Home Road to Camelback Road Bike Lanes	Install to standard width or greater buffered bike lanes between Bethany Home Road and Camelback Road. It is assumed this project may be constructed simultaneously with Project 23.	Gaps in bikeway network	Bike Lanes	0.94	$3,292,310	39	Short
26	Active Transportation & Mobility	Thomas Road Sidewalk Infill	Construct 6-8' separated sidewalk from 99th Avenue to Loop-10. Add two additional travel lanes (one lane in each direction). It is assumed this project may be constructed simultaneously with Project 2 and 20.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.99	$480,000	39	Short
27	Traffic Calming	Ballpark Road Traffic Calming	Install traffic calming to address speeding issues.	Reports of speeding and racing on Ballpark Boulevard.	Traffic Calming	1.25	$20,000	38	Short
28	Network/Capacity	Indian School Road Intersection Capacity	Develop signal timing and coordination to address operational issues.	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	37	Short

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
29*	Traffic Calming	West Campbell Avenue Traffic Calming - 99th Avenue to 107th Avenue	Install two pairs of traffic calming chokers per Section 5.4.4 of the SPDGM: one pair between 107th Avenue and 106th Avenue and another pair approximately 450' east of 101st Avenue. The chokers would include appropriately placed LID curb openings (Per Section 3.7.2 of the SPDGM: LID-02 and LID-03) to capture stormwater runoff to irrigate vegetation.	Speeding on West Campbell Avenue.	Traffic Calming	1.03	$102,000	36	Short
30	Safety/Operations Study	107th Avenue and Camelback Road Operations Study	Speed and Pedestrian Clearance Intervals Study.	107th Avenue and Camelback Road has been identified as a safety problem intersection for bicyclists and pedestrians.	Safety/ Operations Study	N/A	$25,000	36	Short
31	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Thomas Road & 93rd Avenue (20065)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	36	Short

*Table Notes: * Further development of GSI components in tandem with prioritized projects containing an asterisk will require additional drainage/feasibility analyses as part of preliminary project engineering and final design.*

Figure 3-1: Short-Term Transportation Improvements Map



Mid-Term Transportation Improvement Projects

The mid-term transportation improvement projects include a combination of intersection capacity recommendations, safety and operations studies, bus stop improvements, sidewalk infill, High-intensity Activated CrossWalks (HAWKs), and traffic calming applications. The prioritized mid-term transportation improvements are included in **Table 3-2** and shown in **Figure 3-2**. **Table 3-2** includes the rank (map ID), project name/type, description, issue(s) mitigated, and an opinion of probable cost. The mid-term project prioritization list includes a total of nine bus stop improvement projects, two intersection improvement projects to address operations, two HAWKs, 0.73 miles of traffic calming, 3.99 miles of sidewalk infill, and seven suggested safety/operations studies throughout the study area.

Table 3-2: Mid-Term Transportation Improvements

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
32	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 105th Avenue (9153)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	36	Mid
33	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 107th Avenue & Camelback Road (9366)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	36	Mid
34	Network/Capacity	Thomas Road Intersection Capacity	Develop signal timing and coordination to address operational issues.	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	35	Mid
35	Safety/Operations Study	Camelback Road and 99th Avenue / Camelback Road and 107th Avenue Special Event Traffic Control	City of Phoenix Police Department coordination to control traffic during special events.	During special events, traffic backs up at the Camelback Road/99th Avenue and 107th Avenue intersections.	Operations Coordination / Communication	N/A	TBD (Phoenix Police staff time)	35	Mid

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
36	Traffic Calming	West Campbell Avenue Traffic Calming - 107th Avenue to West of 113th Drive	Install traffic calming center island application per Section 5.4.5 of the SPDGM at 111th Avenue and West Campbell Avenue. The center island would include appropriately placed LID curb openings (Per Section 3.7.2 of the SPDGM: LID-02 and LID-03) to capture stormwater runoff to irrigate vegetation.	Speeding on West Campbell Avenue	Traffic Calming	0.73	$43,000	33	Mid
37	Active Transportation & Mobility	104th Drive Sidewalk Infill	Construct 5' sidewalk from Missouri Avenue to Montebello Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.26	$96,000	33	Mid
38	Active Transportation & Mobility	McDowell Road Sidewalk Infill	Construct 6-8' separated sidewalk from 91st Avenue to 99th Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	1	$539,000	33	Mid
39	Active Transportation & Mobility	Copper King Elementary School - 107th Avenue and West Campbell Avenue HAWK	Design and construct HAWK at 107th Avenue and West Campbell Avenue.	Need for safe mid-block crossing for bicyclists, pedestrians, and school children	HAWK	N/A	$209,600	33	Mid
40	Active Transportation & Mobility	Westwind Elementary School - 91st Avenue and West Campbell Avenue HAWK	Design and construct HAWK at 91st Avenue and West Campbell Avenue.	HAWK and/or signal associated with Westwind Elementary	HAWK	N/A	$209,600	33	Mid

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
41	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: EB Camelback Road & 105th Avenue (8841)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	33	Mid
42	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: EB Camelback Road & 101st Avenue (8845)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	33	Mid
43	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 99th Avenue (9150)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	33	Mid
44	Active Transportation & Mobility	Bus Stop Amenities - Group 4 and Location / Bus Number: EB Indian School Road & 99th Avenue (7953)	Design and construct a shade structure and concrete pad, pave sidewalk as part of Indian School Road Sidewalk infill Project, and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$13,000	33	Mid

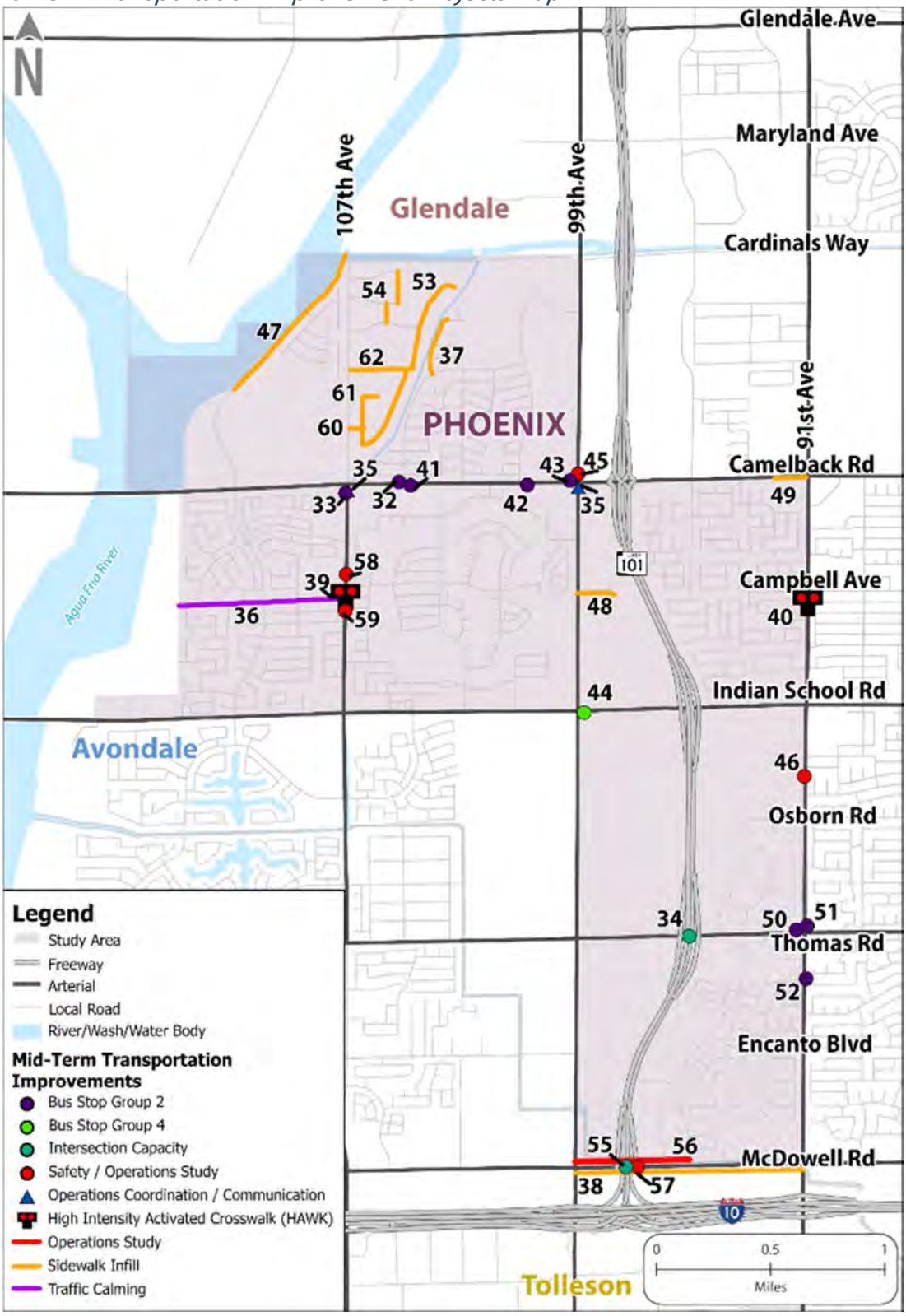
Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
45	Safety/Operations Study	99th Avenue and Camelback - Signal Timing Plans	Develop signal timing and coordination to address operational issues and determine the need for right-turn lanes.	Signal timing on 99th Avenue and Camelback is not appropriate. Backups during rush hour for westbound flows. Right turn lanes at intersections are needed	Safety/ Operations Study	N/A	$45,000	32	Mid
46	Safety/Operations Study	Pendergast Elementary School Ingress and Egress Road Safety Assessment (RSA)	Conduct a Road Safety Assessment at the Pendergrast Elementary School Ingress and Egress Driveway.	Dangerous turning movements exist at pick-up and drop-off times associated with Pendergrast Elementary School main entrance	Safety/ Operations Study	N/A	$30,000	32	Mid
47	Active Transportation & Mobility	Ball Park Boulevard Sidewalk Infill	Construct 6-8' separated sidewalk from study area boundary to Camelback Ranch Driveway.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.77	$390,000	32	Mid
48	Active Transportation & Mobility	Campbell Avenue Sidewalk Infill	Construct 5' sidewalk from 99th Avenue to 98th Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.16	$60,000	32	Mid
49	Active Transportation & Mobility	Camelback Road Sidewalk Infill	Construct 6-8' separated sidewalk from Copper Canyon High School southern Driveway to 91st Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.15	$160,000	31	Mid

