

APPENDIX A

Complete Corridor Identification and Evaluation Process

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Complete Corridor Identification and Evaluation Process

The Maricopa Association of Government’s (MAG) Regional Active Transportation Plan (ATP) is focused on planning and promoting a system of high quality “complete corridors” as a regional framework for connecting and serving the highest demand areas of the region – in terms of walking and biking trips - and increasing the reach of regional transit and shared use path (i.e., paved or unpaved trail, multiuse trail, pathway) investments. This document provides an overview of the process used to develop the proposed active transportation network called the “AT Grid”. Figure 1 provides a generalized outline of the active transportation network development process.



Figure 1: Active Transportation Network Development Process

Step 1:

Conduct a gravity demand analysis

- Calculate regional active transportation demand
- Identify activity centers
- Calculate gravity scores

Step 2:

Identify complete corridor alignment alternatives to form the AT Grid

Step 3:

Evaluate complete corridor alignment alternatives

Next Steps:

Present high-scoring alignment alternatives to stakeholders

Step 1: Gravity Demand Analysis Summary

The active transportation network development process started by performing a gravity demand analysis for the MAG region. The goal of the gravity demand analysis is to develop an understanding of what trips are most in demand and likely to occur by bicycle, and to a lesser extent walking. The product of the analysis is a “gravity score”, which is a ratio between the amount of demand between two locations (origins and destinations) and the distance separating them. As the size of objects increases-- in this case, the amount of demand at a location-- the gravitational pull increases. Conversely, as the distance between locations increases beyond a reasonable distance someone is willing to ride a bike, the gravitational pull decreases. The result is a conceptual network linking regional activity centers/destinations and showing the relative demand between these destinations.

Calculate Regional Active Transportation Demand

The first step in conducting a gravity demand analysis is to estimate active transportation demand for the region. The demand for walking, bicycling, and transit use was

measured using employment data (number of jobs per employer), schools, universities, parks, crash data, transit stops, Strava data, and demographic data. See Table 1 for a list of all the factors, variables, and weights used in the demand analysis. These factors and variables are key indicators of demand for active transportation and transit. The results of the demand analysis were used to identify areas in the MAG region where there is a high potential for bicycling, walking, and first- and last-mile connections to transit.

Identify Activity Centers

Activity centers represent locations where there are a high number of trips being attracted or generated (see

Table 1: Gravity Analysis Factors and Variables

Factor	Variable	Distance	Weight
Pedestrian and Bicycle Crash History *	Weighted crash kernel density	0.25 mile	10
Employment Density (number of jobs)*	Proximity to employment and number of jobs	2 miles	20
School	Proximity to schools	0.5 mile	10
University	Proximity to Universities	1 mile	15
Existing Transit	Proximity to bus stops	0.25 mile	10
	Proximity to light rail stops	0.50 mile	10
	Proximity to transit stops with high ridership	bus 0.25 miles rail .050 mile	10
Parks	Proximity to parks	.025 mile	10
	High population density	NA	20
	High bike mode share	NA	10
	High walk mode share	NA	10
	High transit mode share	NA	10
Demographics*	High percentage of low-income households	NA	10
	High percentage of older adult population (65+)	NA	10
	High percentage of zero vehicle households	NA	10
	High percentage of school-aged children (<19)	NA	10
Strava Data*	Annual Bicyclist Activity	0.5 mile	20
	Annual Pedestrian Activity	0.5 mile	20

* These factors use a tiered weighting method in which the variables are broken into quintiles and scored using a quintile scale. For example, a variable with a weight of 10 will apply a score of 10 to the highest quintile and the preceding quintiles receive a score of 8, 6, 4, and the lowest quintile receiving a score of 0.

[Map 1](#) for activity center locations). Activity centers were identified by selecting key downtown areas, densely populated centers of municipalities, major employment centers, major shopping centers, universities, and locations recommended by the MAG ATP Technical Advisory Committee (TAC). These activity centers served as the origins and destinations for the gravity analysis.

Calculate Gravity Scores

Each activity center in the region was paired with every other activity center with a line. The Euclidean (i.e. straight line) distance between each activity center was

calculated. A distance decay function was applied to convert the Euclidean distance to a value that mimics peoples' actual preference to make a trip by bike, the raw distance scores are calibrated to favor short trips vs. long trips using the distance decay function¹.

The demand score for each activity center pair was summed to create a total demand score. This total demand score was then divided by the distance decay value, resulting in a raw gravity score for each pair.

$$\text{Raw Gravity Score} = \text{Total Demand} / \text{Distance Decay Value}$$

The raw gravity scores are scaled using a 0 to 100-point scale to create a final gravity score for each pair. The highest gravity score received 100 points and the other pairs received a score relative to the top scoring pair. Scaling the gravity score makes it easier to understand and compare origin and destination pairs.

The results of the gravity demand analysis results can be viewed in [Map 2](#). Lower scoring pairs (gravity score < 26) were removed from the map to reveal a clearer picture of the top priority pairs. There are nearly 5,000 origin and destination pairs, so removing low scoring pairs is necessary to reveal potential active transportation corridors.

Step 2: Identify Complete Corridors and “The AT Grid”

We identified a series of “complete corridors” connecting top priority activity center pairs and high demand areas. A “complete corridor” promotes multimodal travel with high quality design that emphasizes safety, comfort (i.e. separation from motor vehicles), aesthetics, intuitiveness and efficiency. Complete corridors may also be comprised of shared use paths or shared streets that have low vehicle volumes and speeds.

Individual mile-wide buffers were drawn on the map to connect two or more activity centers that had the “highest” or “high” demand scores. These mile-wide buffers are to provide options for how complete corridors may be implemented by local agencies. For example, within the mile-wide corridor there may be one or more streets or shared use paths that create a connection between two points. Since a goal of defining

¹ Iacono, Michael, et al. *Access to Destinations: How Close Is Close Enough? Estimating Accurate Distance Decay Functions for Multiple Modes and Different Purposes.* (2008)

and promoting the complete corridor network is to have complete corridors provide the highest quality active transportation access and mobility, this generally means that these corridors should be established on streets or shared use paths that provide access to commercial activity and destinations or on quieter streets (i.e., low vehicle speeds and volumes) within a block or two of more commercially-oriented streets.

Corridors are divided into two tiers. Tier 1 corridors connect activity centers having a high level of demand/propensity for active transportation while Tier 2 corridors connect activity centers with a level of demand/propensity lower than Tier 1.

Within each corridor two or more² alignment alternatives were identified and assessed based on their viability for accommodating high quality active transportation facilities and using the criteria listed in Table 2. Not all of the alternatives meet all criteria, but the objective was to identify alignments that met as many of these criteria as possible. These alternatives were presented to the TAC and members of the Safety, Active Transportation, and Streets Committees in September 2018 and revised based on input received. The MAG ATP Corridor Identification memo (Lee Engineering, January 2020) , included later in this Appendix, provides details from the alignment alternative assessment.

The network of complete corridors come together to form an interconnected AT Grid. “Regional Conduits” were identified as existing or planned shared use paths that provide connections between the AT Grid and communities in the outer reaches of the MAG region. In

Table 2
Alignment Alternative Identification Criteria

Alignment should take into consideration the bicycle plan of the affected local jurisdiction.

Alignment should be positioned to provide direct access to major activity centers, either by running along a main street serving the activity center or a street a block or two away.

Alignment should be direct. It is undesirable for an alignment to include jogs and circuitous paths that involve many turns.

When an alignment crosses an arterial, it is undesirable for the route to jog along the arterial before resuming unless it provides the most suitable or feasible route.

Alignment should be within or near the defined mile-wide complete corridor (i.e., where demand between activity centers has been determined to be highest).

² In some instances there is only a single alignment identified.

a few cases these conduits are within street rights-of-way and may be on-street facilities.

See [Map 3](#) to view the corridors with the Regional Conduits and [Map 4](#) for the identified alignment alternatives.

Step 3: Evaluate Alignment Alternatives

Each alignment alternative was evaluated using the criteria summarized in Table 3 on the next page. The objective of the evaluation process is to rank each alternative based on how well it scores in relation to the other alternative for the complete corridor. The evaluation analysis used a ranked order scaling method to score each alignment alternative (see Table 4 for an example of ranked order scaling). For each variable, the highest ranked alternative receives 2 points, the second highest rank receives 1 point, and all other alignments receive 0 points. This process is repeated for each variable.

The final alignment alternative evaluation score is an aggregate score of criteria outlined in Table 2. Alignment alternatives are then ranked based on the final evaluation score to estimated which alternative is most likely to meet demand and provide equitable transportation choices.

See [Map 5](#) to view each alignment alternative included in this analysis. The highest ranking alternative is drawn with a thick **yellow** line, the second highest is drawn with a **blue** line, third highest is drawn with a **purple** line, and all other alternatives are drawn with a **red** line. Following [Map 5](#) are maps of each individual corridor showing the evaluated alignment alternatives in more detail.

Table 4
Example of Rank Order Scaling: Number of Jobs

Alignment Alternative Name	Number of Jobs	Rank	Evaluation Score
OE2 Gilbert Rd	2,157	1	2
OE1b Neely	571	2	1
OE1a Neely	497	3	0
OE3 Burk	494	4	0

Table 3: Corridor Alignment Evaluation Criteria

Factor	Variable	Distance from Alignment	Description*
Equity, Inclusion, and Health	Individuals living in poverty	0.1 mile	Percent of population living in poverty within the last 12 months (ACS 2016 5-Year Estimate, Block Group). The alignment alternative with the highest percentage of individuals living in poverty receives the max score.
	Zero car households	0.1 mile	Percent of households without access to a personal vehicle (ACS 2016 5-Year Estimate, Block Group). The alignment alternative with the highest percentage of zero car households receives the max score.
	Heat vulnerability index	0.1 mile	Sum of heat vulnerability index** divided by the length of the alignment alternative. The alignment alternative with the highest vulnerability score per mile receives the max score.
	Non-white population	0.1 mile	Percent of non-white population (ACS 2016 5-Year Estimate, Block Group). The alignment alternative with the highest percentage of non-white population receives the max score.
	Individuals 25 years of age or older without a college degree	0.1 mile	Percent of population aged 25 years or older who do not have a college degree (ACS 2016 5-Year Estimate, Block Group). The alignment alternative with the highest percentage of individuals aged 25 or older without a college degree receives the max score.
	Proximity to jobs	0.5 mile	Total number of jobs within 0.5 mile (MAG Employer Data, 2015). The alignment alternative with the highest number of jobs receives the max score.
Connectivity	Proximity to light rail stations	0.25 mile	Total number of light rail stations within quarter a mile. The alignment alternative with the highest number of light rail stations within quarter a mile receives the max score.
	Proximity and frequency of bus service	500 feet	The total number of scheduled bus trips per bus stop, divided by the length of the alignment alternative. Alignment alternatives with the highest number of bus trips per mile receive the maximum score. The total number of bus trips per bus stop is calculated using the bus service schedule available from the Valley Metro's General Transit Feed Specification.
	Connects to a shared use path	NA	Any alignment alternative that connects to an existing shared use path receive the maximum number of points (i.e., 2).
	Number of intersections per mile	NA	Roadway networks with high intersection density corresponds closely to more walkable and accessible communities and active transportation networks. Alignment alternatives with the highest number of intersections per mile receive the highest score.
	Route uses and existing bike/pedestrian bridge	NA	Any alignment alternative that uses an existing bicycle/pedestrian bridge will receive the maximum score.
Safety	Weighted Pedestrian and Bicycle Crash History	100 feet	Crashes involving a bicyclist or pedestrian within 100ft of the corridor are summed and multiplied by an injury severity weight. Fatal and serious injuries (KSI***) receive a weight of 3 and non-KSI crashes receive a weight of 1. Alignment alternatives with the highest weighted bicycle and pedestrian crash history per mile receive the highest score.
Destinations	Proximity to schools	0.25 mile	Number of schools within 0.25 mile of the alignment alternative. Alignment alternatives with the highest number of schools within 0.25 mile receive the highest score.
	Proximity to universities	0.5 mile	Number of universities within 0.5 mile of the alignment alternative. Alignment alternatives with the highest number of universities within 0.5 mile receive the highest score.
Challenges	Major constructibility challenge	NA	Alignments alternatives that have major constructibility challenges that are outlined in the alignment alternatives memo will receive a penalty score of -2.
	Major barriers (interchange crossing)	NA	Alternatives that travel through a major interchange (without grade separation) receive a penalty score of -2.
	Major barriers (requires an overpass or underpass)	NA	Alternatives that require a new overpass/underpass receive a penalty score of -1.
Other	Population density	0.1 mile	Population per square mile (ACS 2016 5-Year Estimate, Block Group). The alignment alternative with the highest population density receives the max score.
	Online public comments	250 feet	Total number of public comments received from the MCDOT and MAG public outreach efforts. The alignment alternative with the highest number of public comments receives the max score.

Note: Alignment alternatives are ranked within each complete corridor for each variable. Alignments with the highest rank receive 2 points, the second highest rank receive 1 points, and the remaining receive 0 point. Some complete corridors have only 1 alignment alternative while some have up to 6 alternatives. Most complete corridors have 3 alignment alternatives.

* More detailed description for each variable can be found on the following page.

** Urban Resilience to Extremes Sustainability Research Network, "Nature's Cooling Systems Project", Arizona State University.

*** Equivalent to fatal (K) and incapacitating injuries (A) on the KABCO rating.

Following these maps is a memo that discusses each alignment alternative, including its existing attributes, the recommended facility type, and the potential actions needed for achieving the recommended facility type.

Descriptions of Variables Used in the Evaluation Analysis

Bicycle and pedestrian crash history is included in the evaluation analysis to prioritize locations with high rates of crashes involving a bicyclist or pedestrian, and are weighted to reflect the severity of the crash. Crashes where there was a fatality or serious injury (KSI) have a weight of 3 and non-KSI crashes have a weight of 1. Alternatives with the highest weighted crash history per mile receive the highest evaluation score.

Employment density is a major demand determinant for both recreational and utilitarian trips. People walk or bike to or within areas with high employment primarily to access jobs and potentially also for errands. To provide active transportation connections between people and jobs, alternatives with the highest number of jobs within a half mile receive the highest score.

Schools and universities have a large number of trips being made, often times using active transportation modes. To provide active transportation connections to schools and universities, alignments are scored based on how many schools and universities they can connect people to. Schools and universities have different levels of demand, so they are included as separate variables to reflect their differences. Alternatives with the most schools and universities within a quarter-mile receive the highest evaluation scores for each variable.

Locations in close **proximity to light rail stations** often have high levels of demand for active transportation. Alignments that have the highest number of light rail stations within a half mile can provide convenient active transportation connections or alternatives for people who are walking, riding a bicycle, riding a bus, or on their way to using the light rail. Alternatives with the highest number of stations within a half mile receive the highest evaluation score.

People using Valley Metro's **bus service** will have to walk, ride a bicycle, or use a mobility device at some

point during their trip. Areas near bus stops inherently have demand for active transportation connections and amenities. Pedestrian amenities such as sidewalks, curb ramps, shade, and safe crossings are essential to encourage and facilitate pedestrian activity. Low-stress bicycle facilities can provide convenient connections for people riding their bike and taking the bus. For this evaluation analysis, we calculated the number of buses stopping at every bus stop (bus trips) within 500 feet of each alternative³. This variable represents the number of potential connections to transit and transit services along each alternative. Alternatives with the highest number of bus trips per mile receive the highest evaluation score.

The MAG region has an expansive network of **existing shared use paths** that provide low-stress bicycling and walking routes for people to use for recreational and utilitarian trips. To make use of the existing share use path network and provide high comfort active transportation routes connections to these facilities, alternatives that connect to an existing path will receive the max score. This variable does not use the rank order scaling method. Instead, any corridor that connects to a shared use path receives the full evaluation score.

Research into travel mode choice has shown that **intersection density** is highly correlated with increased bicycling and walking. Areas with a high number of intersections with three or more legs tend to have better connectivity and often feature a greater set of utilitarian destinations. Therefore, these locations represent areas in which utilitarian trips are more likely to occur. Alignment alternatives are evaluated by the total number of intersections per mile. Alternatives with highest number of intersections per mile receive the highest evaluation score.

The MAG region has numerous **existing bicycle/pedestrian bridges and underpasses**. These bridges and underpasses provide low-stress routes for people walking and riding a bicycle to cross major barriers, such as arterial roads and freeways. This evaluation analysis prioritizes alternatives that utilize existing bicycle and pedestrian bridges or underpasses. Alternatives that cross major barriers using an existing bicycle/pedestrian bridge or underpass receive the full evaluation score. This variable does not use the ranked order scaling method.

³ The number of buses stopping at each bus stop is calculated using the posted bus schedule available from Valley Metro's General Transit Feed Specification (GTFS).

Some alternative alignments identified in this plan may have **major constructibility challenges**. Some of these challenges include constrained right of way, parking removal, complex intersections, high costs for construction, and historic local opposition to bicycle and pedestrian projects. These locations may prove to be very challenging to implement. Therefore, alternatives identified as having major constructibility challenges receive a negative evaluation score⁴. It should be noted that the highest ranking alignment alternative may not ultimately be the alternative preferred by the responsible member agency.

Alignment that **require the construction of a new bridge** can be challenging to implement as well as expensive. Alternatives that require a new bicycle/pedestrian bridge will have a negative evaluation score to represent the alternative's complex nature to fund, design, and build new bridges.

Major barriers such as **interchange crossings** can be challenging to walk or a ride a bicycle through. These locations typically have larger right of ways, high volumes of vehicle traffic, and complex roadway designs that can contribute to an uncomfortable bicycle and pedestrian environment. Alternatives that cross a major interchange receive a negative evaluation score.

A **heat vulnerability index**⁵ was incorporated into this alignment alternative analysis. The index analyzes surface temperatures, population density, median income, living alone, and poverty to identify geographic locations where there are populations vulnerable to heat-related health issues. Alternative alignments are evaluated based on the total vulnerability index within a half-mile divided by the length of the alternative. The alternative with the highest resulting value receives the maximum evaluation score.

Online public comments received during the Maricopa County Department of Transportation (MCDOT) and MAG public outreach efforts for their respective Active Transportation Plans was incorporated into this alignment alternative analysis. Public comments

were received using an online interactive map that asked people where they would like to see bicycle and pedestrian improvements. Alignment alternatives with the highest number of comments per mile received the highest evaluation score.

Demographic data was collected from the U.S. Census Bureau's 2012-2016 American Community Survey (ACS) at the block group level and is used in this analysis to prioritize alignments that can improve **equity, inclusion, and health** using key socioeconomic factors. The following ACS data was used to evaluate each alignment alternative.

Research indicates that **individuals living in poverty** are more likely to depend on transit, walking, or biking to get around their community and to commute to work^{6,7}. Alignment alternatives with the highest share of individuals living in poverty are prioritized to serve active transportation demand and to help create a more equitable MAG region. Alternatives with the highest percent share of individuals living in poverty receive the highest evaluation score.

Population density is a strong determinant for both recreational and utilitarian trips. In short, the more people living in an area, the more people will be walking, biking, or using transit. Alignment alternatives that have the highest population density within a tenth of a mile receive the highest evaluation score.

Zero-car households have a high probability of using active transportation modes, including the use of transit, to commute and run errands⁸. To help fulfill the demand for active transportation near areas with high shares of zero car households, alternatives with the highest share of zero car households receive the highest evaluation score.

Community members who identify themselves as **Disabled** depend on affordable and accessible transportation options. The existing transportation system presents numerous challenges for these community members such as missing curb cuts,

⁴ Please view the Mag ATP Corridor Identification Memo for the descriptions of each alignment identified as having major constructibility issues.

⁵ Urban Resilience to Extremes Sustainability Research Network, "Nature's Cooling Systems Project", Arizona State University.

⁶ J Dill, M Schlossberg, L Ma, C Meyer. *Predicting Transit Ridership at the Stop Level: The Role of Service and Urban Form*. (2013). 92nd Annual Meeting of the Transportation Research Board

⁷ McKenzie, Brian. *Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012*. U.S. Census Bureau. (2014). <https://www.census.gov/prod/2014pubs/acs-25.pdf>.

⁸ Tomer, Adie. *Transit Access and Zero-Vehicle Households*. Metropolitan Policy Program at Brookings. (2011) https://www.brookings.edu/wp-content/uploads/2016/06/0818_transportation_tomer.pdf

discontinuous sidewalks, uneven sidewalks and driveways, and street crossings.. In many instances, accessible or affordable transportation options are lacking. In an effort to provide a more accessible transportation system for everyone, alternatives with the highest share of the population who identify as disabled receive the highest prioritization score.

Non-white populations have some of the highest rates of walking to work and have the largest growth in bicycle trips. While those travel trends are increasing, communities of color have a disproportionately high pedestrian fatality rate -- nearly twice the rate of white populations⁹ -- and depend on transit use nearly four times more than white populations¹⁰. To contribute to a more equitable future, alternatives with the highest share of non-white populations receive the highest evaluation score.

Communities with higher shares of **individuals 25 years of age or older without a college degree** can face significant vertical advancement challenges. Higher levels of educational attainment have a strong correlation with lower unemployment rates, higher earnings, and greater vertical mobility^{11,12}. Alternatives with the highest share of populations aged 25 years of age or older without a college degree are prioritized. Implementing transportation infrastructure that provides affordable non-motorized connections to key destinations such as employment and education can improve vertical mobility for disadvantaged communities.

9 Safe Routes to School National Partnership. *At the Intersection of Transportation and Equity*. (N.D.) (<http://www.saferoutespartnership.org/sites/default/files/pdf/At-the-Intersection-of-Active-Transportation-and-Equity.pdf>)

10 Association of Pedestrian and Bicycle Professionals. *Aspects of Equity*. Webinar. (2016).

11 Brudage Jr., Vernon. Division of Labor, U.S. Bureau of Labor Statistics. *Spotlight Statistics: Educational Attainment of th Labor Force*. (2017). <https://www.bls.gov/spotlight/2017/educational-attainment-of-the-labor-force/pdf/educational-attainment-of-the-labor-force.pdf>

12 Litman, Todd. *Evaluating Transportation Equity, Guidance for Incorporating Distributional Impacts in transportation Planning*. (2018). <http://vtpi.org/equity.pdf>

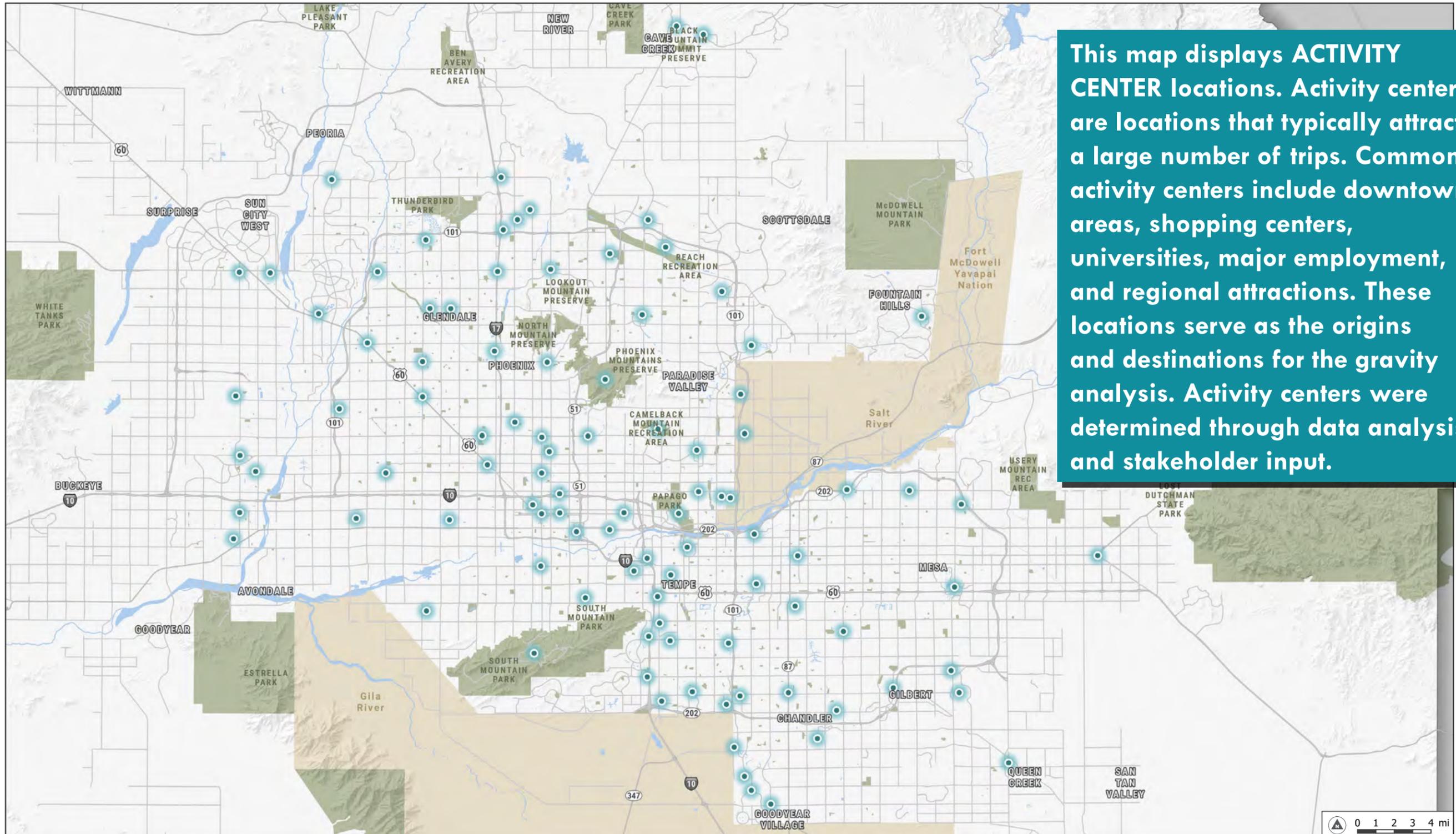
Map 1: Activity Centers

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Map Key

- Activity Center



This map displays **ACTIVITY CENTER** locations. Activity centers are locations that typically attract a large number of trips. Common activity centers include downtown areas, shopping centers, universities, major employment, and regional attractions. These locations serve as the origins and destinations for the gravity analysis. Activity centers were determined through data analysis and stakeholder input.

Map 2: Gravity Demand Analysis Results

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN



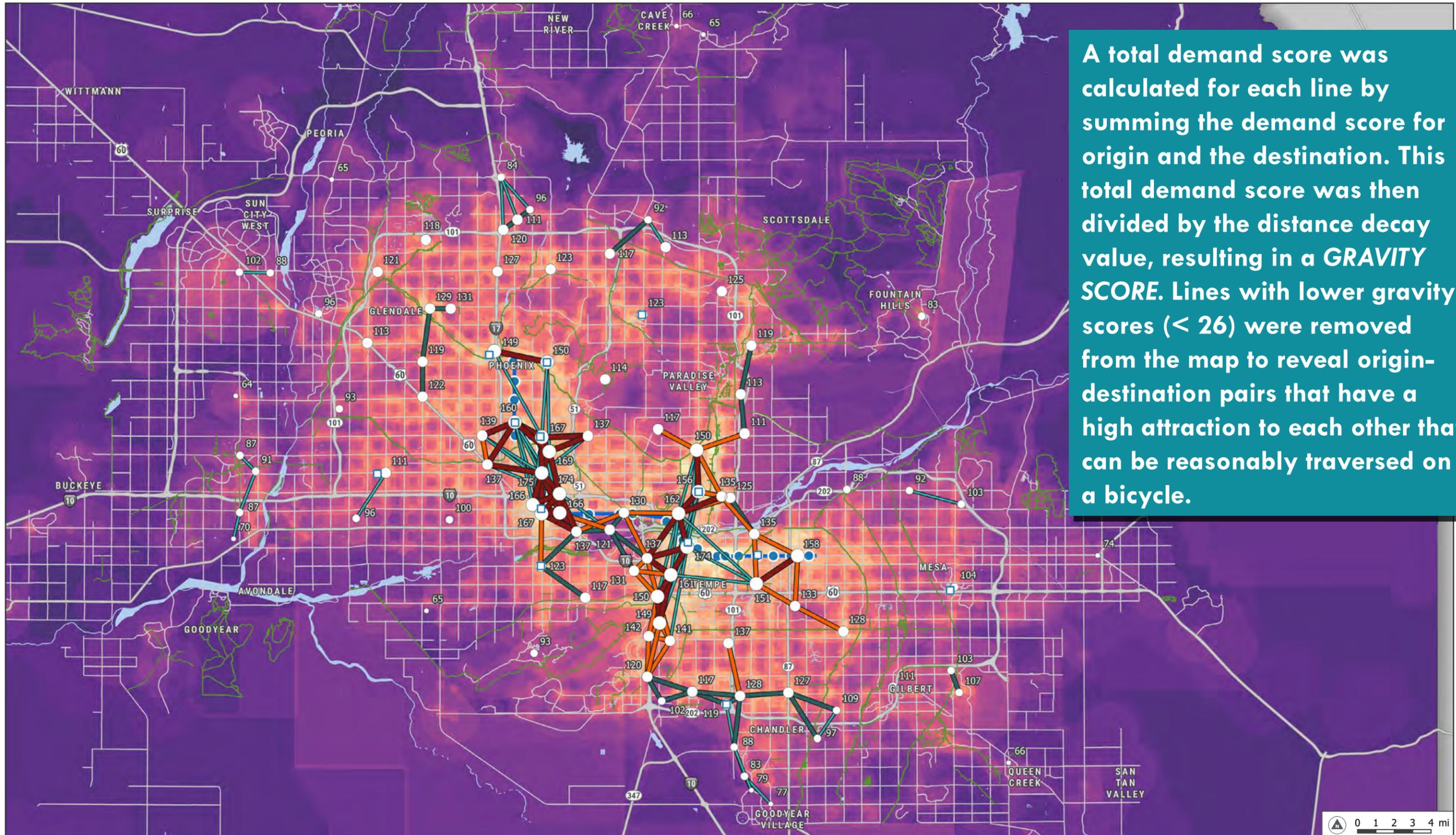
Map Key



- Activity Centers with Demand Score
- Low
 - Medium
 - High

- Origin-Destination Segment
- Medium Gravity Score
 - Medium-High Gravity Score
 - High Gravity Score
 - Highest Gravity Score

- Light Rail
- Light Rail Station
- Transit Center
- Existing Shared-Use Path



A total demand score was calculated for each line by summing the demand score for origin and the destination. This total demand score was then divided by the distance decay value, resulting in a **GRAVITY SCORE**. Lines with lower gravity scores (< 26) were removed from the map to reveal origin-destination pairs that have a high attraction to each other that can be reasonably traversed on a bicycle.

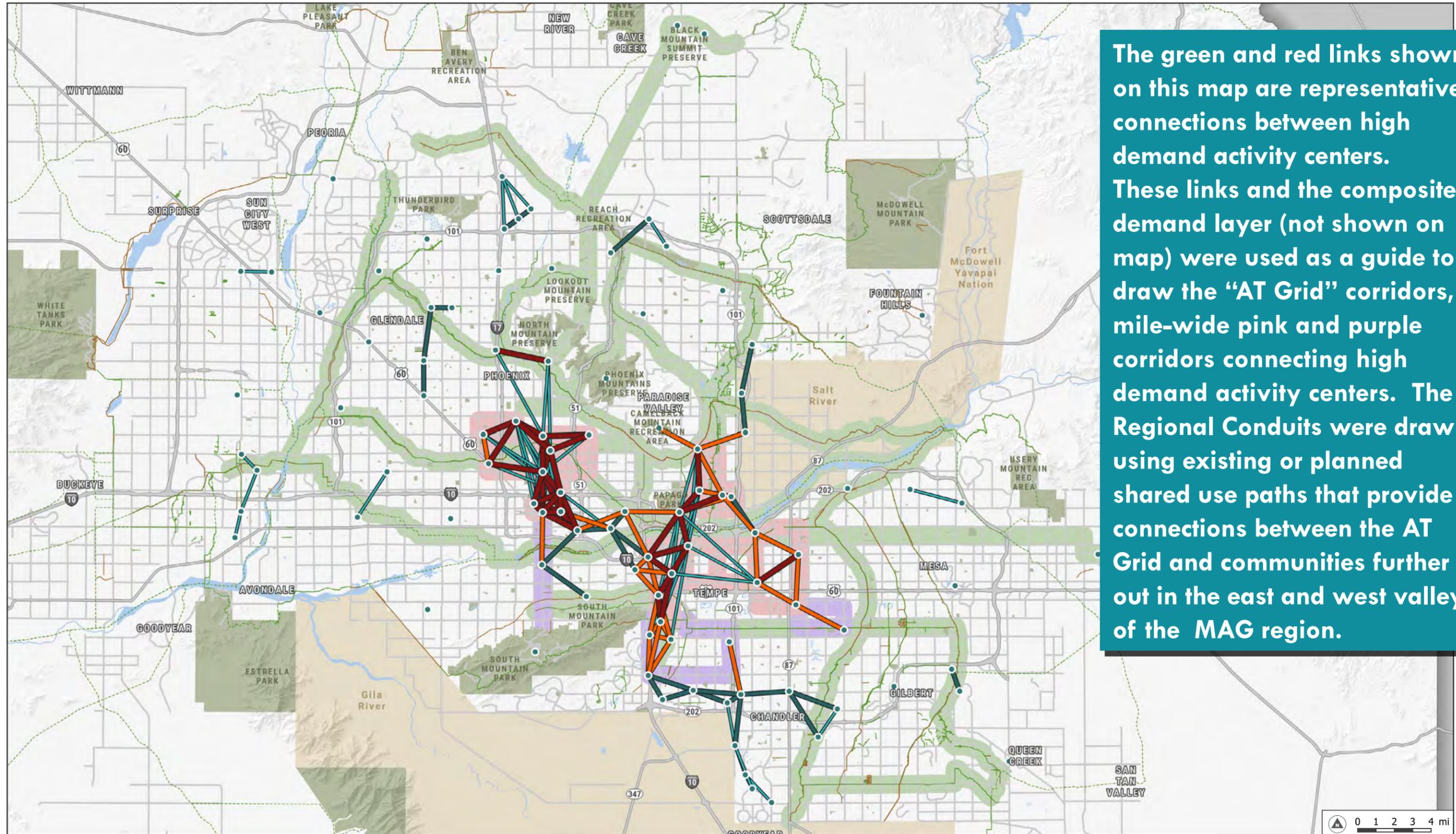
Map 3: Gravity Demand Analysis Results and Corridors

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Map Key

- Activity Center
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Planned Shared Use Path
- Tier 1 Corridor
- Tier 2 Corridor
- Regional Conduits
- Origin-Destination Segments
- Medium Gravity Score
- Medium-High Gravity Score
- High Gravity Score
- Highest Gravity Score



The green and red links shown on this map are representative connections between high demand activity centers. These links and the composite demand layer (not shown on map) were used as a guide to draw the “AT Grid” corridors, mile-wide pink and purple corridors connecting high demand activity centers. The Regional Conduits were drawn using existing or planned shared use paths that provide connections between the AT Grid and communities further out in the east and west valleys of the MAG region.