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
50	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Thomas Road 91st Avenue (20064)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	31	Mid
51	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Thomas Road (8415)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	31	Mid
52	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Windsor Avenue (7630)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	31	Mid
53	Active Transportation & Mobility	105th Lane Sidewalk Infill	Construct 5' sidewalk from Missouri Avenue to approximately 2,473' northeast.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.44	$330,000	30	Mid
54	Active Transportation & Mobility	106th Avenue Sidewalk Infill	Construct 5' sidewalk from 106th Drive to Missouri Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.81	$604,000	30	Mid
55	Network/Capacity	McDowell Road Intersection Capacity	Develop signal timing and coordination to address operational issues.	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	29	Mid

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
56	Safety/Operations Study	McDowell Road: 99th Avenue to 95th Avenue	Analyze traffic volumes on McDowell Road at Loop 101.	Traffic congestion/ delay	Safety/ Operations Study	N/A	$25,000	29	Mid
57	Safety/Operations Study	McDowell Road and Loop 101 Operations Study	Traffic Study to identify potential mitigation of traffic back ups from McDowell Road intersection onto the Southbound Loop 101 off-ramp including 101 and I-10 traffic interchange backups that impact McDowell Road Loop 101 southbound exit.	Large queues southbound 101 traffic and short distance to Loop 101 off ramp is a challenge at peak and throughout the day	Safety/ Operations Study	N/A	$20,000	29	Mid
58	Safety/Operations Study	Copper King Elementary School - 107th Avenue and West Campbell Avenue Speed Study	Conduct a speed study to identify candidate solutions including changing speed limit during school hours, enforcement, speed feedback signs, etc.	At 107th Avenue and Campbell across from Copper King Elementary School, drivers were clocked going 62 mph in a 40 mph zone, there is a need to reduce speeds.	Safety/ Operations Study	N/A	$25,000	28	Mid
59	Safety/Operations Study	Copper King Elementary School Signal Warrant Analysis - 107th Avenue and West Campbell Avenue / Westbound Intersection Leg	Complete a signal warrant analysis to determine the need for a traffic signal.	Copper King Elementary School pick-up and drop-off congestion and safety concerns.	Safety/ Operations Study	N/A	$20,000	28	Mid
60	Active Transportation & Mobility	Colter Avenue Sidewalk Infill	Construct 5' sidewalk 107th Avenue to 106th Drive.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.06	$51,000	28	Mid

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
61	Active Transportation & Mobility	Georgia Avenue Sidewalk Infill	Construct 5' sidewalk from 106th Drive to the east at the cul-de-sac.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.06	$45,000	28	Mid
62	Active Transportation & Mobility	Missouri Avenue Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 105th Lane.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.28	$213,000	28	Mid

Figure 3-2: Mid-Term Transportation Improvement Projects Map



Long-Term Transportation Improvement Projects

The long-term transportation improvement projects include a combination of intersection capacity recommendations, safety and operation study, bus stop improvements, roadway widening, sidewalk infill, and bike lanes. The prioritized long-term transportation improvements are included in **Table 3-3** and shown in **Figure 3-3** . **Table 3-3** includes the rank (map ID), project name/type, description, issue(s) mitigated, and an opinion of probable cost. The long-term project prioritization list includes a total of 17 bus stop improvement projects, three intersection improvement projects to address operations, nearly 3.27 lane miles of widened roadways, 1.02 miles of bike lanes, 0.75 miles of sidewalk infill, and four suggested safety/operations studies throughout the study area.

Table 3-3: Long-Term Transportation Improvements

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
63	Active Transportation & Mobility	Rancho Drive Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to approximately 170' east of 106th Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.23	$186,000	28	Long
64	Active Transportation & Mobility	San Miguel Avenue Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 105th Lane.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.32	$248,000	28	Long
65	Active Transportation & Mobility	Solano Drive Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 106th Avenue.	Gaps in sidewalk network and potential ADA non-compliance.	Sidewalk infill	0.2	$159,000	28	Long
66	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 95th Avenue & Palm Ln (20063)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long
67	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 95th Avenue & Palm Ln (20062)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
68	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 91st Avenue & Osborn Road (8413)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long
69	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Cheery Lynn Road (8414)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long
70	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 91st Avenue & Windsor Avenue (7629)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long
71	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 101st Avenue (9151)	Design and construct a shade structure and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	28	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
72	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: NB 91st Avenue & Encanto Boulevard (7632)	Design and construct a shade structure and concrete pad, and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	28	Long
73	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: SB 91st Avenue & Cheery Lynn Road (8412)	Design and construct a shade structure and concrete pad, and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	28	Long
74	Network/Capacity	McDowell Road: 99th Avenue to 93rd Lane	Add two additional travel lanes (one lane in each direction). It is assumed this project may be constructed simultaneously with Project 11 and 92.	Traffic congestion/ delay	Roadway Capacity Project	0.65	$4,330,000	27	Long
75	Safety/Operations Study	91st Avenue and McDowell Intersection Operations Analysis	Conduct a turn lane analysis at the intersection to determine the need for additional turn lanes. Review/revise signal timing to address operational issues	Only one turn lane exists turning from 91st Avenue westbound onto McDowell Road long queuing and new QuickTrip adding to congestion on all four legs of this intersection.	Safety/ Operations Study	N/A	$15,000	27	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
76	Safety/Operations Study	99th Avenue & West Campbell Avenue Intersection Traffic Study	Complete an intersection improvement study to analyze the need for left-turn phasing changes and signal timing changes	Intersection delay/operational issues	Safety/ Operations Study	N/A	$45,000	27	Long
77	Network/Capacity	91st Avenue: Encanto Boulevard to McDowell Road	Add two additional travel lanes (one in each direction). It is assumed this project may be constructed simultaneously with Project 1 and 17.	Traffic congestion/ delay	Roadway Capacity Project	0.49	$3,297,000	26	Long
78*	Network/Capacity	99th Avenue and West Campbell Avenue Right-Turn Lanes	Install right-turn lanes at the 99th Avenue and Campbell Avenue intersection in the northbound, eastbound, and westbound directions. It is assumed this project may be constructed simultaneously with Project 8, 12, 15, and 22.	High density traffic near Legacy Traditional School during morning drop off and evening pick up times.	Intersection Capacity	N/A	$1,088,000	26	Long
79	Network/Capacity	Camelback Road Intersection Capacity	Develop signal timing and coordination to address operational issues	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	26	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
80	Network/Capacity	Indian School Road and Loop 101 Interchange Capacity Enhancements	The Southbound ramps at the Indian School and Loop 101 interchange will be restriped to provide a left turn lane, and shared left/thru/right turn lane, and a right turn lane, improving capacity for the right turn movements.	Future congestion at the Indian School and Loop 101 interchange is expected to increase to an unacceptable level due to rapid population growth.	Intersection Capacity	N/A	$400,000	26	Long
81	Safety/Operations Study	99th Avenue and Indian School Operational Improvements Study	Conduct an intersection analysis to determine lane deficiencies and operational issues	99th Avenue and Indian School should be assessed for operational improvements	Safety/ Operations Study	N/A	$25,000	26	Long
82	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Indian School Road & 107th Avenue (7855)	Design and construct a shade structure and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	26	Long
83	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB McDowell Road & 91st Avenue (8636)	Design and construct a shade structure and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	26	Long