Map 4: Corridors and Alignment Alternatives

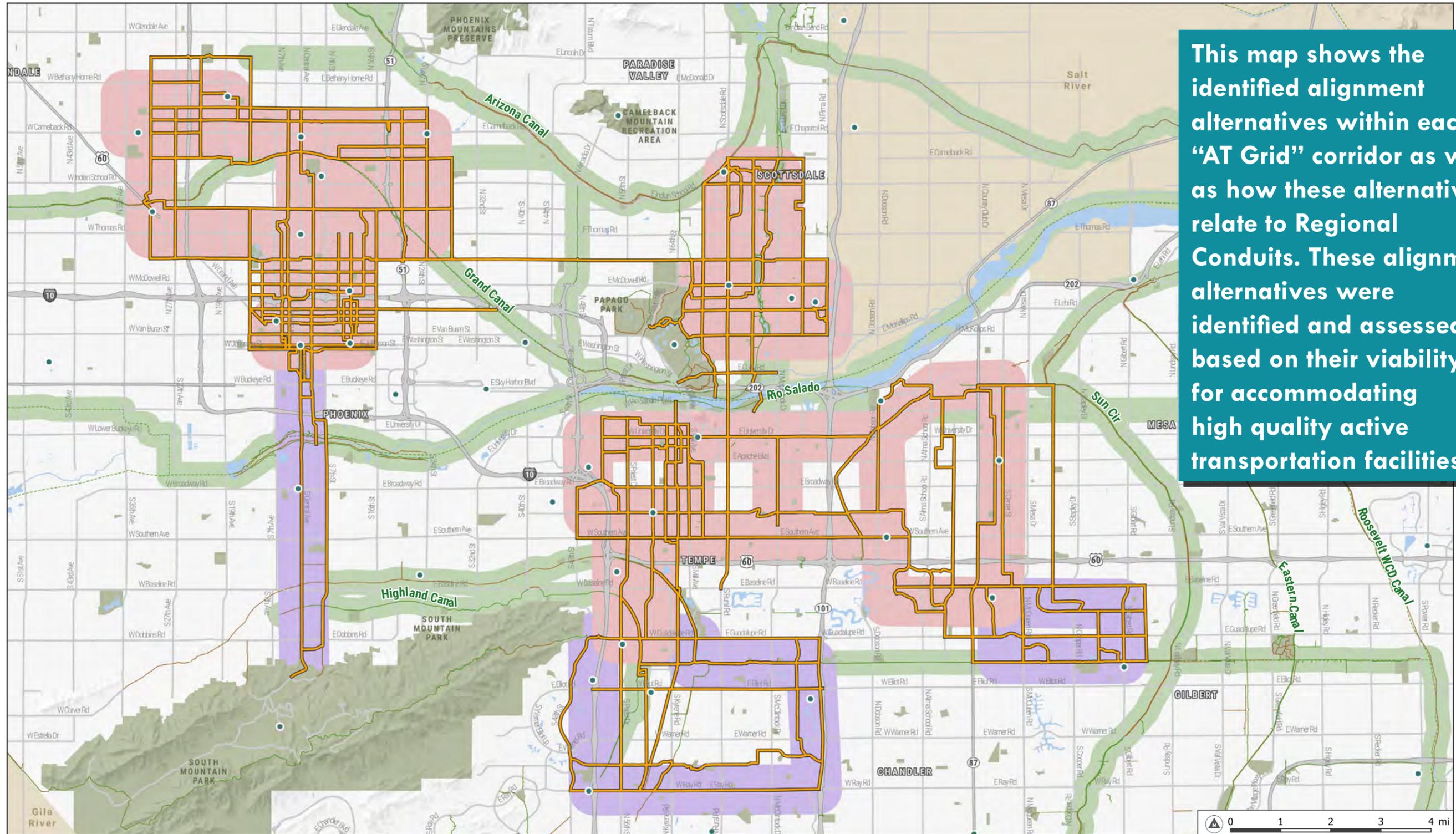
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN



Map Key

- Activity Center
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Planned Shared Use Path
- Tier 1 Corridor
- Tier 2 Corridor
- Regional Conduits
- Alignment Alternatives
- All Alignment Alternatives



This map shows the identified alignment alternatives within each “AT Grid” corridor as well as how these alternatives relate to Regional Conduits. These alignment alternatives were identified and assessed based on their viability for accommodating high quality active transportation facilities.

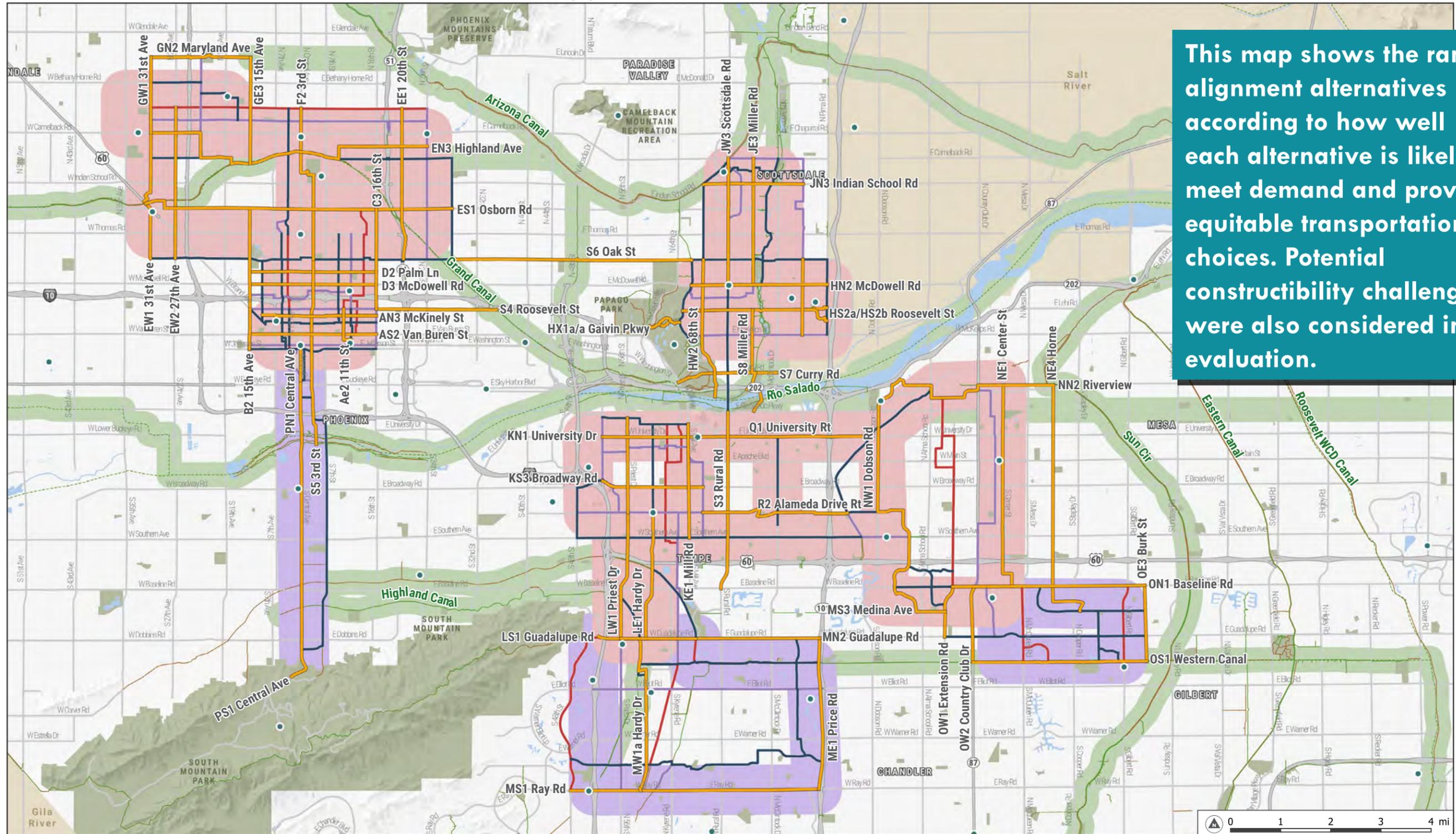
Map 5: Corridors and the Ranked Alignment Alternatives

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Map Key

- | | | |
|--|--------------------------------------|---------------------|
| Alignment Alternatives | ● Activity Center | ■ Tier 1 Corridor |
| — Highest Scoring Alignment Alternative | — Existing Shared Use Path - Unpaved | ■ Tier 2 Corridor |
| — Second Highest Scoring Alignment Alternative | — Existing Shared Use Path - Paved | ■ Regional Conduits |
| — Third Highest Scoring Alignment Alternative | — Planned Shared Use Path | |
| — Remaining Alignment Alternatives | | |

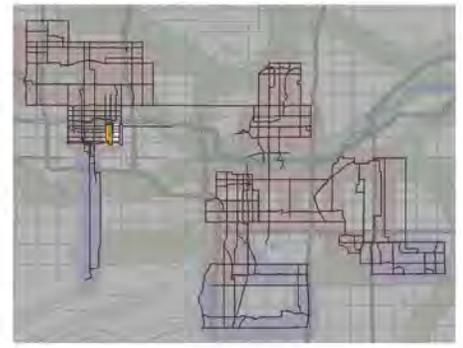


This map shows the ranked alignment alternatives according to how well each alternative is likely to meet demand and provide equitable transportation choices. Potential constructibility challenges were also considered in the evaluation.

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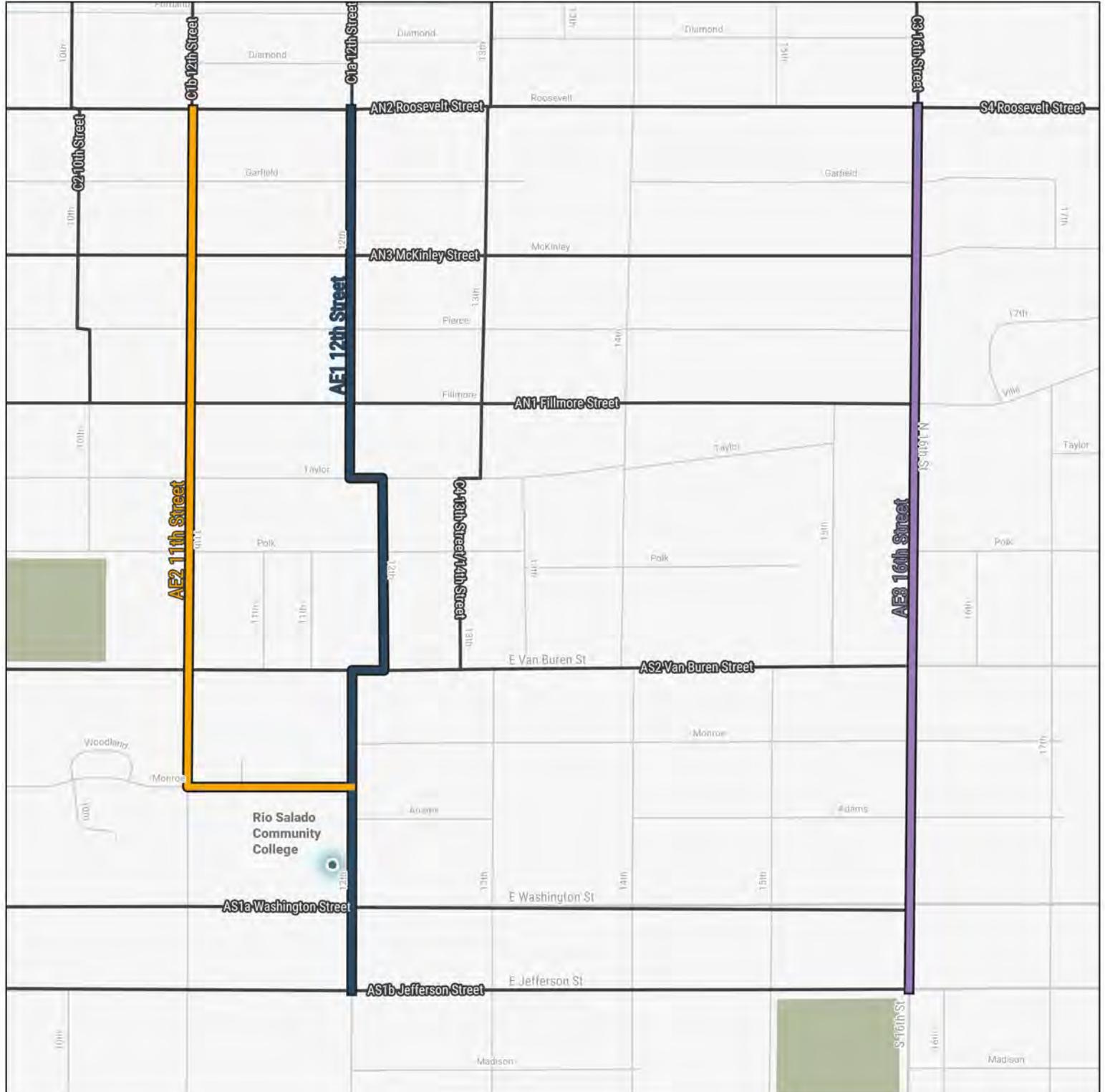
REGIONAL ACTIVE TRANSPORTATION PLAN

Downtown Phoenix Loop, AE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center

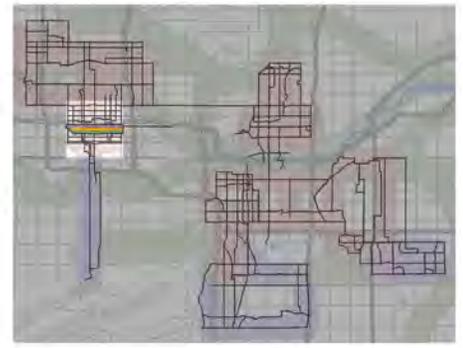


Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

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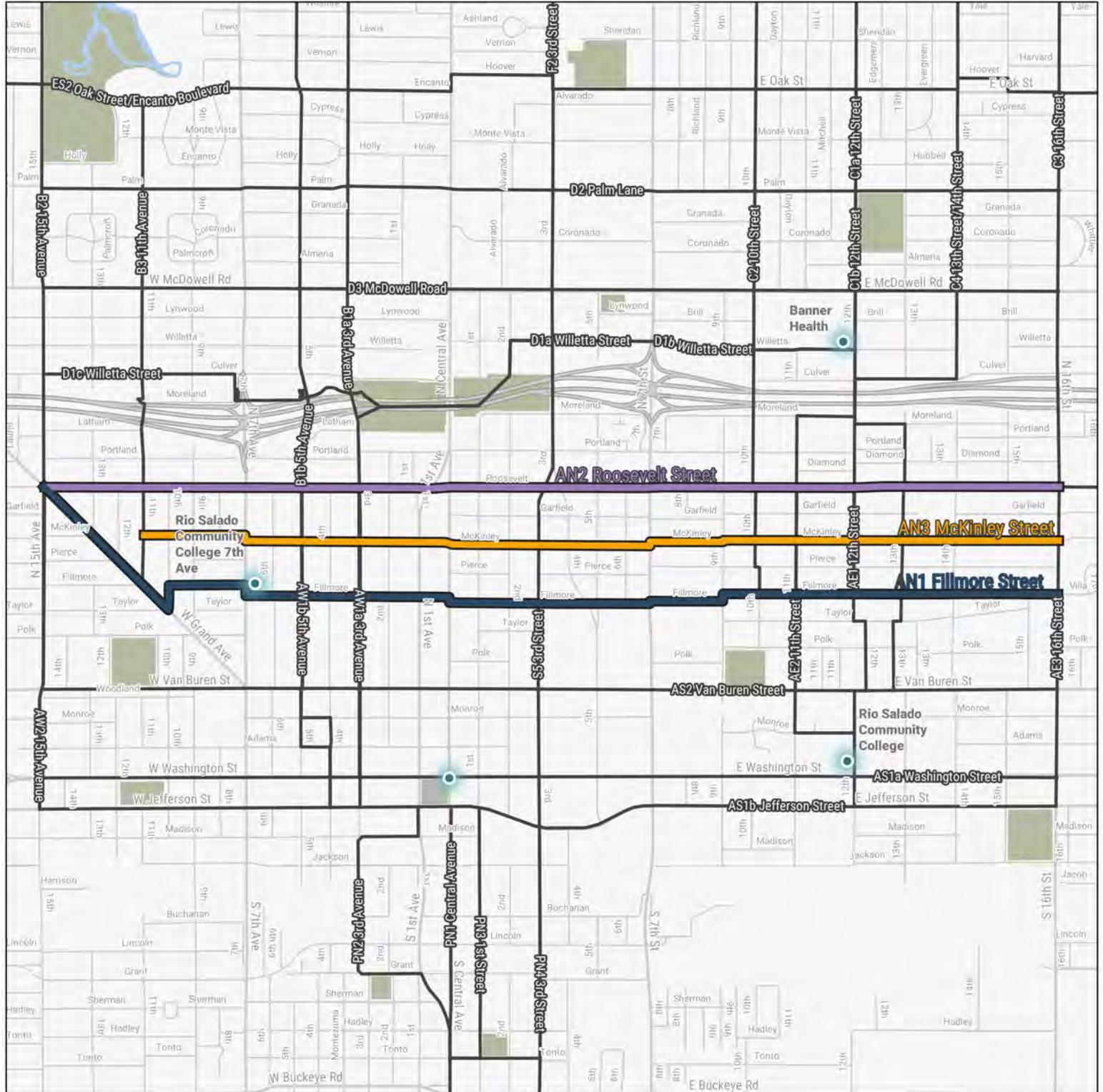
REGIONAL ACTIVE TRANSPORTATION PLAN

Downtown Phoenix Loop, AN Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



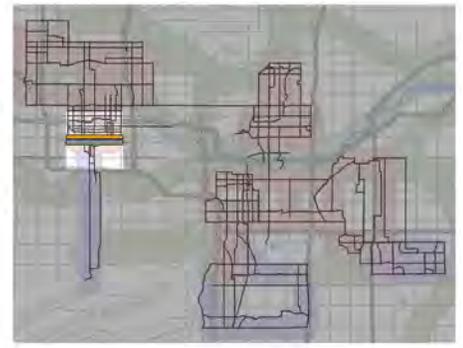
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Note: Roosevelt Street is the City of Phoenix's preferred alignment.

Maricopa Association of Governments

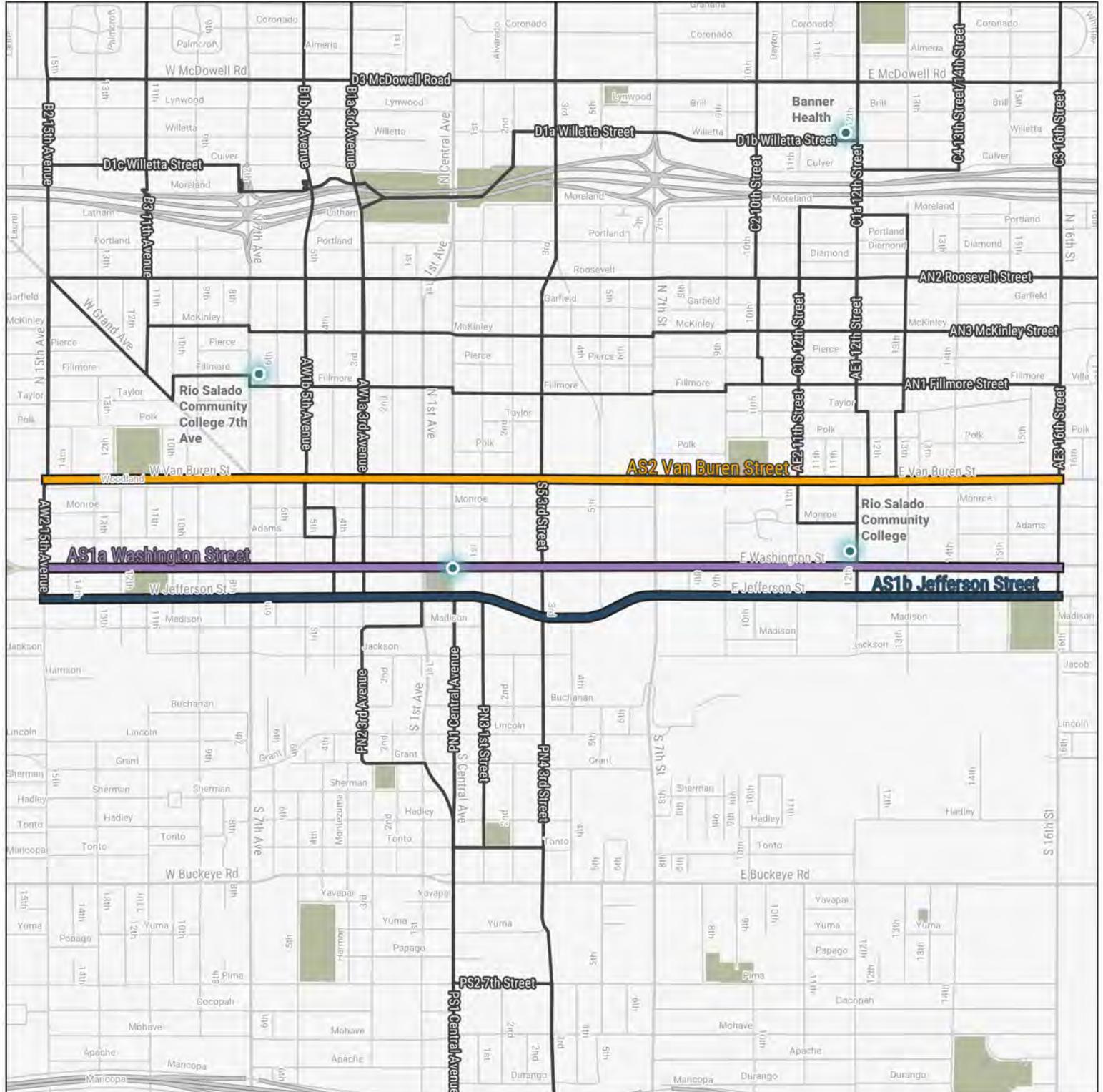
REGIONAL ACTIVE TRANSPORTATION PLAN

Downtown Phoenix Loop, AS Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

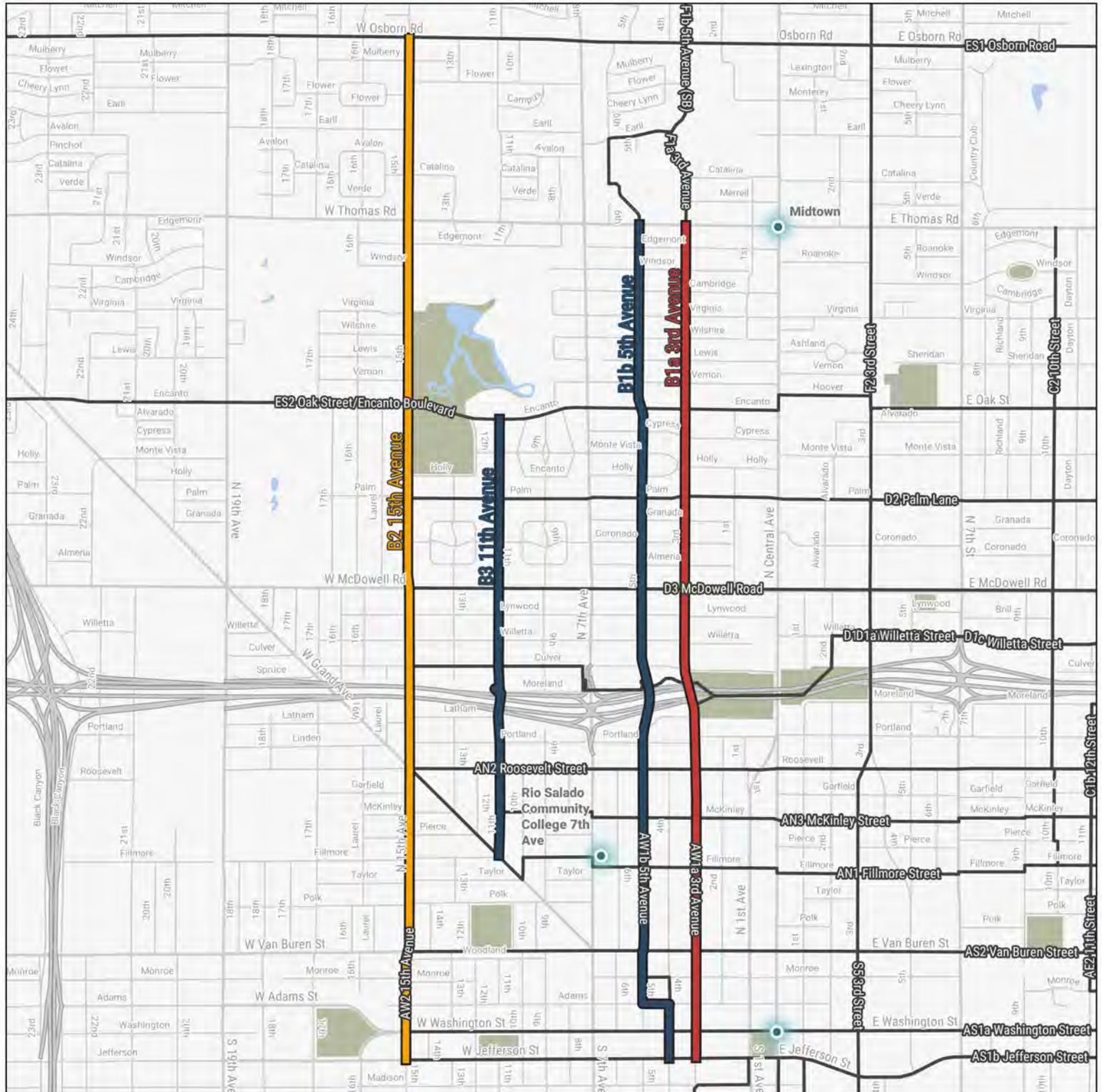
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

3rd Avenue Corridor, B Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

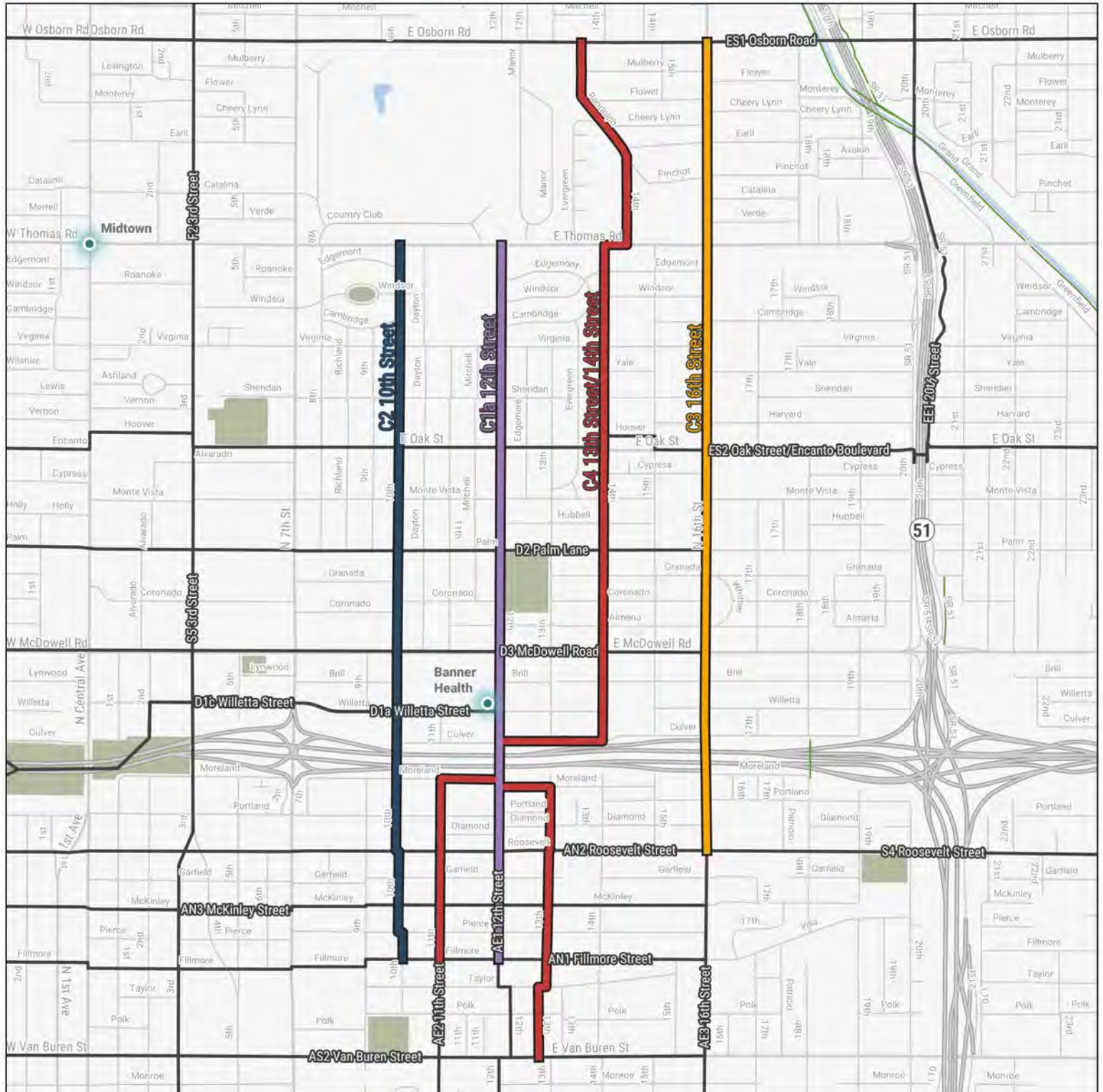
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

12th Street Corridor, C Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

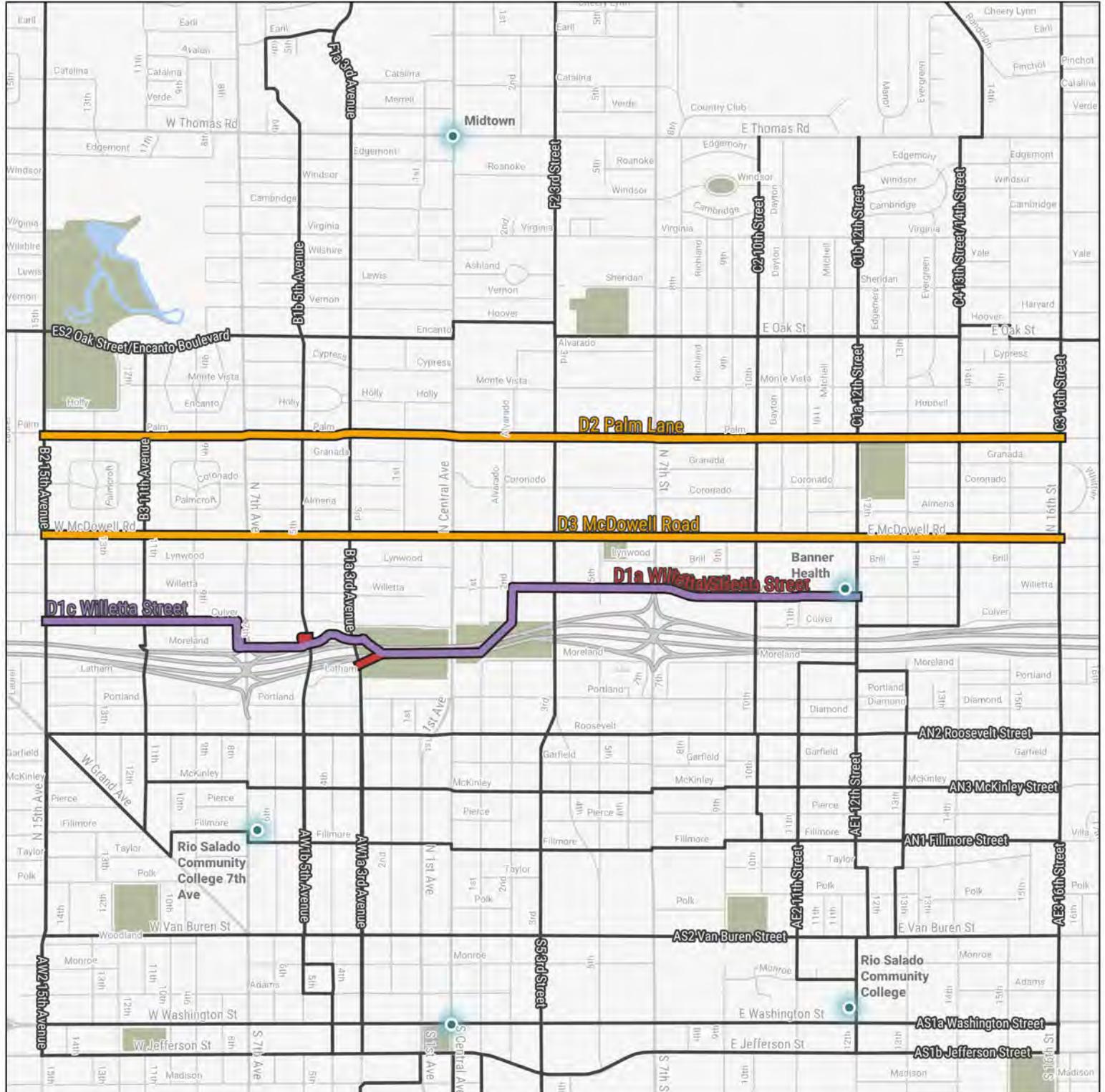
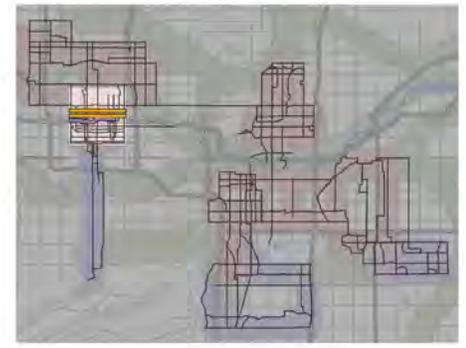
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Willetta Street Corridor, D Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