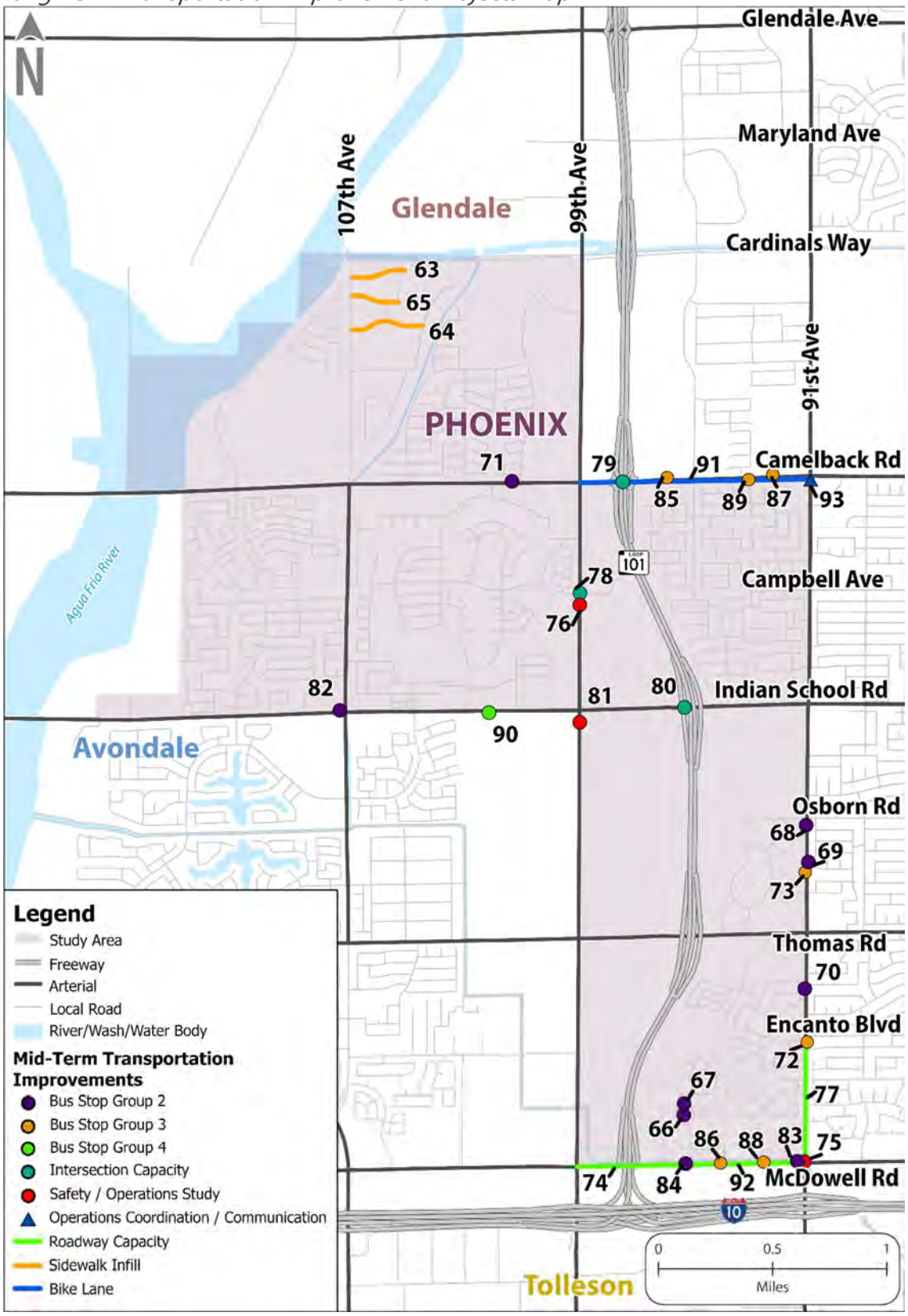
Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
84	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB McDowell Road & 95th Avenue (8635)	Design and construct a shade structure and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$95,400	26	Long
85	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB Camelback Road & 95th Avenue (9205)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	26	Long
86	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB McDowell Road & 93rd Avenue (8637)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	26	Long
87	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB Camelback Road & 9126 West (9757)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	26	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
88	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB McDowell Road & 92nd Avenue (8638)	Design and construct a shade structure and concrete pad and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	26	Long
89	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: EB Camelback Road & 93rd Avenue (9157)	Design and construct a shade structure and concrete pad and add bench seating.	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$45,500	26	Long
90	Active Transportation & Mobility	Bus Stop Amenities - Group 4 and Location / Bus Number: EB Indian School Road & 103rd Avenue (7997)	Design and construct a shade structure and concrete pad, pave sidewalk as part of Indian School Road Sidewalk infill Project, and add bench seating	Discomfort and potential heat-related health issues for pedestrians, bicyclists, and other public transportation users.	Bus Stop Improvement	N/A	$13,000	26	Long
91	Active Transportation & Mobility	Camelback Road: 99th Avenue to 91st Avenue	Install 8' buffered bike lanes between 99th Avenue and 91st Avenue. It is assumed this project may be constructed simultaneously with Project 5.	Gaps in bikeway network	Bike Lanes	1.02	$356,000	25	Long

Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term
92	Network/Capacity	McDowell Road: 93rd Lane to 91st Avenue	Add three additional travel lanes (2 eastbound, 1 westbound). It is assumed this project may be constructed simultaneously with Project 11 and 74.	Traffic congestion/ delay	Roadway Capacity Project	0.35	$2,720,000	24	Long
93	Safety/Operations Study	Copper Canyon High School / 91st Avenue and Camelback Peak Time Traffic Control	Manual operation of signal during school arrival and departure times.	The intersection of 91st Avenue and Camelback Road is severely backed up adjacent to the Copper Canyon High School between 6:30 a.m. to 9:00 a.m.	Operations Coordination / Communicati on	N/A	TBD (Glendale Traffic Operations Center monitoring or Glendale staff time)	24	Long

*Table Notes: * Further development of GSI components in tandem with prioritized projects containing an asterisk will require additional drainage/feasibility analyses as part of preliminary project engineering and final design*

Figure 3-3: Long-Term Transportation Improvement Projects Map



Green Stormwater Infrastructure (GSI)

The City is in the process of developing a Green Stormwater Infrastructure (GSI) framework that will institutionalize the use of these strategies in Street Transportation Department projects, as well as the associated funding mechanisms. The City is interested in delivering GSI projects because of its benefits:

- Water Quality – Stormwater runoff from urban landscapes delivers pollutants including pathogens, nutrients, sediment, and heavy metals to downstream natural and man-made drainage features, potentially negatively impacting the quality of groundwater and polluting natural habitats. By retaining rainwater from small storms, green infrastructure reduces stormwater discharges. Lower discharge volumes translate into reduced combined sewer overflows and lower pollutant loads. Green infrastructure also treats stormwater that is not retained.

- Flooding – Conventional stormwater infrastructure quickly drains stormwater to rivers and streams, increasing peak flows and flood risk. Green infrastructure can mitigate flood risk by slowing and reducing stormwater discharges.

- Water Supply – Rainwater harvesting and infiltration-based practices increase the efficiency of the water supply system.

    - Water collected in rainwater harvesting systems can be used for outdoor irrigation and some indoor uses and can significantly reduce municipal water use.

    - Water infiltrated into the soil can recharge ground water, an important source of water in Phoenix.

- Private and Public Cost Savings – Basing stormwater management systems on green infrastructure rather than on gray infrastructure often results in lower capital costs for developers. The savings result from lower costs for:

    - Site grading, paving, and landscaping; and

    - smaller or eliminated piping and detention facilities;

    - In areas of the City with combined sewer systems:

    - green infrastructure controls can cost less than conventional controls; and

    - green-gray approaches can reduce public expenditures on stormwater infrastructure.

During the WPTS improvement projects identification process, the study team performed a high-level review of available City Right-of-Way and potential locations where future development may benefit from GSI applications, potentially on private property. GSI candidate locations screening utilized the following evaluation criteria:

- Existing available City Right-of-Way;

- Lack of current development/future development potential;
- Lack of previously approved Planned Use Development (PUD)s;
- Lack of physical and operational conflicts including existence of utilities, on-street parking, existing and future adjacent parcel ingress and egress;
- A high-level analysis of drainage flows based on aerial imagery.

Table 3-4 and **Figure 3-4** highlight locations within the study area that are primary candidates for further developing and delivering GSI improvements as part of recommended prioritized short, mid, and long-term projects shown in **Figure 3-1** , **Figure 3-2** , and **Figure 3-3** .

As shown in GSI **Figure 3-4**, locations for further consideration include various locations on the north and south side of the West Campbell Avenue between 99th Avenue and 107th Avenue, and a small segment on the east and west sides of North 103rd Avenue in the vicinity of the intersections with North 101st Avenue and Monterosa Avenue abutting the defunct Villa de Paz golf course that is slated for redevelopment in the future, portions of the west side of 99th Avenue between Indian School Road and Camelback Road where there is a large swath of City ROW and constraint-free space that may make GSI feasible during future roadway widening efforts. Further development of GSI components in tandem with prioritized projects containing an asterisk in **Table 3-1** , **Table 3-2**, and **Table 3-3** will require additional drainage/feasibility analyses as part of preliminary project engineering and final design.

Additional Green Stormwater Infrastructure (GSI) Considerations

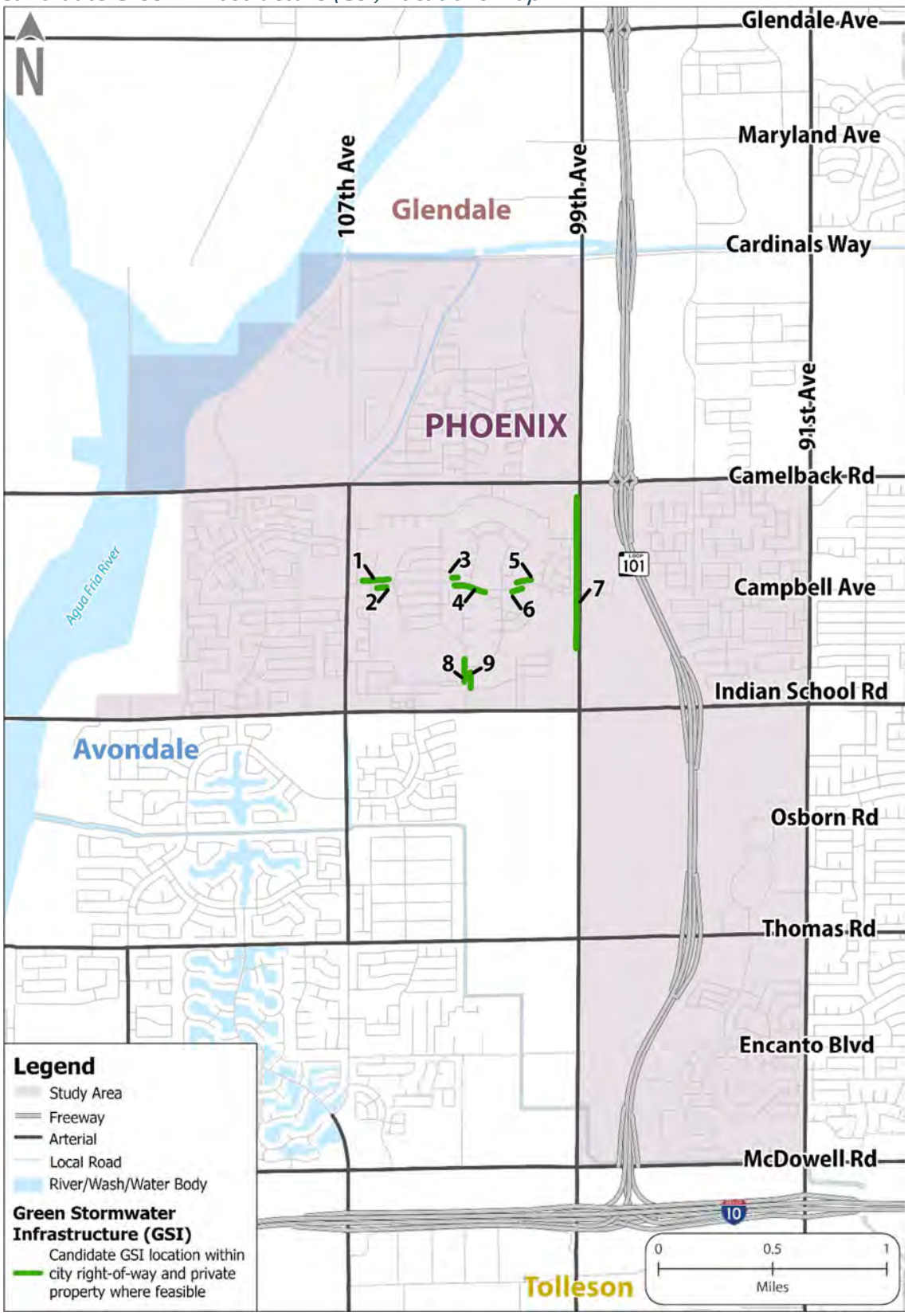
Beyond the scope of the WPTS, success of the Street Transportation Department GSI program will be dependent on development of GSI implementation policies that identify pilot geographic areas within the City, identify site evaluation screening criteria, identify annual project implementation and maintenance funding to not only deliver projects, but to ensure the City allocates funding to maintain GSI projects and project elements post installation. The Street Transportation Department project planning, scoping and development processes should encourage integration of GSI improvement considerations/design parameters as referenced in the Street Planning Design Guidelines Manual and identification of opportunities into planning study work products that will help to institutionalize GSI improvements consideration and development during project identification, scoping, design, and construction.

Also, as part of GSI policy development, the City Planning & Development Department should be engaged to identify GSI policies and development standards that will strongly encourage or require the installation of GSI features as part of new development where and when feasible in concert with street improvements. This approach will ensure GSI is not only considered in City Right-of-Way, but that it is considered as part of all future development to realize the environmental benefits and potential cost-savings to developers mentioned earlier in this document.