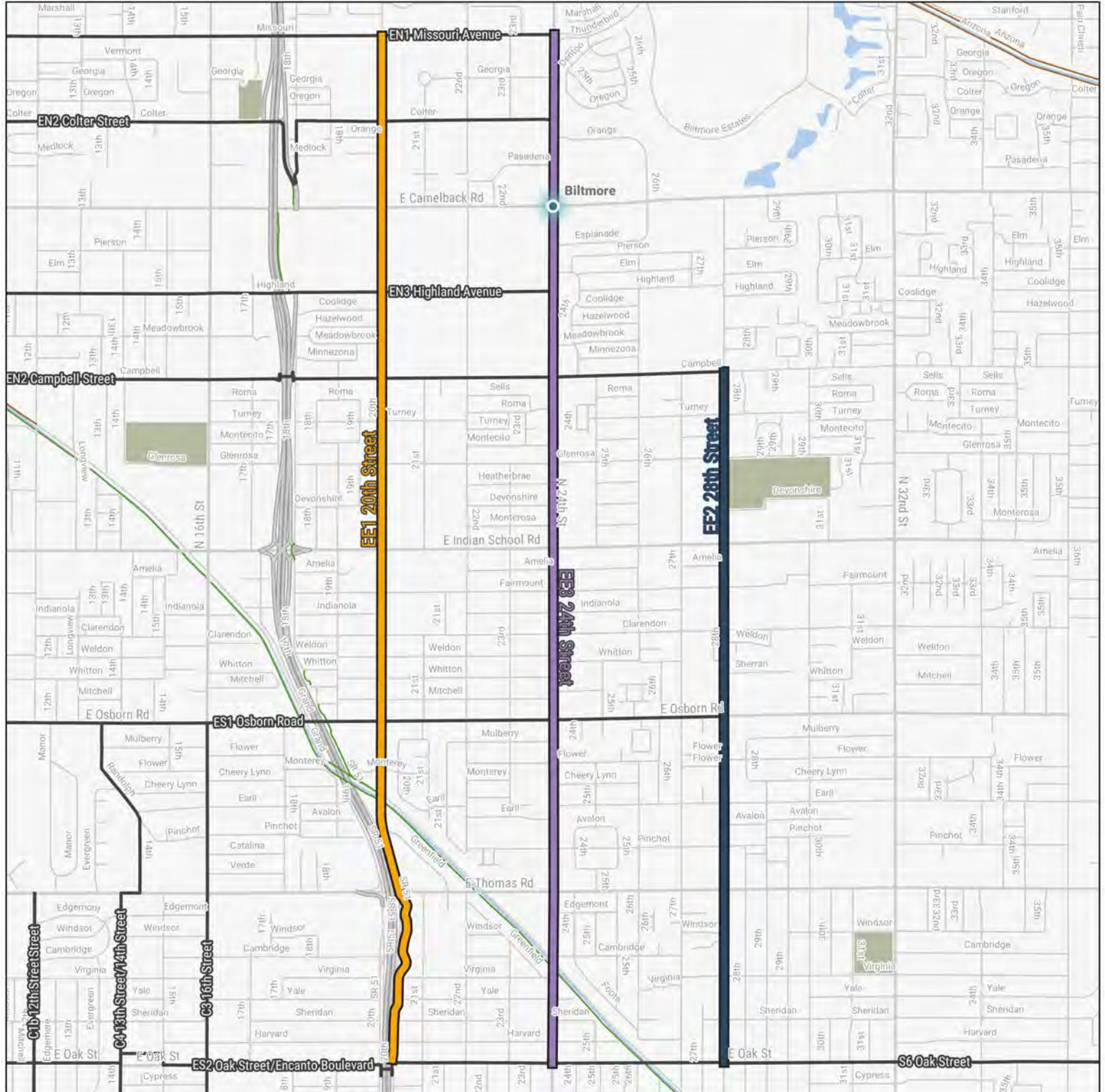
Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

North Phoenix loop, EE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

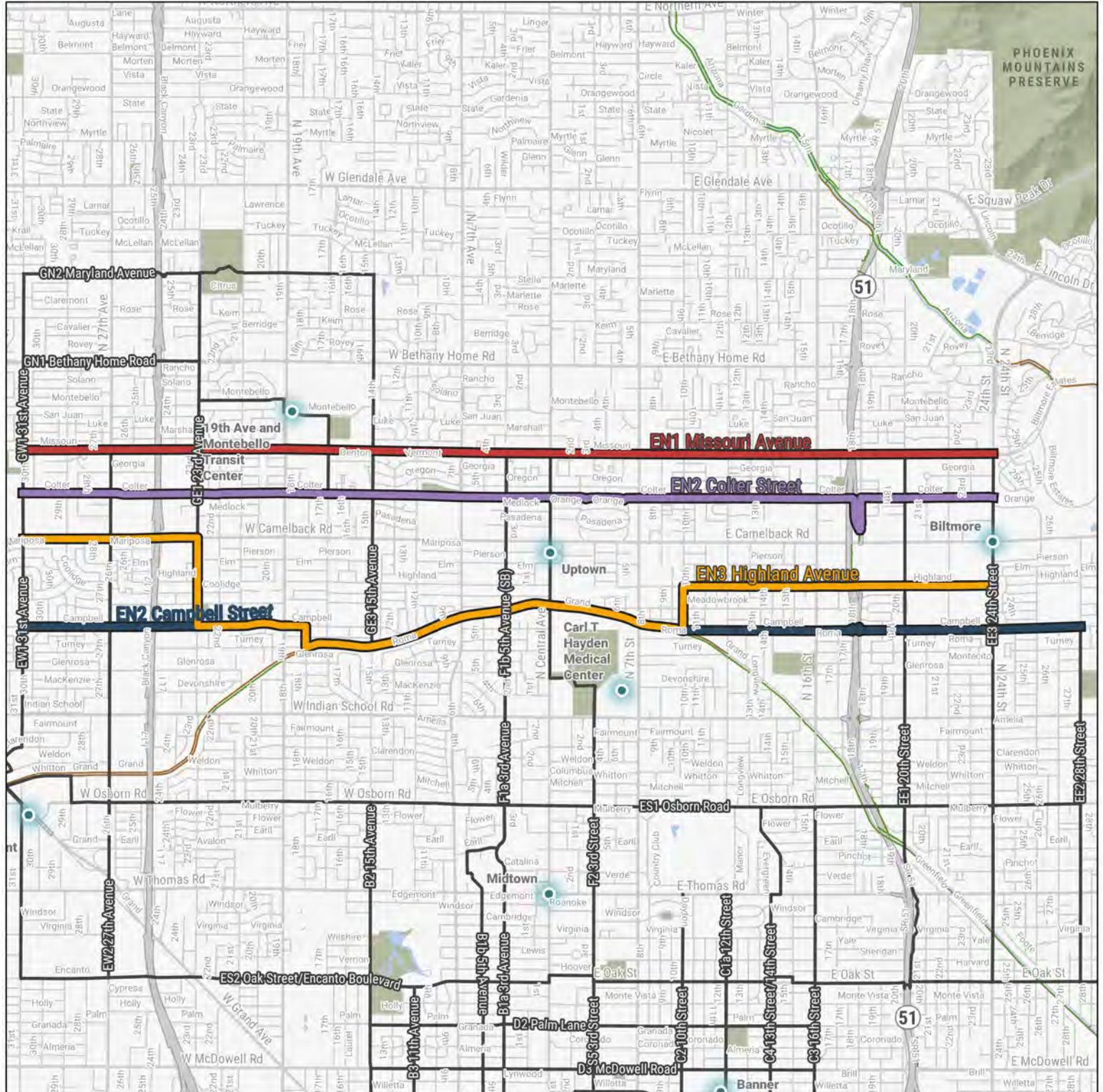
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