Table 3-4: Green Stormwater Infrastructure

Rank (Map ID)	Type of Project	Project Name	Project Description	Issue Mitigated	Length (Miles)
1	Green Stormwater Infrastructure	Campbell Avenue (north side): 120 ft east of 106th Drive to 120 ft west of 105th Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.12
2	Green Stormwater Infrastructure	Campbell Avenue (south side): 120 ft east of 106th Avenue to 175 ft west of 105th Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.04
3	Green Stormwater Infrastructure	Campbell Avenue (north side): 240 ft east of 103rd Avenue to 280 ft west of 102nd Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.02
4	Green Stormwater Infrastructure	Campbell Avenue (south side): 280 ft east of 103rd Avenue to 365 ft west of 101st Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.14
5	Green Stormwater Infrastructure	Campbell Avenue (north side): 375 ft east of 101st Avenue to 245 ft west of 100th Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.06
6	Green Stormwater Infrastructure	Campbell Avenue (south side): 220 ft east of 101st Avenue to 440 ft west of 100th Avenue	Add GSI improvements. It is assumed this project may be constructed with Project 29 found in the short-term project list.	Water quality, water supply and flooding	0.04
7	Green Stormwater Infrastructure	99th Avenue (west side): 290 ft south of Camelback Road to .25 miles north of Indian School Road	Add GSI improvements. It is assumed this project may be constructed with Projects 8, 15, 22, and 78 found in the short- and long-term project list.	Water quality, water supply and flooding	0.67
8	Green Stormwater Infrastructure	103rd Avenue (west side): 220 ft south of Avenida Cordoniz to 90 ft north of Monterosa Avenue	Add GSI improvements.	Water quality, water supply and flooding	0.1
9	Green Stormwater Infrastructure	103rd Avenue (east side): 100 ft south of 101st Avenue to 110 ft north of Monterosa Avenue	Add GSI improvements.	Water quality, water supply and flooding	0.07

Figure 3-4: Candidate Green Infrastructure (GSI) Locations Map



4 Next Steps

The recommendations within this report are preliminary and will be reviewed by the TAC, Maryvale Village Planning Committee and the public before being finalized. After the list of short-term, mid-term and long-term recommendations are vetted a Final Report will be developed. The following is a list of next steps for the West Phoenix Transportation Study:

- Technical Advisory Committee Meeting #4: This meeting will be utilized to share the findings of significance and preliminary project recommendations from Tech Memo #3 and will be utilized to discuss the content and findings that need further attention, elaboration, or clarifications.

- Maryvale Village Planning Committee Project Briefing #2: This briefing is intended to provide an opportunity for local stakeholders to discuss the rationale and application of the evaluation criteria process to rank projects and provide a summary overview of priority recommended policy modifications, roadway capacity, multimodal active transportation, and intersection improvement projects.

- Public Open House Meeting #2: This meeting will be utilized to obtain public input on the draft project recommendations for the short-term and long-term plan of improvements, phasing and planning level cost estimates through discussion and public feedback.

- Draft Final and Final Transportation Study Report: The Draft Final and Final Report will include revisions and comments received from the TAC, Maryvale Village Planning Committee and the public.