North Phoenix loop, EN Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

North Phoenix loop, ES Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

North Phoenix loop, EW Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



Maricopa Association of Governments

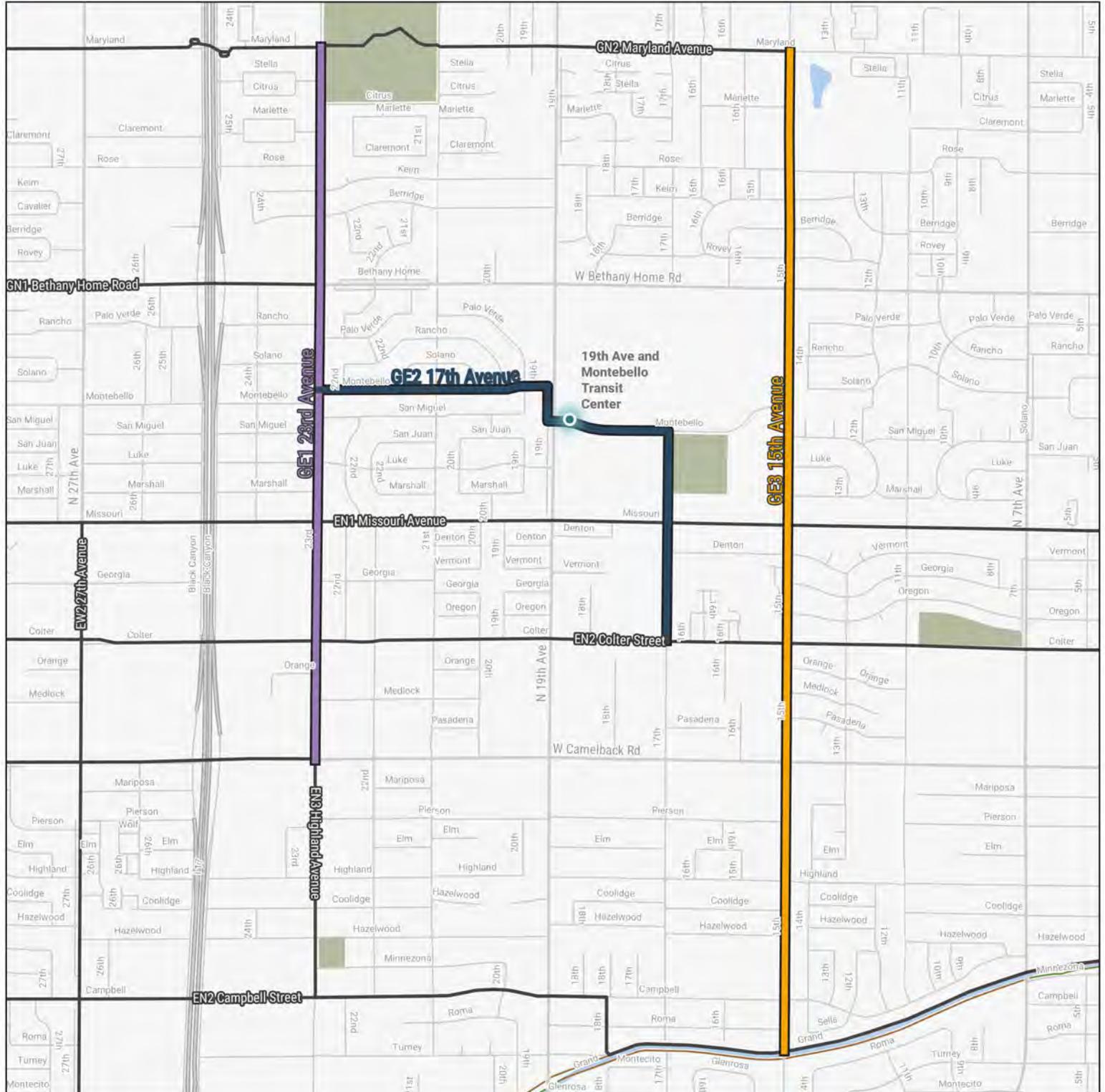
REGIONAL ACTIVE TRANSPORTATION PLAN

GCU loop, GE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

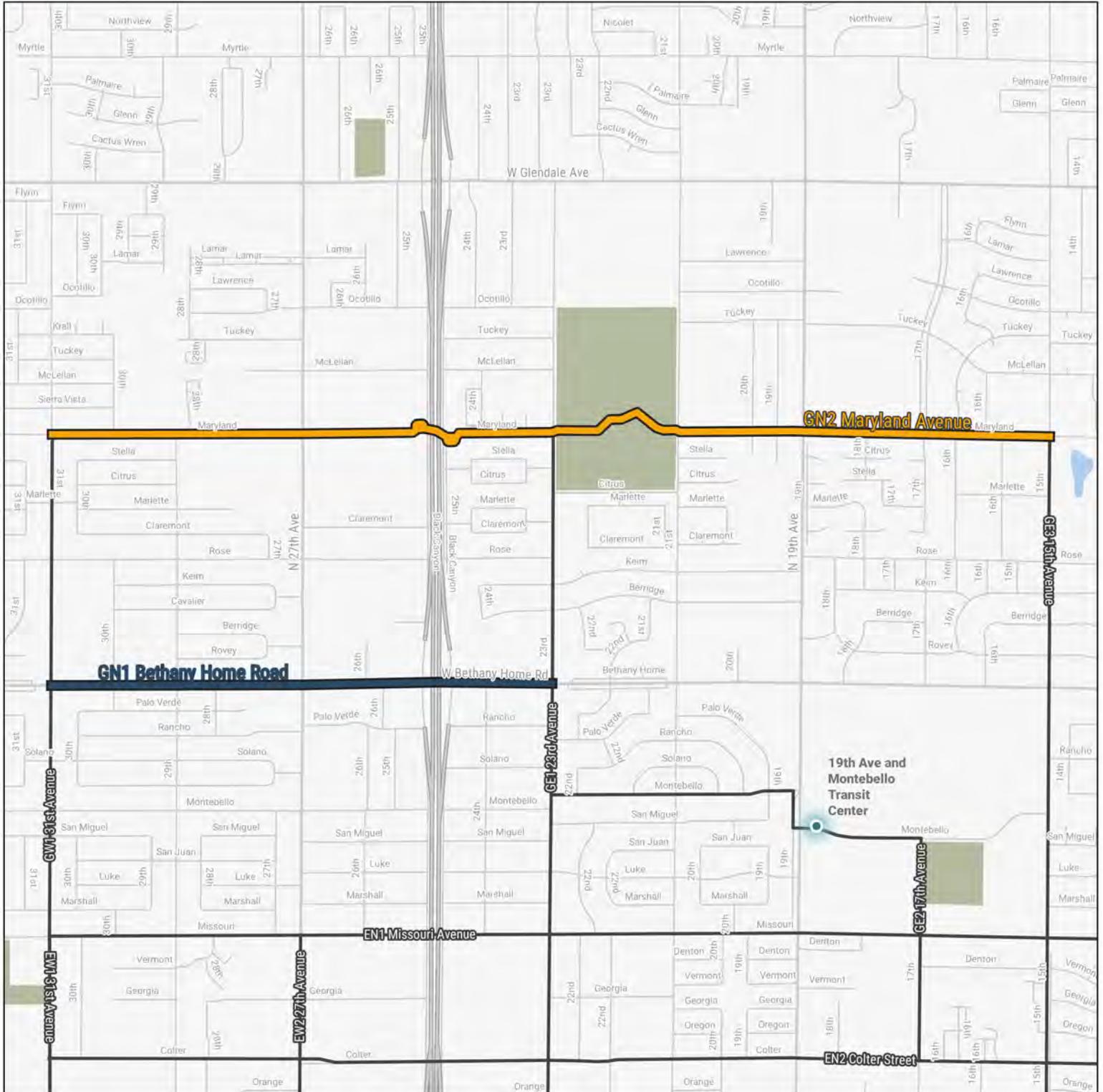
REGIONAL ACTIVE TRANSPORTATION PLAN

GCU Loop, GN Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center

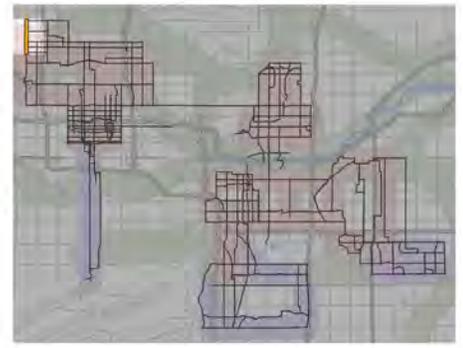


Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

GCU loop, GW Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center

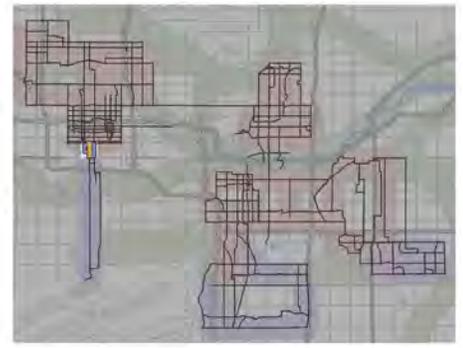


Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

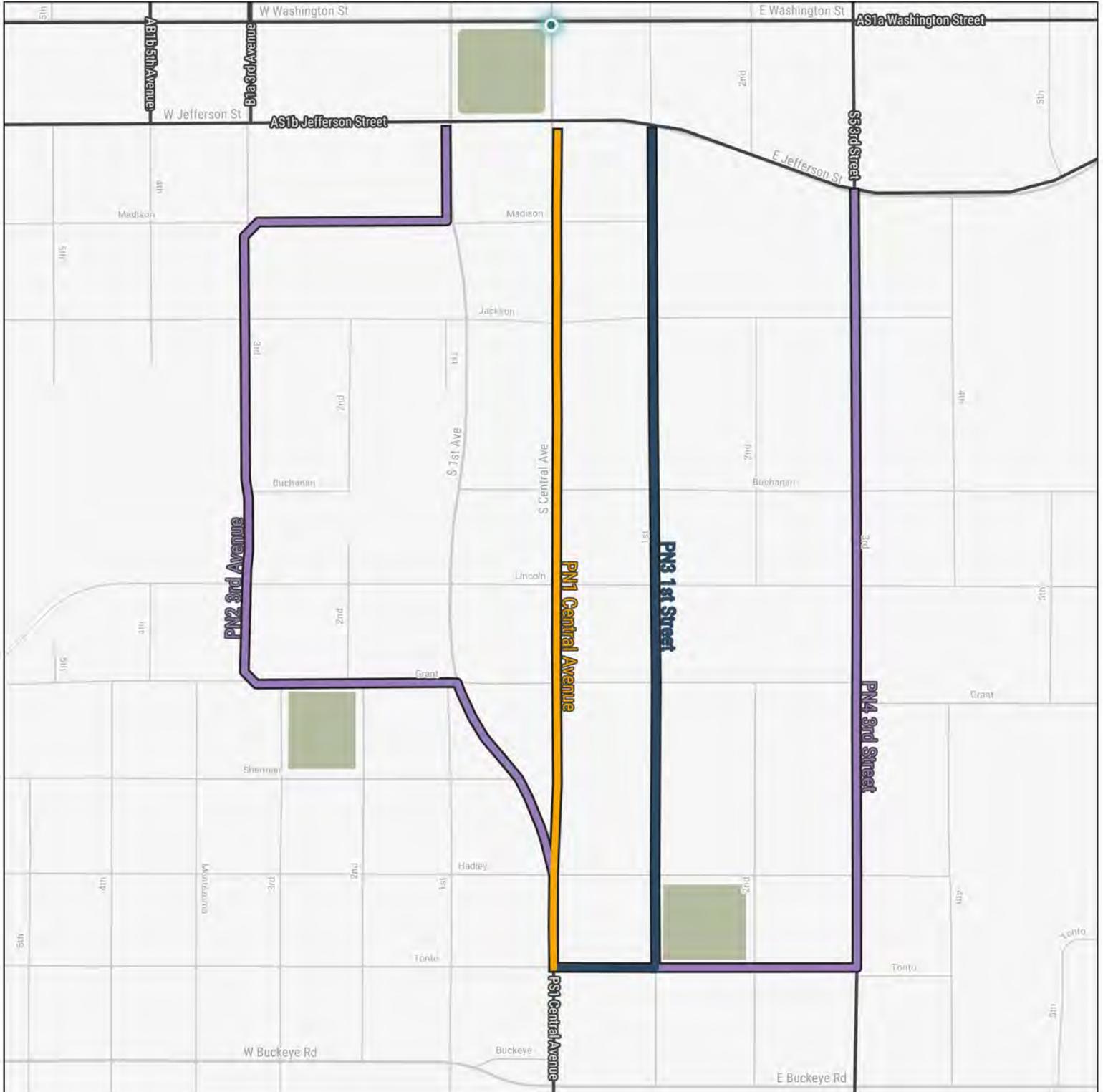
REGIONAL ACTIVE TRANSPORTATION PLAN

South Central, PN Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

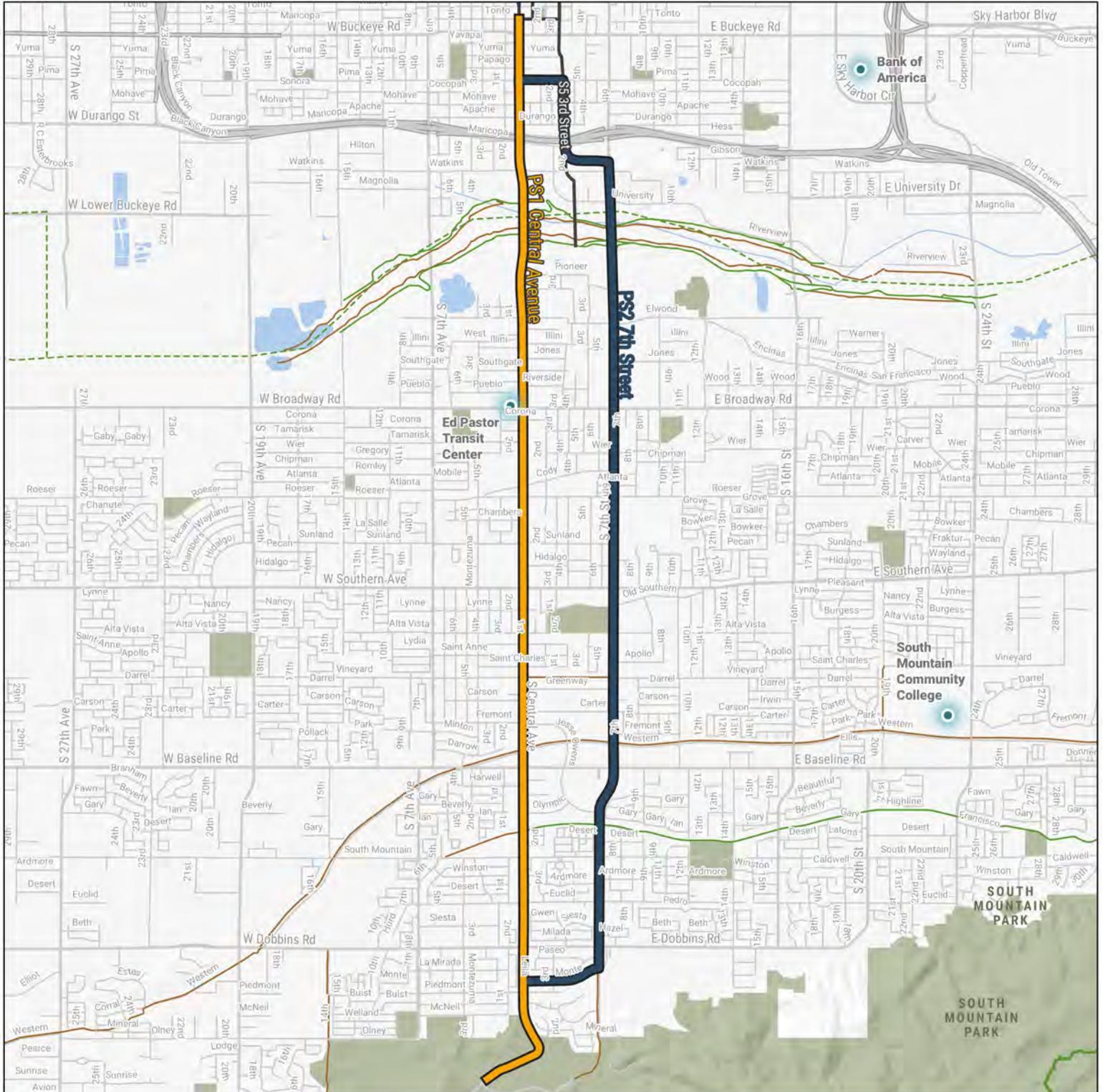
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

South Central, PS Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



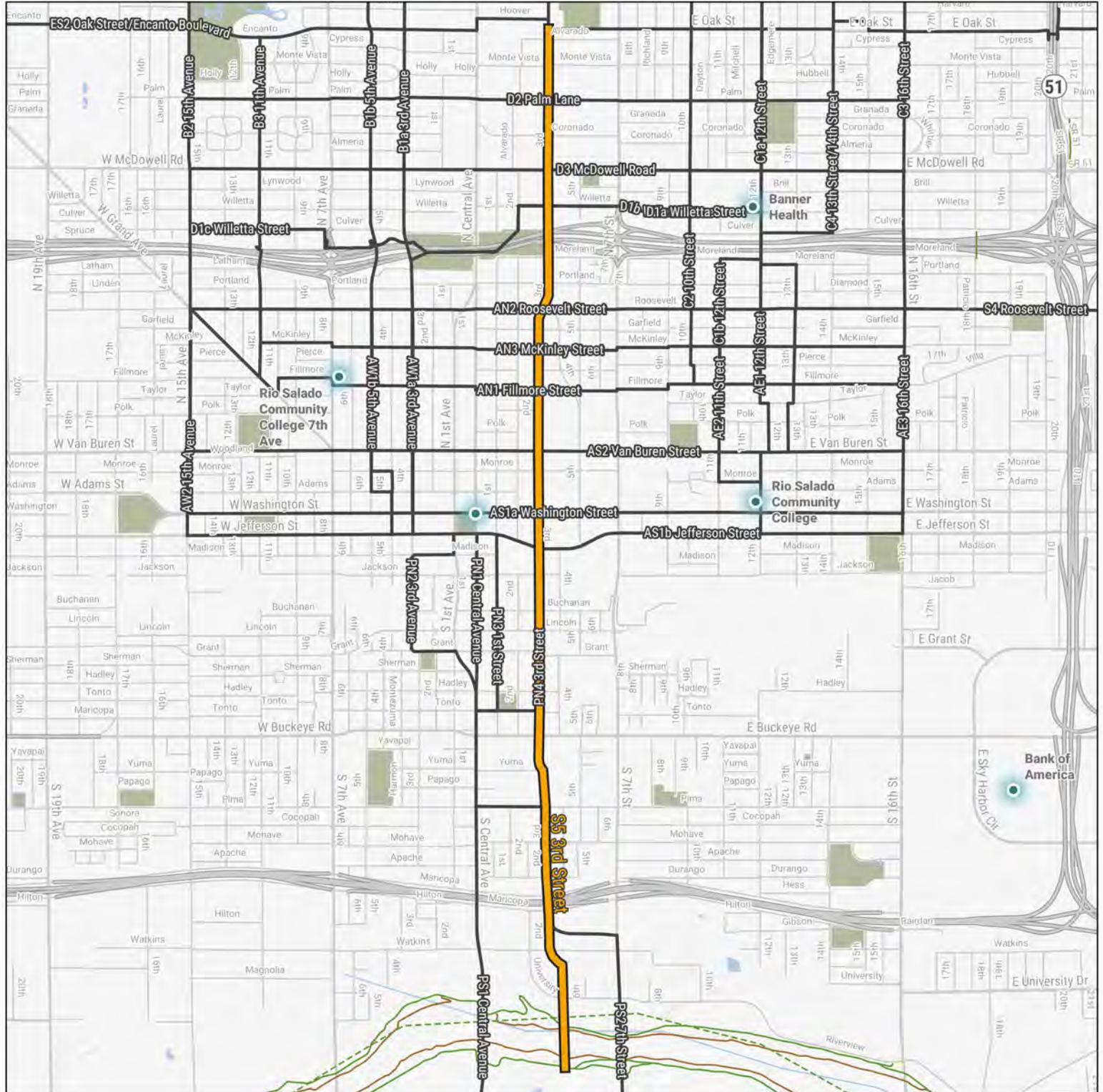
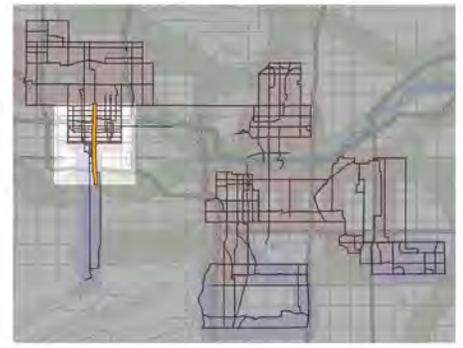
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-A Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center

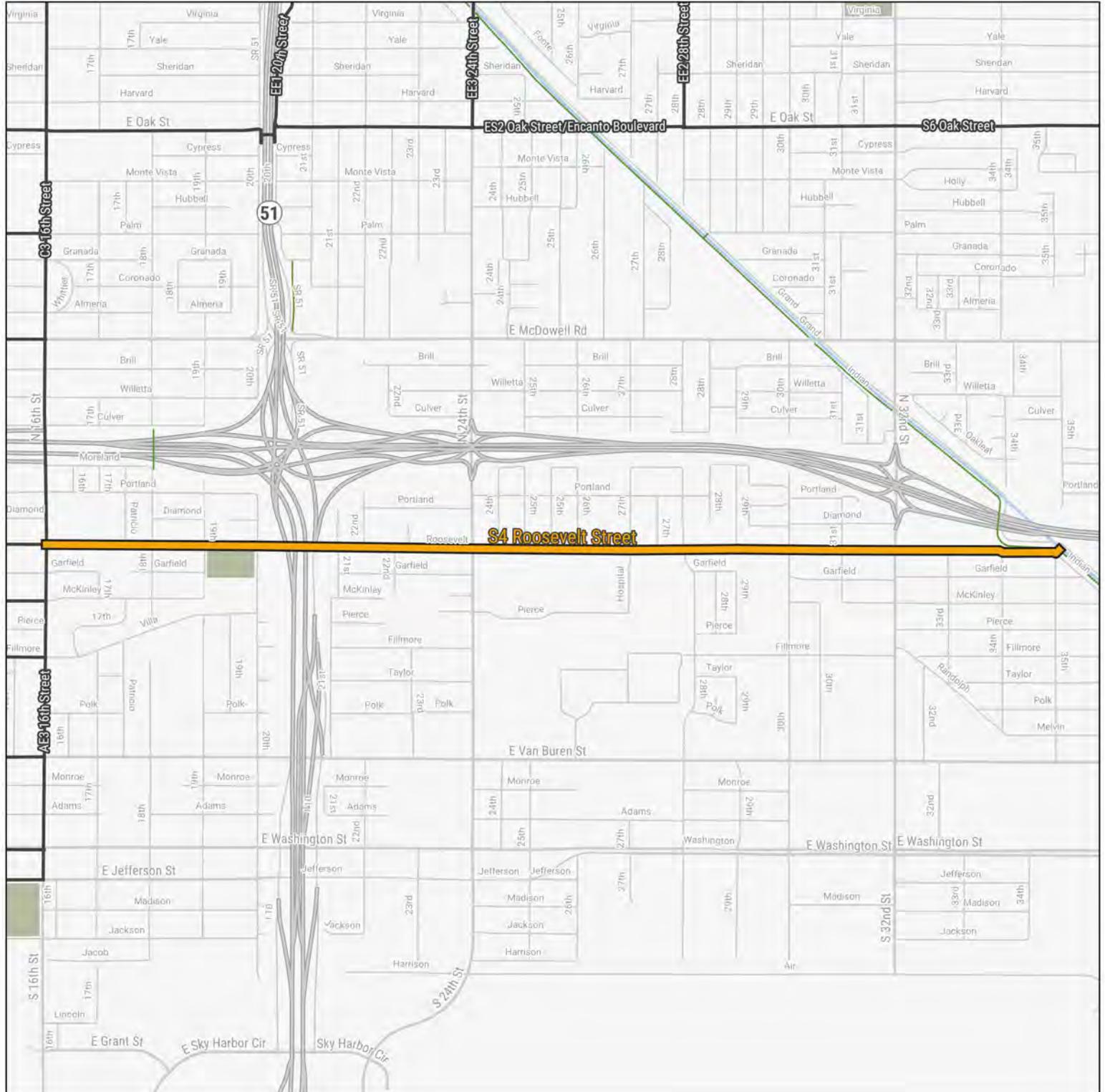


Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-B Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



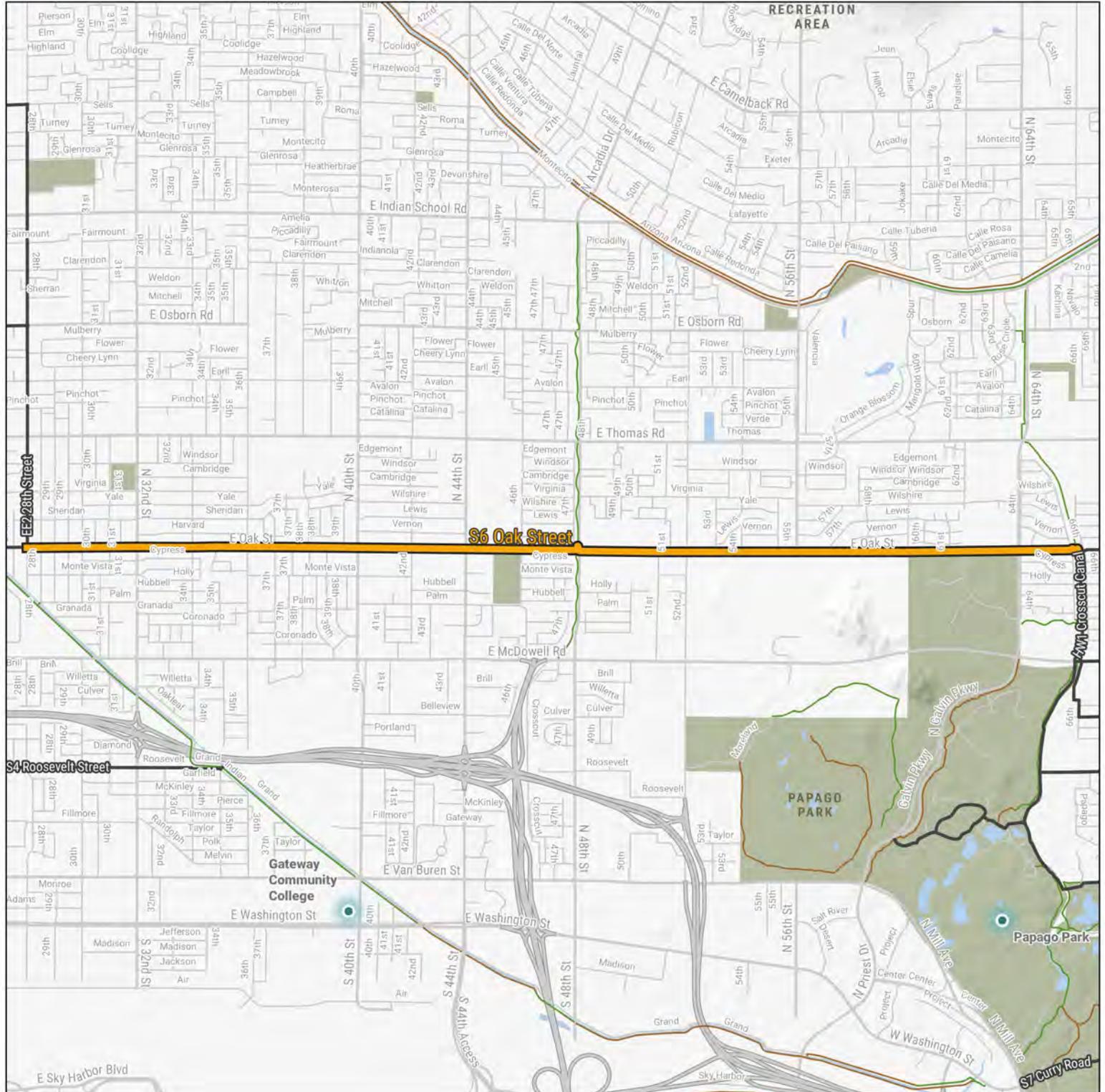
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-C Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