Appendix A – Detailed Project Prioritization Results

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ATTRIBUTE TABLE

										ATTRIBUTE EXPORT						EVALUATION SCORING							
										Proximity and Connectivity		Safety		Operational Improvement	Deliverability and Constructability			Proximity and Connectivity		Safety		Operational Improvement	Deliverability and Constructability				
Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term	Connects/Improves critical facilities	Infrastructure gaps connections	Proximity to all crashes	Proximity to crashes involving fatalities and serious injuries	Change LTS or LOS	Project Cost	Roadway ownership status	Development project	Connects/Improves critical facilities	Infrastructure gaps connections	Proximity to all crashes	Proximity to crashes involving fatalities and serious injuries	Change LTS or LOS	Project Cost	Roadway ownership status	Development project	Total	Rank
1	Network/Capacity	91st Avenue: Indian School Road to Thomas Road	Add two additional travel lanes (one in each direction)	Traffic congestion/delay	Roadway Capacity Project	1	$6,699,000	78	Short	3	0	166	9	Yes	$6,699,000	Yes	Partially	6	5	10	20	30	2	3	2	78	1
2	Active Transportation & Mobility	Thomas Road: 99th Avenue to 91st Avenue	Install 8' buffered bike lanes between 99th Avenue and 91st Avenue	Gaps in bikeway network	Bike Lanes	1	$349,000	74	Short	3	4	4	2	Yes	$349,000	Yes	Partially	6	10	5	15	30	3	3	2	74	2
3	Active Transportation & Mobility	101st Avenue: Oregon Avenue to Camelback Road	Install 8' buffered bike lanes between Oregon Avenue and Camelback Road	Gaps in bikeway network	Bike Lanes	0.33	$117,000	68	Short	1	2	1	1	Yes	$117,000	Yes	No	3	10	5	10	30	4	3	3	68	3
4	Active Transportation & Mobility	Indian School Road: 113th Drive to 99th Avenue	Install 8' buffered bike lanes between 113th Drive and 99th Avenue	Gaps in bikeway network	Bike Lanes	2.13	$744,000	68	Short	2	5	2	0	Yes	$744,000	No	No	6	15	5	5	30	3	1	3	68	4
5	Network/Capacity	Camelback Road: 113th Drive to 95th Avenue	Add two additional travel lanes (one lane in each direction)	Traffic congestion/delay	Roadway Capacity Project	2.48	$16,554,000	67	Short	2	0	489	8	Partially	$16,554,000	Partially	No	6	5	15	20	15	1	2	3	67	5
6	Active Transportation & Mobility	105th Avenue: Missouri Avenue to Camelback Road	Install 8' buffered bike lanes between Missouri Avenue and Camelback Road	Gaps in bikeway network	Bike Lanes	0.4	$142,000	66	Short	2	2	0	0	Yes	$142,000	Yes	No	6	10	5	5	30	4	3	3	66	6
7	Active Transportation & Mobility	Indian School Road: 99th Avenue to 91st Avenue	Install 8' buffered bike lanes between 99th Avenue and 91st Avenue	Gaps in bikeway network	Bike Lanes	1	$351,000	64	Short	2	1	3	1	Yes	$351,000	Yes	Partially	6	5	5	10	30	3	3	2	64	7
8	Active Transportation & Mobility	99th Avenue: Camelback Road to Indian School Road	Install 8' buffered bike lanes between Camelback Road and Indian School Road	Gaps in bikeway network	Bike Lanes	1	$350,000	64	Short	2	2	3	0	Yes	$350,000	Yes	Partially	6	10	5	5	30	3	3	2	64	8
9	Active Transportation & Mobility	West Campbell Avenue: 107th Avenue to West of 113th Avenue Bike Lanes	Install 8' buffered bike lanes between 107th Avenue and just west of 113th Drive	Gaps in bikeway network	Bike Lanes	0.73	$256,000	63	Short	1	3	0	0	Yes	$256,000	Yes	No	3	10	5	5	30	4	3	3	63	9
10	Active Transportation & Mobility	Missouri Avenue: 109th Avenue to 101st Avenue	Install 8' buffered bike lanes between 105th Avenue and 101st Avenue	Gaps in bikeway network	Bike Lanes	0.52	$183,000	63	Short	1	4	0	0	Yes	$183,000	Yes	No	3	10	5	5	30	4	3	3	63	10
11	Active Transportation & Mobility	McDowell Road: 99th Avenue to 91st Avenue	Install 8' buffered bike lanes between 99th Avenue and 91st Avenue	Gaps in bikeway network	Bike Lanes	1	$350,000	63	Short	3	3	0	0	Yes	$350,000	Partially	Partially	6	10	5	5	30	3	2	2	63	11
12	Active Transportation & Mobility	99th Avenue: Indian School Road to McDowell Road	Install 8' buffered bike lanes between Indian School Road and McDowell Road	Gaps in bikeway network	Bike Lanes	2	$701,000	63	Short	4	3	1	0	Yes	$701,000	Partially	Partially	6	10	5	5	30	3	2	2	63	12
13	Active Transportation & Mobility	99th Avenue: Cardinals Way to Camelback Road	Install 8' buffered bike lanes between Cardinals Way and Camelback Road	Gaps in bikeway network	Bike Lanes	0.99	$347,000	62	Short	2	4	1	0	Yes	$347,000	No	Partially	6	10	5	5	30	3	1	2	62	13
14	Active Transportation & Mobility	103rd Avenue: Missouri Avenue to Camelback Road	Install 8' buffered bike lanes between Missouri Avenue and Camelback Road	Gaps in bikeway network	Bike Lanes	0.5	$175,000	61	Short	2	1	0	0	Yes	$175,000	Yes	No	6	5	5	5	30	4	3	3	61	14
15	Network/Capacity	99th Avenue: Camelback Road to McDowell Road	Add three additional travel lanes (one lane in each direction with a TWLTL)	Traffic congestion/delay	Roadway Capacity Project	3	$23,398,000	60	Short	5	0	216	3	Partially	$23,398,000	Partially	Partially	10	5	10	15	15	1	2	2	60	15
16	Active Transportation & Mobility	91st Avenue: Camelback Road to Indian School Road	Install 8' buffered bike lanes between Camelback Road and Indian School Road	Gaps in bikeway network	Bike Lanes	0.99	$347,000	60	Short	3	1	1	0	Yes	$347,000	Yes	No	6	5	5	5	30	3	3	3	60	16
17	Active Transportation & Mobility	91st Avenue Sidewalk Infill	Construct 6-8' separated sidewalk from Indian School Road to Indianola Avenue	Gaps in sidewalk network	Sidewalk Infill	3.01	$230,000	54	Short	6	6	7	3	No	$230,000	Yes	Partially	10	15	5	15	0	4	3	2	54	17
18	Network/Capacity	Indian School Road: Copenhagen Drive to 91st Avenue	Add two additional travel lanes (one lane in each direction)	Traffic congestion/delay	Roadway Capacity Project	3.11	$20,767,000	51	Short	3	0	308	9	No	$20,767,000	Partially	Partially	6	5	15	20	0	1	2	2	51	18
19	Safety/Operations Study	99th Avenue - Speed Study: Cardinals Way to McDowell Speed Study	Conduct a speed study	Speeding on 99th Avenue	Safety/Operations Study	N/A	$20,000	48	Short	7	0	230	3	No	$20,000	Partially	Partially	10	5	10	15	0	4	2	2	48	19
20	Network/Capacity	Thomas Road: 99th Avenue to 91st Avenue	Add two additional travel lanes (one lane in each direction)	Traffic congestion/delay	Roadway Capacity Project	1	$6,665,000	43	Short	3	0	146	3	No	$6,665,000	Yes	Partially	6	5	10	15	0	2	3	2	43	20
21	Active Transportation & Mobility	Indian School Road Sidewalk Infill	Construct 6-8' separated sidewalk from Harf Drive to 91st Avenue	Gaps in sidewalk network	Sidewalk Infill	3.11	$1,351,000	43	Short	3	6	4	1	No	$1,351,000	Partially	Partially	6	15	5	10	0	3	2	2	43	21
22	Active Transportation & Mobility	99th Avenue Sidewalk Infill	Construct 6-8' separated sidewalk from 270' south of Indian School Road to McDowell Road.	Gaps in sidewalk network	Sidewalk Infill	4	$3,010,000	41	Short	7	11	3	0	No	$3,010,000	Partially	Partially	10	15	5	5	0	2	2	2	41	22
23	Active Transportation & Mobility	107th Avenue Sidewalk Infill	Construct 5' sidewalk from Camelback Road to Bethany Home Road	Gaps in sidewalk network	Sidewalk Infill	0.94	$604,000	40	Short	2	6	0	0	No	$604,000	Yes	No	6	15	5	5	0	3	3	3	40	23
24	Active Transportation & Mobility	Osborn Road Sidewalk Infill	Construct 5' sidewalk from 93rd Avenue to 91st Avenue	Gaps in sidewalk network	Sidewalk Infill	0.26	$94,000	39	Short	2	2	1	1	No	$94,000	Yes	Yes	6	10	5	10	0	4	3	1	39	24
25	Active Transportation & Mobility	107th Avenue: Bethany Home Road to Camelback Road Bike Lanes	Install 8' buffered bike lanes between Bethany Home Road and Camelback Road.	Gaps in bikeway network	Bike Lanes	0.94	$3,292,310	39	Short	2	5	0	0	No	$3,292,310	Yes	No	6	15	5	5	0	2	3	3	39	25
26	Active Transportation & Mobility	Thomas Road Sidewalk Infill	Construct 6-8' separated sidewalk from 99th Avenue to Loop-101	Gaps in sidewalk network	Sidewalk Infill	0.99	$480,000	39	Short	3	1	4	2	No	$480,000	Yes	Partially	6	5	5	15	0	3	3	2	39	26
27	Traffic Calming	Ballpark Road Traffic Calming	Install traffic calming to address speeding issues	Reports of speeding and racing on Ballpark Boulevard.	Traffic Calming	1.25	$20,000	38	Short	1	0	34	3	No	$20,000	Yes	No	3	5	5	15	0	4	3	3	38	27
28	Network/Capacity	Indian School Road Intersection Capacity	Develop signal timing and coordination to address operational issues	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	37	Short	0	0	63	2	No	$10,000	Yes	Partially	3	5	5	15	0	4	3	2	37	28
29	Traffic Calming	West Campbell Avenue Traffic Calming - 99th Avenue to 107th Avenue	Install two pairs of traffic calming chokers per Section 5.4.4 of the SPDGM: one pair between 107th Avenue and 106th Avenue and another pair approximately 450' east of 101st Avenue. The chokers would include appropriately placed LID curb openings (Per Section 3.7.2 of the SPDGM: LID-02 and LID-03) to capture stormwater runoff to irrigate vegetation.	Speeding on West Campbell Avenue.	Traffic Calming	1.03	$102,000	36	Short	2	0	32	1	No	$102,000	Yes	No	6	5	5	10	0	4	3	3	36	29
30	Safety/Operations Study	107th Avenue and Camelback Road Operations Study	Speed and Pedestrian Clearance Intervals Study	107th Avenue and Camelback Road has been identified as a safety problem intersection for bicyclists and pedestrians.	Safety/Operations Study	N/A	$25,000	36	Short	2	0	40	1	No	$25,000	Yes	No	6	5	5	10	0	4	3	3	36	30
31	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Thomas Road & 93rd Avenue (20065)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	36	Short	2	0	19	1	No	$95,400	Yes	No	6	5	5	10	0	4	3	3	36	31
32	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 105th Avenue (0153)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	36	Mid	2	0	8	1	No	$95,400	Yes	No	6	5	5	10	0	4	3	3	36	32
33	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 107th Avenue & Camelback Road (6360)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	36	Mid	2	0	39	1	No	$95,400	Yes	No	6	5	5	10	0	4	3	3	36	33
34	Network/Capacity	Thomas Road Intersection Capacity	Develop signal timing and coordination to address operational issues	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	35	Mid	2	0	46	1	No	$10,000	Yes	Partially	6	5	5	10	0	4	3	2	35	34
35	Safety/Operations Study	Camelback Road and 99th Avenue / Camelback Road and 107th Avenue Special Event Traffic Control	City of Phoenix Police Department coordination to control traffic during special events	During special events, traffic backs up at the Camelback Road/99th Avenue and 107th Avenue intersections.	Operations Coordination / Communication	N/A	TBD (Phoenix Police staff time)	35	Mid	0	0	148	1	No	TBD (Phoenix Police staff time)	Yes	No	3	5	10	10	0	1	3	3	35	35
36	Traffic Calming	West Campbell Avenue Traffic Calming - 107th Avenue to West of 113th Drive	Install traffic calming center island application per Section 5.4.5 of the SPDGM at 111th Avenue and West Campbell Avenue. The center island would include appropriately placed LID curb openings (Per Section 3.7.2 of the SPDGM: LID-02 and LID-03) to capture stormwater runoff to irrigate vegetation.	Speeding on West Campbell Avenue	Traffic Calming	0.73	$43,000	33	Mid	1	0	23	1	No	$43,000	Yes	No	3	5	5	10	0	4	3	3	33	36
37	Active Transportation & Mobility	104th Drive Sidewalk Infill	Construct 5' sidewalk from Missouri Avenue to Montebello Avenue	Gaps in sidewalk network	Sidewalk Infill	0.26	$96,000	33	Mid	1	2	0	0	No	$96,000	Yes	No	3	10	5	5	0	4	3	3	33	37
38	Active Transportation & Mobility	McDowell Road Sidewalk Infill	Construct 6-8' separated sidewalk from 91st Avenue to 99th Avenue	Gaps in sidewalk network	Sidewalk Infill	1	$539,000	33	Mid	3	2	0	0	No	$539,000	Partially	Partially	6	10	5	5	0	3	2	2	33	38
39	Active Transportation & Mobility	Copper King Elementary School - 107th Avenue and West Campbell Avenue HAWK	Design and construct HAWK at 107th Avenue and West Campbell Avenue	Need for safe mid-block crossing for bicyclists, pedestrians, and school children.	HAWK	N/A	$209,600	33	Mid	1	2	0	0	No	$209,600	Yes	No	3	10	5	5	0	4	3	3	33	39
40	Active Transportation & Mobility	Westwind Elementary School - 91st Avenue and West Campbell Avenue HAWK	Design and construct HAWK at 91st Avenue and West Campbell Avenue	HAWK and/or signal associated with Westwind Elementary	HAWK	N/A	$209,600	33	Mid	1	2	0	0	No	$209,600	Yes	No	3	10	5	5	0	4	3	3	33	40
41	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: EB Camelback Road & 105th Avenue (8841)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	33	Mid	1	0	8	1	No	$95,400	Yes	No	3	5	5	10	0	4	3	3	33	41
42	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: EB Camelback Road & 101st Avenue (8845)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	33	Mid	0	0	35	1	No	$95,400	Yes	No	3	5	5	10	0	4	3	3	33	42
43	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 99th Avenue (8150)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	33	Mid	0	0	108	0	No	$95,400	Yes	No	3	5	5	10	0	4	3	3	33	43
44	Active Transportation & Mobility	Bus Stop Amenities - Group 4 and Location / Bus Number: EB Indian School Road & 99th Avenue (7953)	Design and construct a shade structure and concrete pad, pave sidewalk as part of Indian School Road Sidewalk Infill Project, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$13,000	33	Mid	1	0	27	1	No	$13,000	Yes	No	3	5	5	10	0	4	3	3	33	44
45	Safety/Operations Study	99th Avenue and Camelback - Signal Timing Plans	Develop signal timing and coordination to address operational issues and determine the need for right-turn lanes.	Signal timing on 99th Avenue and Camelback is not appropriate. Backups during rush hour for westbound flows. Right turn lanes at intersections are needed	Safety/Operations Study	N/A	$45,000	32	Mid	0	0	107	0	No	$45,000	Partially	No	3	5	10	5	0	4	2	3	32	45
46	Safety/Operations Study	Pendergast Elementary School Ingress and Egress Road Safety Assessment (RSA)	Conduct a Road Safety Assessment at the Pendergast Elementary School Ingress and Egress Driveway	Dangerous turning movements exist at pick-up and drop-off times associated with Pendergast Elementary School main entrance	Safety/Operations Study	N/A	$30,000	32	Mid	1	0	6	1	No	$30,000	Yes	Partially	3	5	5	10	0	4	3	2	32	46
47	Active Transportation & Mobility	Ball Park Boulevard Sidewalk Infill	Construct 6-8' separated sidewalk from study area boundary to Camelback Ranch Driveway	Gaps in sidewalk network	Sidewalk Infill	0.77	$390,000	32	Mid	1	2	0	0	No	$390,000	Yes	No	3	10	5	5	0	3	3	3	32	47
48	Active Transportation & Mobility	Campbell Avenue Sidewalk Infill	Construct 5' sidewalk from 99th Avenue to 98th Avenue	Gaps in sidewalk network	Sidewalk Infill	0.16	$60,000	32	Mid	1	2	0	0	No	$60,000	Yes	Partially	3	10	5	5	0	4	3	2	32	48
49	Active Transportation & Mobility	Camelback Road Sidewalk Infill	Construct 6-8' separated sidewalk from Copper Canyon High School southern Driveway to 91st Avenue	Gaps in sidewalk network	Sidewalk Infill	0.15	$160,000	31	Mid	1	2	0	0	No	$160,000	No	No	3	10	5	5	0	4	1	3	31	49
50	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Thomas Road 91st Avenue (20064)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	31	Mid	2	0	8	0	No	$95,400	Yes	No	6	5	5	5	0	4	3	3	31	50
51	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Thomas Road (8415)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	31	Mid	2	0	10	0	No	$95,400	Yes	No	6	5	5	5	0	4	3	3	31	51
52	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Windsor Avenue (7630)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	31	Mid	2	0	1	0	No	$95,400	Yes	No	6	5	5	5	0	4	3	3	31	52
53	Active Transportation & Mobility	105th Lane Sidewalk Infill	Construct 5' sidewalk from Missouri Avenue to approximately 2,473' northeast	Gaps in sidewalk network	Sidewalk Infill	0.44	$330,000	30	Mid	2	0	0	0	No	$330,000	Yes	No	6	5	5	5	0	3	3	3	30	53
54	Active Transportation & Mobility	106th Avenue Sidewalk Infill	Construct 5' sidewalk from 106th Drive to Missouri Avenue	Gaps in sidewalk network	Sidewalk Infill	0.81	$604,000	30	Mid	2	0	0	0	No	$604,000	Yes	No	6	5	5	5	0	3	3	3	30	54
55	Network/Capacity	McDowell Road Intersection Capacity	Develop signal timing and coordination to address operational issues	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	29	Mid	2	0	0	0	No	$10,000	No	No	6	5	5	5	0	4	1	3	29	55
56	Safety/Operations Study	McDowell Road: 99th Avenue to 95th Avenue	Analyze traffic volumes on McDowell Road at Loop 101	Traffic congestion/delay	Safety/Operations Study	N/A	$25,000	29	Mid	2	0	3	0	No	$25,000	Partially	Partially	6	5	5	5	0	4	2	2	29	56
57	Safety/Operations Study	McDowell Road and Loop 101 Operations Study	Traffic Study to identify potential mitigation of traffic back-ups from McDowell Road intersection onto the Southbound Loop 101 off-ramp including 101 and I-10 traffic interchange backups that impact McDowell Road Loop 101 southbound exit	Large queues southbound 101 traffic and short distance to Loop 101 off ramp is a challenge at peak and throughout the day	Safety/Operations Study	N/A	$20,000	29	Mid	2	0	0	0	No	$20,000	No	No	6	5	5	5	0	4	1	3	29	57