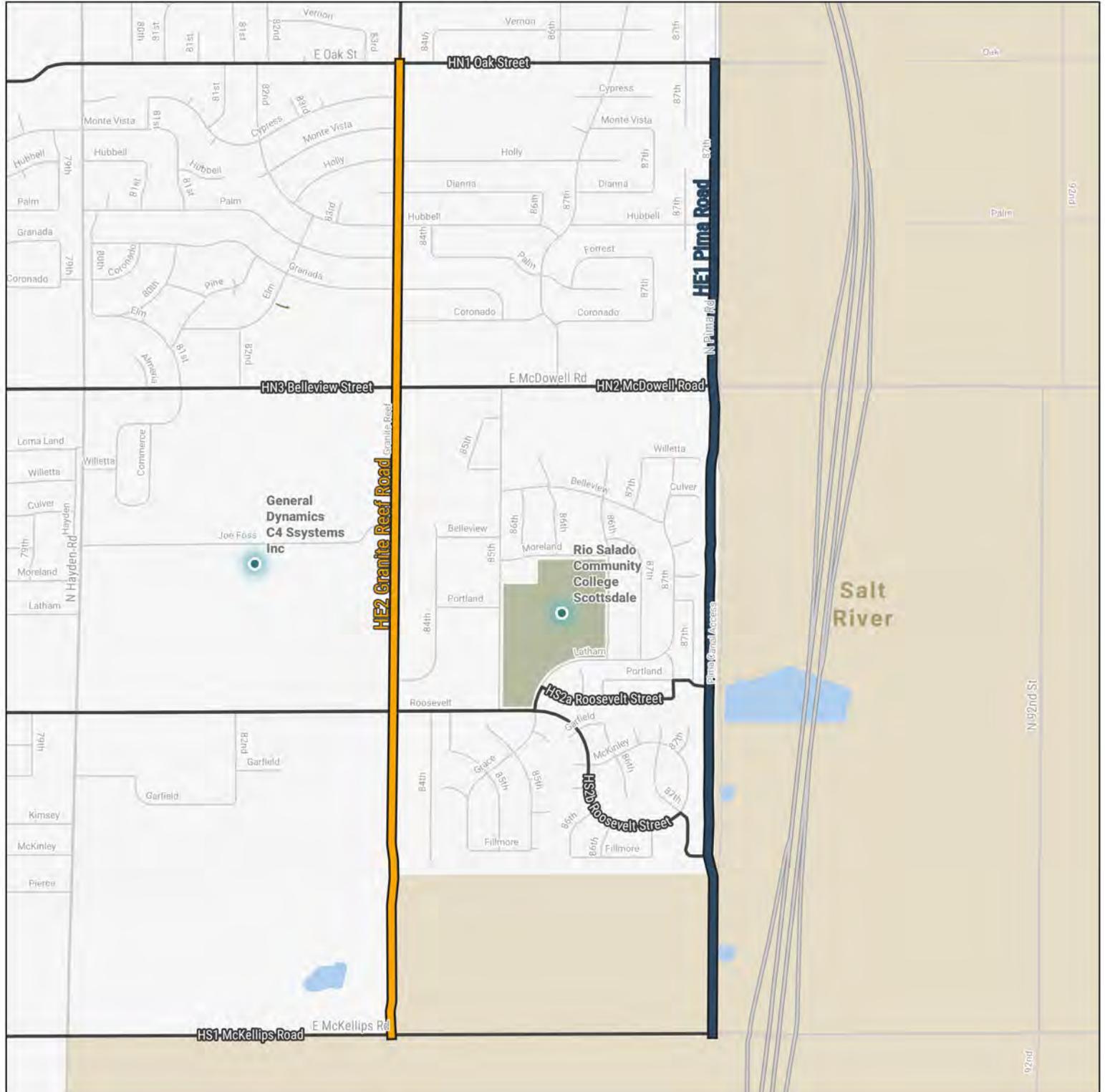
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale South loop, HE Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

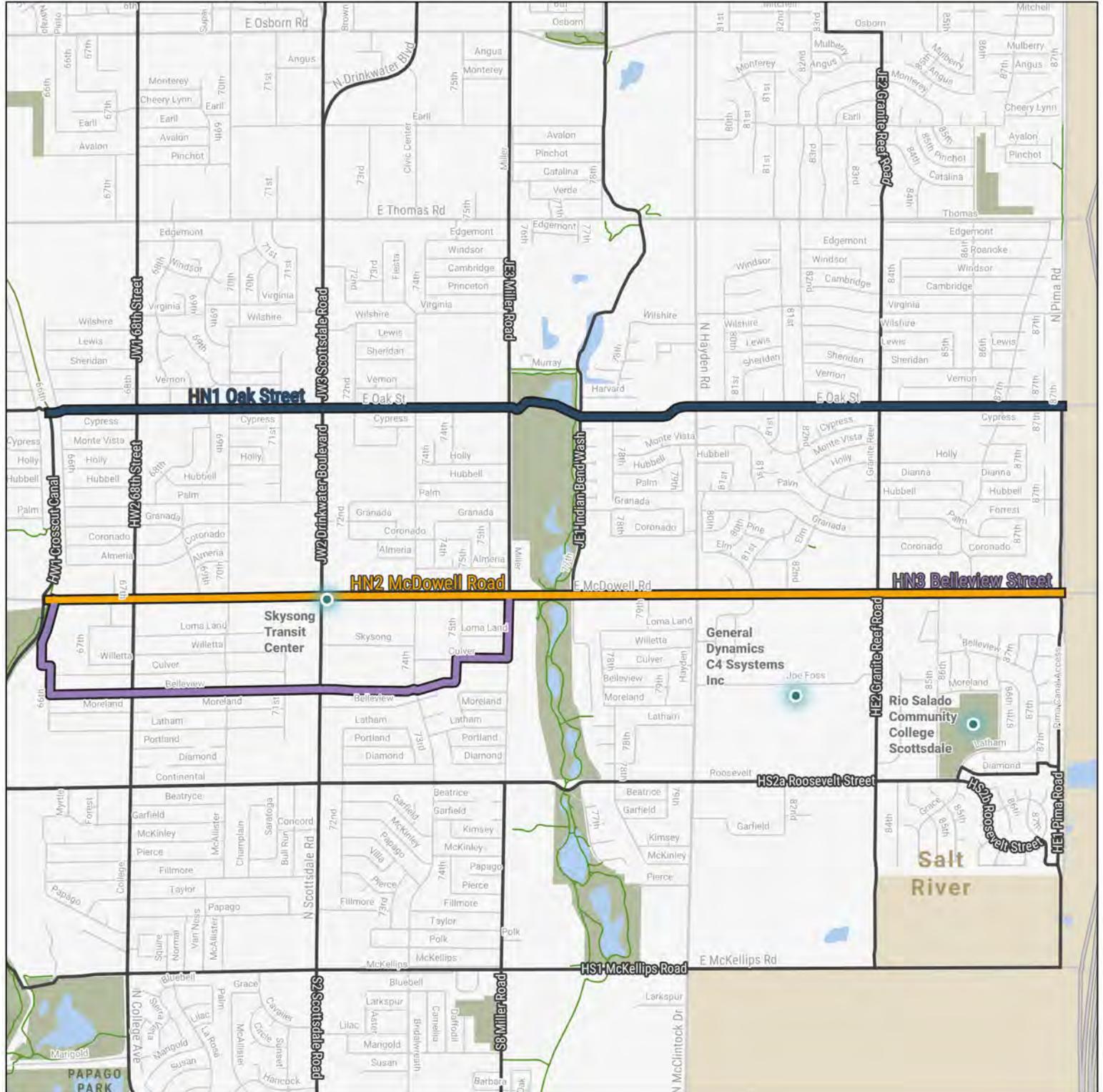
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale South loop, HN Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

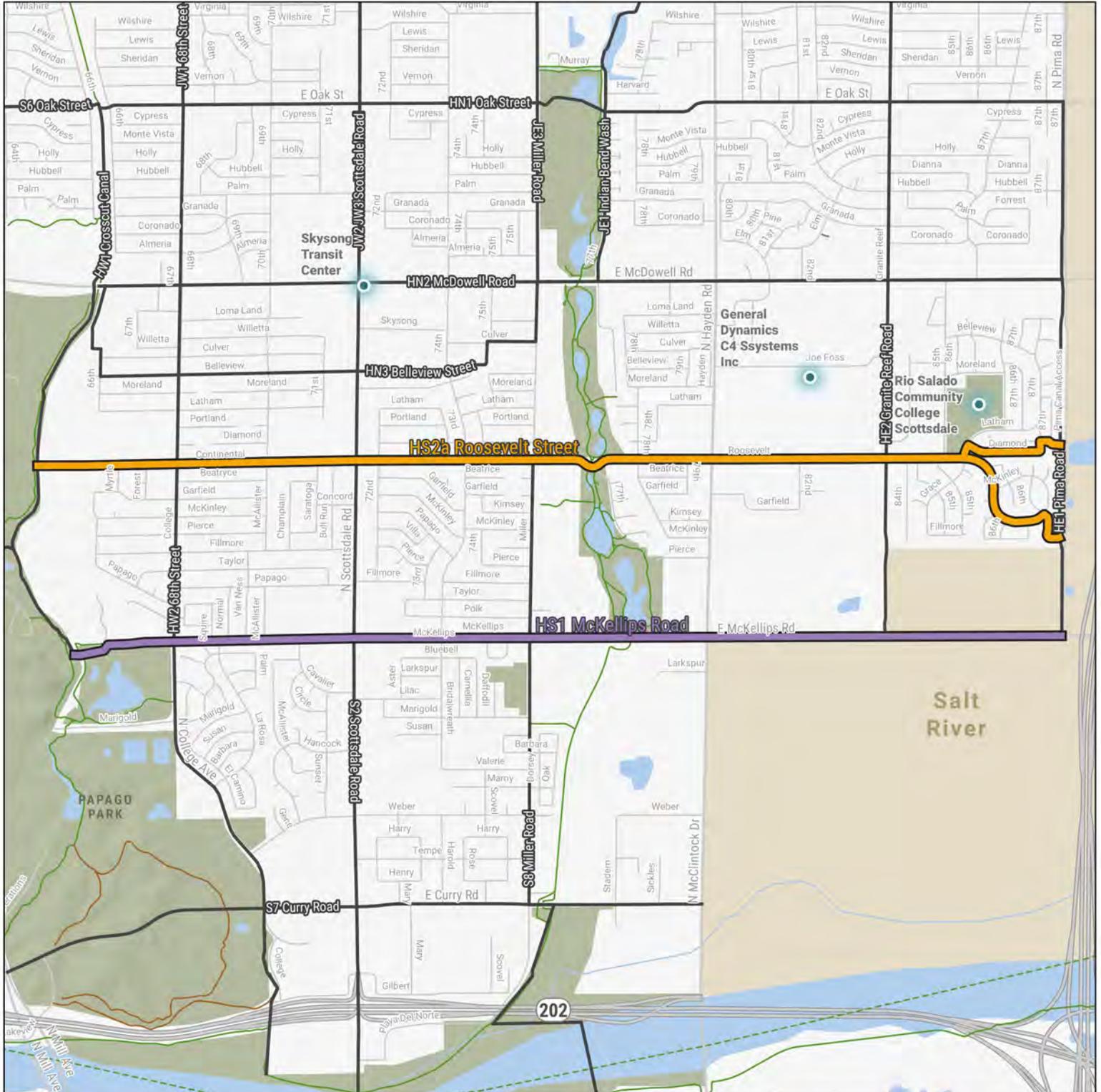
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale South loop, HS Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

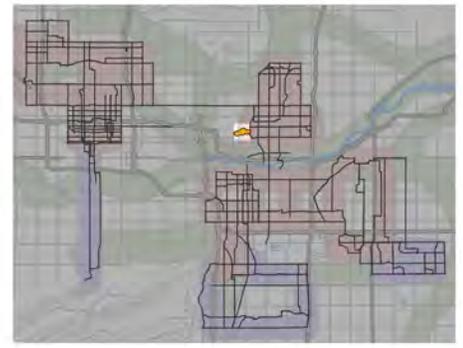
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale South loop, HX Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

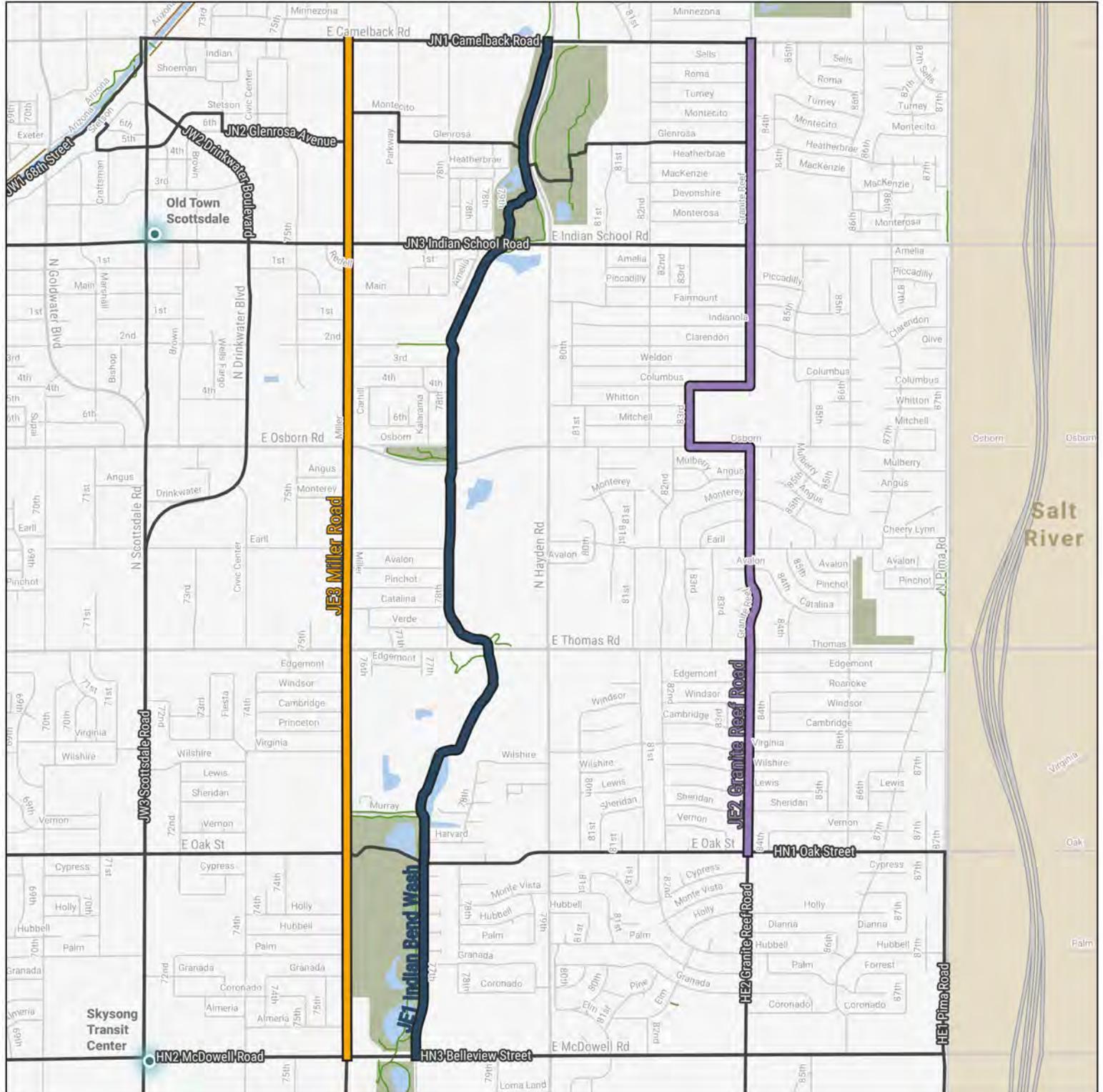
REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale North loop, JE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