ATTRIBUTE TABLE

										ATTRIBUTE EXPORT							EVALUATION SCORING								
										Proximity and Connectivity		Safety		Operational Improvement	Deliverability and Constructability			Proximity and Connectivity		Safety		Operational Improvement	Deliverability and Constructability				
Rank (Map ID)	Type of project	Project Name	Project Description	Issue Mitigated	Project Type	Length (Miles)	Opinion of Probable Cost	Total Score	Term	Connects/Improves critical facilities	Infrastructure gaps connections	Proximity to all crashes	Proximity to crashes involving fatalities and serious injuries	Change LTS or LOS	Project Cost	Roadway ownership status	Development project	Connects/Improves critical facilities	Infrastructure gaps connections	Proximity to all crashes	Proximity to crashes involving fatalities and serious injuries	Change LTS or LOS	Project Cost	Roadway ownership status	Development project	Total	Rank
58	Safety/Operations Study	Copper King Elementary School - 107th Avenue and West Campbell Avenue Speed Study	Conduct a speed study to identify candidate solutions including changing speed limit during school hours, enforcement, speed feedback signs, etc.	At 107th Avenue and Campbell across from Copper King Elementary School, drivers were clocked going 62 mph, there is a need to reduce speeds	Safety/Operations Study	N/A	$25,000	28	Mid	1	0	2	0	No	$25,000	Yes	No	3	5	5	5	0	4	3	3	28	58
59	Safety/Operations Study	Copper King Elementary School Signal Warrant Analysis - 107th Avenue and West Campbell Avenue / Westbound Intersection Leg	Complete a signal warrant analysis to determine the need for a traffic signal.	Copper King Elementary School pick-up and drop-off congestion and safety concerns.	Safety/Operations Study	N/A	$20,000	28	Mid	1	0	5	0	No	$20,000	Yes	No	3	5	5	5	0	4	3	3	28	59
60	Active Transportation & Mobility	Colter Avenue Sidewalk Infill	Construct 5' sidewalk 107th Avenue to 106th Drive	Gaps in sidewalk network	Sidewalk Infill	0.06	$51,000	28	Mid	1	1	0	0	No	$51,000	Yes	No	3	5	5	5	0	4	3	3	28	60
61	Active Transportation & Mobility	Georgia Avenue Sidewalk Infill	Construct 5' sidewalk from 106th Drive to the east at the cul-de-sac	Gaps in sidewalk network	Sidewalk Infill	0.06	$45,000	28	Mid	1	0	0	0	No	$45,000	Yes	No	3	5	5	5	0	4	3	3	28	61
62	Active Transportation & Mobility	Missouri Avenue Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 105th Lane	Gaps in sidewalk network	Sidewalk Infill	0.28	$213,000	28	Mid	1	0	0	0	No	$213,000	Yes	No	3	5	5	5	0	4	3	3	28	62
63	Active Transportation & Mobility	Rancho Drive Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to approximately 170' east of 106th Avenue	Gaps in sidewalk network	Sidewalk Infill	0.23	$186,000	28	Long	0	1	0	0	No	$186,000	Yes	No	3	5	5	5	0	4	3	3	28	63
64	Active Transportation & Mobility	San Miguel Avenue Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 105th Lane	Gaps in sidewalk network	Sidewalk Infill	0.32	$248,000	28	Long	1	1	0	0	No	$248,000	Yes	No	3	5	5	5	0	4	3	3	28	64
65	Active Transportation & Mobility	Solano Drive Sidewalk Infill	Construct 5' sidewalk from 107th Avenue to 106th Avenue	Gaps in sidewalk network	Sidewalk Infill	0.2	$159,000	28	Long	0	1	0	0	No	$159,000	Yes	No	3	5	5	5	0	4	3	3	28	65
66	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 95th Avenue & Palm Ln (20063)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	0	0	1	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	66
67	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 95th Avenue & Palm Ln (20062)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	0	0	3	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	67
68	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 91st Avenue & Osborn Road (8413)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	1	0	19	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	68
69	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: NB 91st Avenue & Cheery Lynn Road (8414)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	1	0	2	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	69
70	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: SB 91st Avenue & Windsor Avenue (7629)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	1	0	2	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	70
71	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Camelback Road & 101st Avenue (9151)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	28	Long	0	0	14	0	No	$95,400	Yes	No	3	5	5	5	0	4	3	3	28	71
72	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: NB 91st Avenue & Encanto Boulevard (7632)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	28	Long	0	0	32	0	No	$45,500	Yes	No	3	5	5	5	0	4	3	3	28	72
73	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: SB 91st Avenue & Cheery Lynn Road (8412)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	28	Long	1	0	1	0	No	$45,500	Yes	No	3	5	5	5	0	4	3	3	28	73
74	Network/Capacity	McDowell Road: 99th Avenue to 93rd Lane	Add two additional travel lanes (one lane in each direction)	Traffic congestion/delay	Roadway Capacity Project	0.65	$4,330,000	27	Long	2	0	4	0	No	$4,330,000	Partially	Partially	6	5	5	5	0	2	2	2	27	74
75	Safety/Operations Study	91st Avenue and McDowell Intersection Operations Analysis	Conduct a turn lane analysis at the intersection to determine the need for additional turn lanes. Review/revise signal timing to address operational issues	Only one turn lane exists turning from 91st Avenue westbound onto McDowell Road long queuing and new QuickTrip adding to congestion on all four legs of this intersection.	Safety/Operations Study	N/A	$15,000	27	Long	1	0	20	0	No	$15,000	Partially	No	3	5	5	5	0	4	2	3	27	75
76	Safety/Operations Study	99th Avenue & West Campbell Avenue Intersection Traffic Study	Complete an intersection improvement study to analyze the need for left-turn phasing changes and signal timing changes	Intersection delay/operation issues	Safety/Operations Study	N/A	$45,000	27	Long	1	0	4	0	No	$45,000	Yes	Partially	3	5	5	5	0	4	3	2	27	76
77	Network/Capacity	91st Avenue: Encanto Boulevard to McDowell Road	Add two additional travel lanes (one in each direction)	Traffic congestion/delay	Roadway Capacity Project	0.49	$3,297,000	26	Long	1	0	80	0	No	$3,297,000	Yes	No	3	5	5	5	0	2	3	3	26	77
78	Network/Capacity	99th Avenue and West Campbell Avenue Right-Turn Lanes	Install right-turn lanes at the 99th Avenue and Campbell Avenue intersection in the northbound, eastbound, and westbound directions.	High density traffic near Legacy Traditional School during morning drop off and evening pick up times.	Intersection Capacity	N/A	$1,088,000	26	Long	1	0	11	0	No	$1,088,000	Yes	Partially	3	5	5	5	0	3	3	2	26	78
79	Network/Capacity	Camelback Road Intersection Capacity	Develop signal timing and coordination to address operational issues	Freeway entrances and traffic interchanges are extremely congested	Intersection Capacity	N/A	$10,000	26	Long	0	0	16	0	No	$10,000	No	No	3	5	5	5	0	4	1	3	26	79
80	Network/Capacity	Indian School Road and Loop 101 Interchange Capacity Enhancements	The Southbound ramps at the Indian School and Loop 101 interchange will be restriped to provide a left turn lane, and shared left/thru/right turn lane, and a right turn lane, improving capacity for the right turn movements.	Future congestion at the Indian School and Loop 101 interchange is expected to increase to an unacceptable level due to rapid population growth.	Intersection Capacity	N/A	$400,000	26	Long	0	0	49	0	No	$400,000	Yes	Partially	3	5	5	5	0	3	3	2	26	80
81	Safety/Operations Study	99th Avenue and Indian School Operational Improvements Study	Conduct an intersection analysis to determine lane deficiencies and operational issues	99th Avenue and Indian School should be assessed for operational improvements	Safety/Operations Study	N/A	$25,000	26	Long	1	0	6	0	No	$25,000	Partially	Partially	3	5	5	5	0	4	2	2	26	81
82	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB Indian School Road & 107th Avenue (7855)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	26	Long	1	0	7	0	No	$95,400	No	No	3	5	5	5	0	4	1	3	26	82
83	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB McDowell Road & 91st Avenue (8636)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	26	Long	0	0	16	0	No	$95,400	No	No	3	5	5	5	0	4	1	3	26	83
84	Active Transportation & Mobility	Bus Stop Amenities - Group 2 and Location / Bus Number: WB McDowell Road & 95th Avenue (8635)	Design and construct a shade structure and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$95,400	26	Long	0	0	1	0	No	$95,400	No	No	3	5	5	5	0	4	1	3	26	84
85	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB Camelback Road & 95th Avenue (9295)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	26	Long	0	0	17	0	No	$45,500	No	No	3	5	5	5	0	4	1	3	26	85
86	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB McDowell Road & 93rd Avenue (8637)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	26	Long	0	0	1	0	No	$45,500	No	No	3	5	5	5	0	4	1	3	26	86
87	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB Camelback Road & 9126 West (9757)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	26	Long	1	0	4	0	No	$45,500	No	No	3	5	5	5	0	4	1	3	26	87
88	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: WB McDowell Road & 92nd Avenue (8638)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	26	Long	0	0	0	0	No	$45,500	No	No	3	5	5	5	0	4	1	3	26	88
89	Active Transportation & Mobility	Bus Stop Amenities - Group 3 and Location / Bus Number: EB Camelback Road & 93rd Avenue (9157)	Design and construct a shade structure and concrete pad, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$45,500	26	Long	1	0	11	0	No	$45,500	No	No	3	5	5	5	0	4	1	3	26	89
90	Active Transportation & Mobility	Bus Stop Amenities - Group 4 and Location / Bus Number: EB Indian School Road & 103rd Avenue (7997)	Design and construct a shade structure and concrete pad, pave sidewalk as part of Indian School Road Sidewalk Infill Project, and add bench seating	Discomfort for pedestrians and cyclists using public transportation	Bus Stop Improvement	N/A	$13,000	26	Long	0	0	0	0	No	$13,000	No	No	3	5	5	5	0	4	1	3	26	90
91	Active Transportation & Mobility	Camelback Road: 99th Avenue to 91st Avenue	Install 8' buffered bike lanes between 99th Avenue and 91st Avenue.	Gaps in bikeway network	Bike Lanes	1.02	$356,000	25	Long	1	1	2	0	No	$356,000	No	No	3	5	5	5	0	3	1	3	25	91
92	Network/Capacity	McDowell Road: 93rd Lane to 91st Avenue	Add three additional travel lanes (2 eastbound, 1 westbound)	Traffic congestion/delay	Roadway Capacity Project	0.35	$2,720,000	24	Long	1	0	21	0	No	$2,720,000	No	No	3	5	5	5	0	2	1	3	24	92
93	Safety/Operations Study	Copper Canyon High School / 91st Avenue and Camelback Peak Time Traffic Control	Manual operation of signal during school arrival and departure times	The intersection of 91st Avenue and Camelback Road is severely backed up adjacent to the Copper Canyon High School between 6:30 a.m. to 9:00 a.m.	Operations Coordination / Communication	N/A	TBD (Glendale Traffic Operations Center monitoring or Glendale staff time)	24	Long	1	0	49	0	No	TBD (Glendale Traffic Operations Center monitoring or Glendale staff time)	Partially	No	3	5	5	5	0	1	2	3	24	93