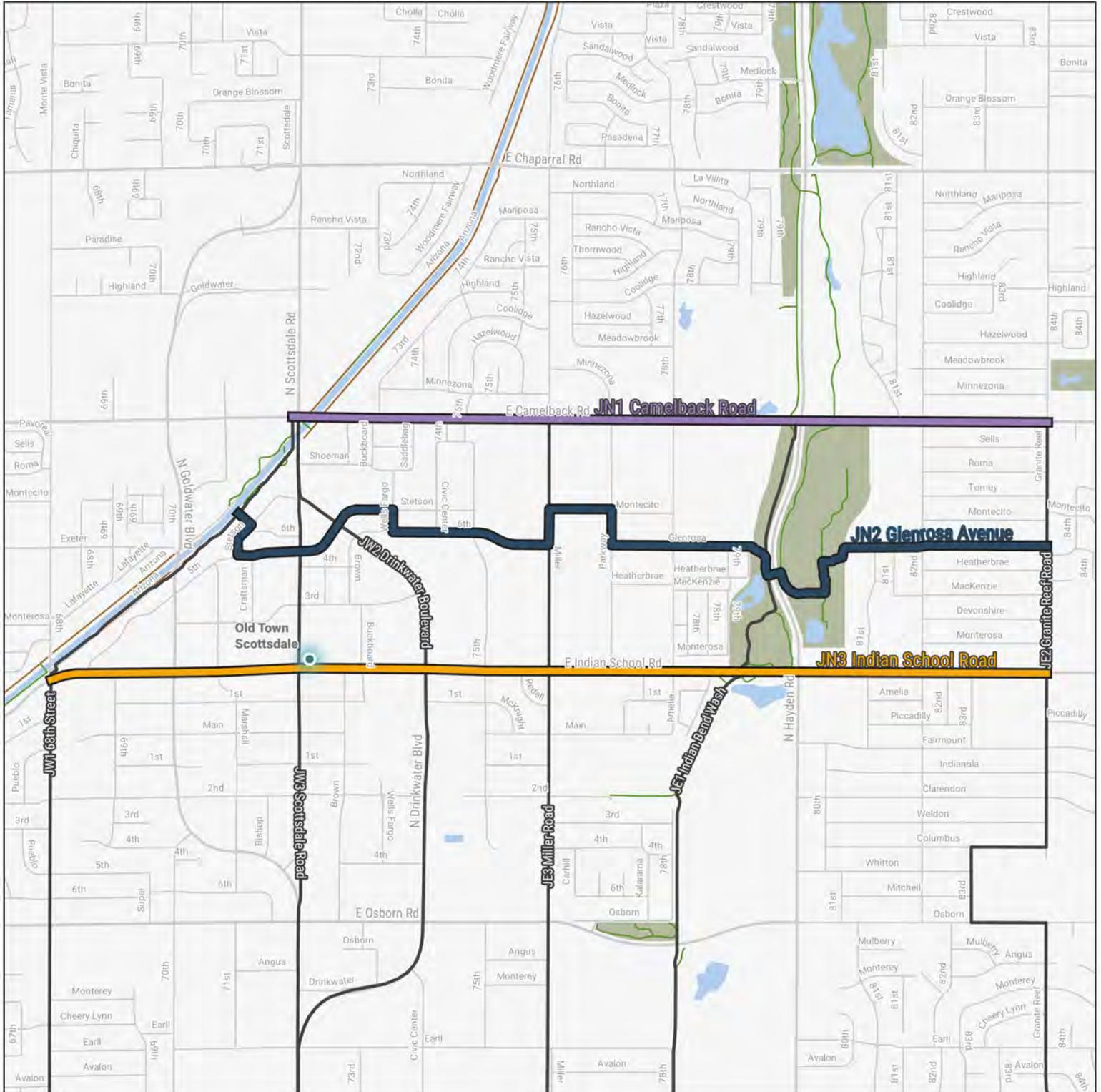
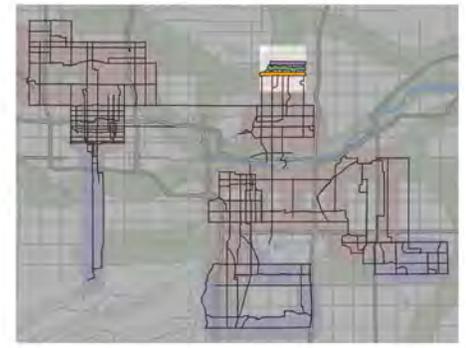
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale North loop, JN Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

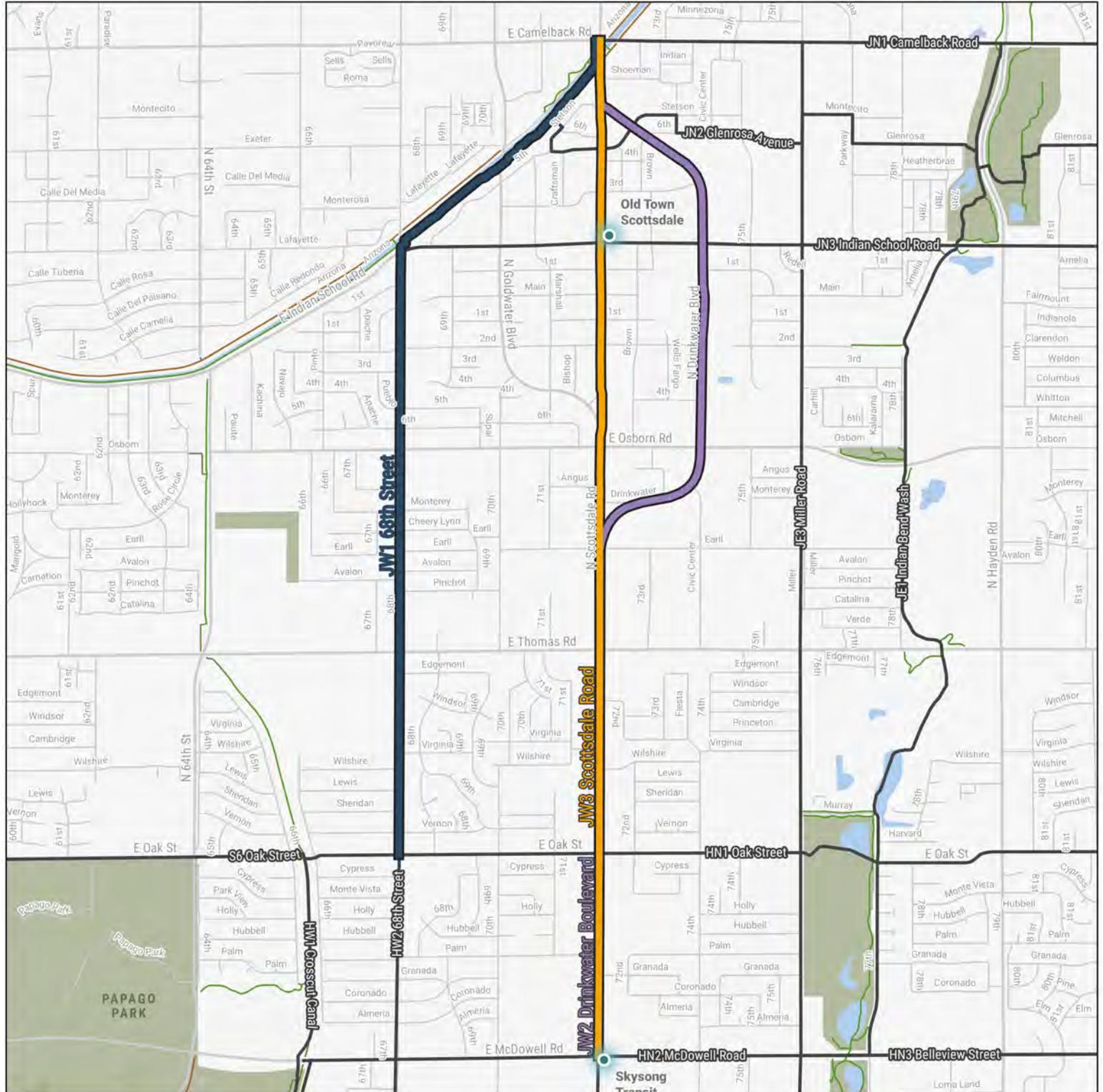
REGIONAL ACTIVE TRANSPORTATION PLAN

Scottsdale North loop, JW Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



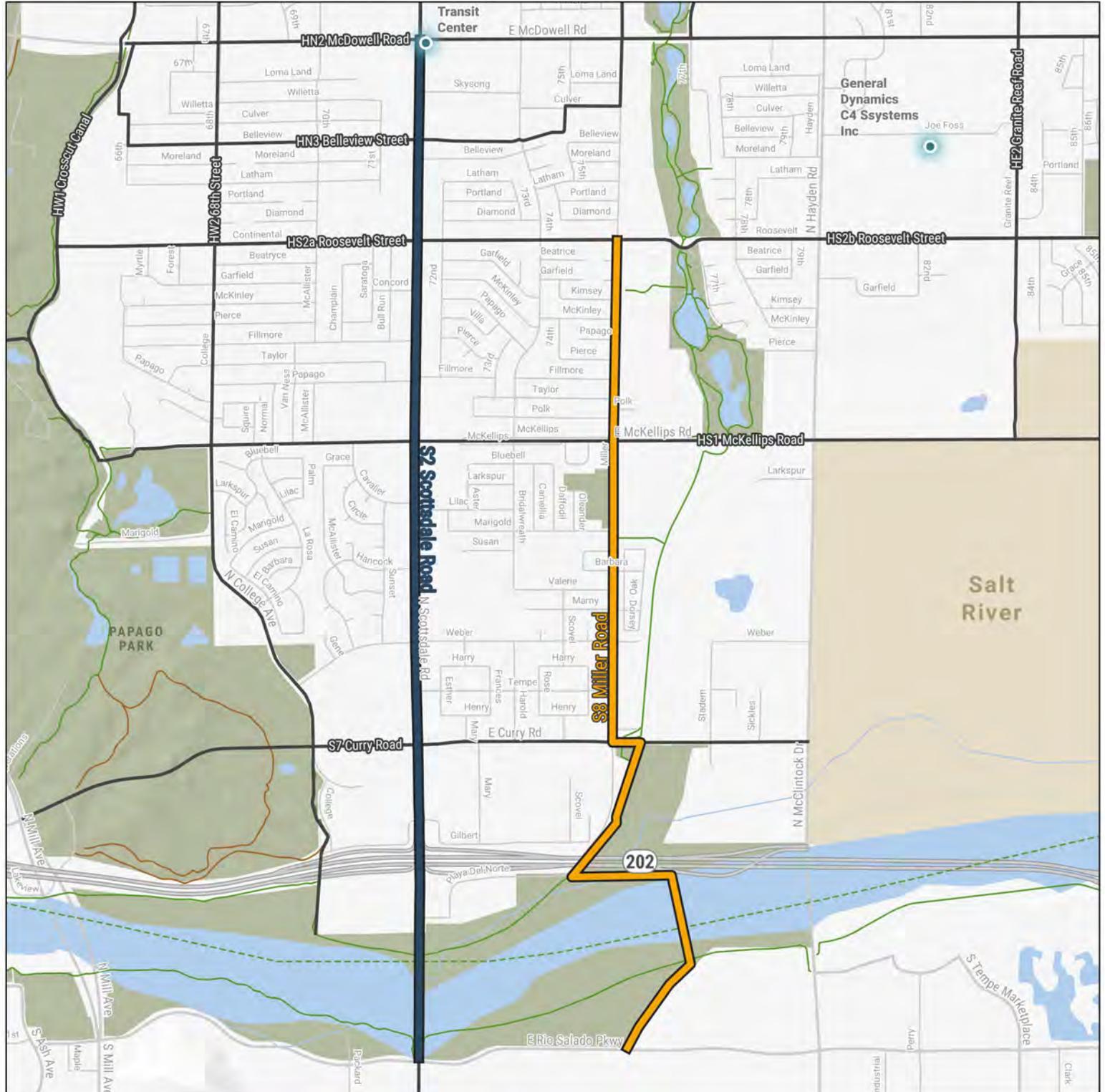
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-D Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

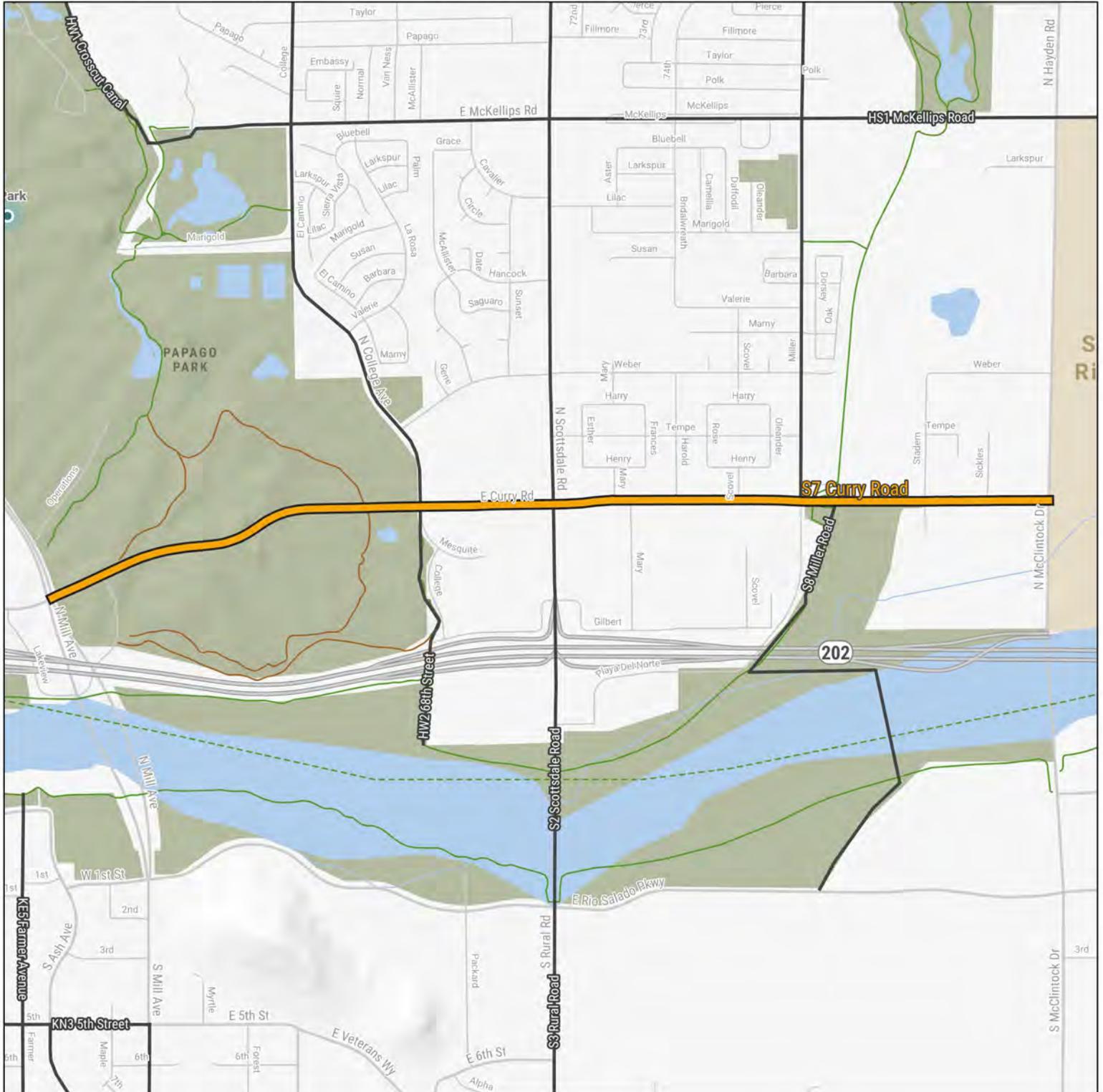
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-F Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

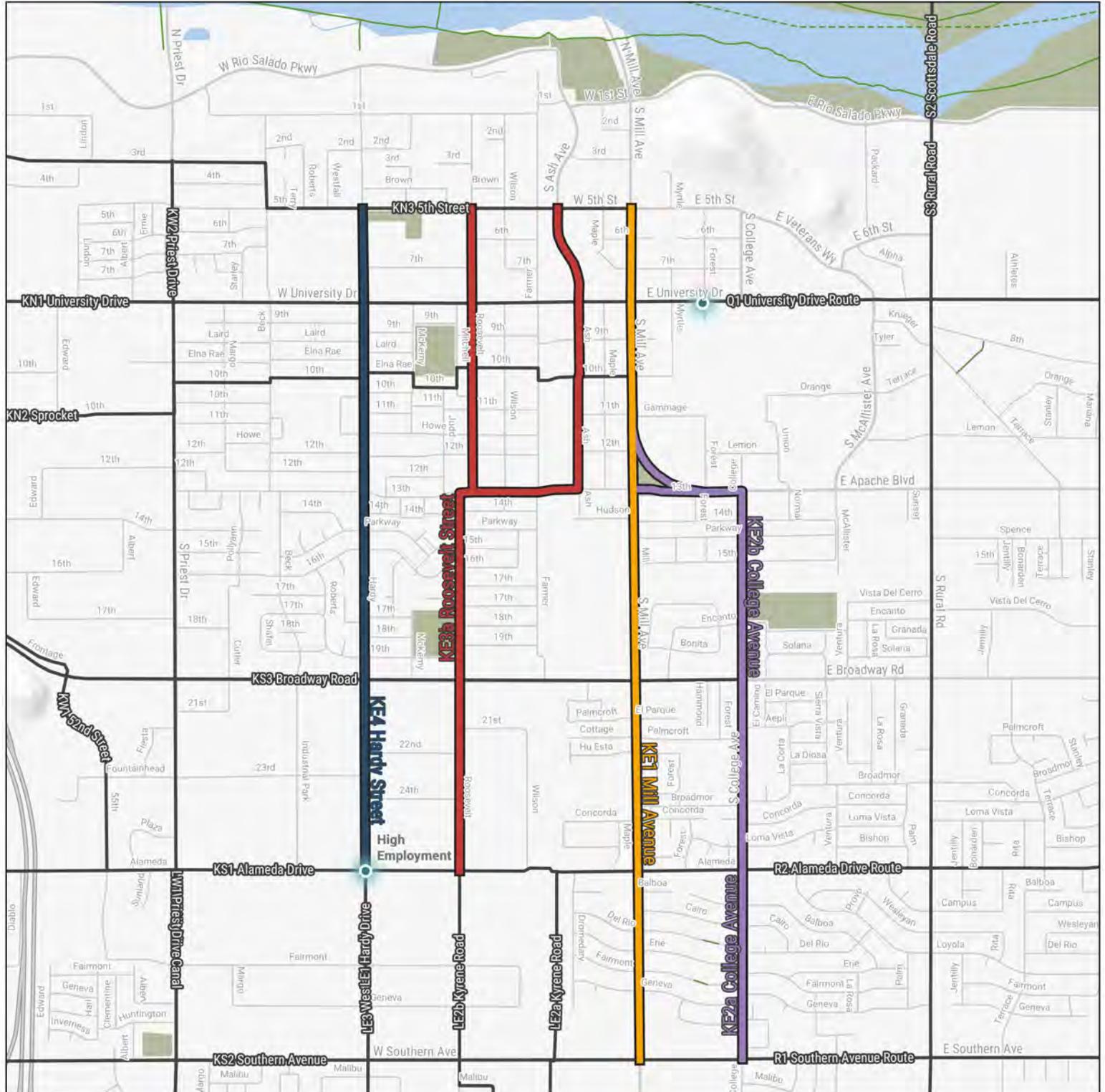
REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe North loop, KE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

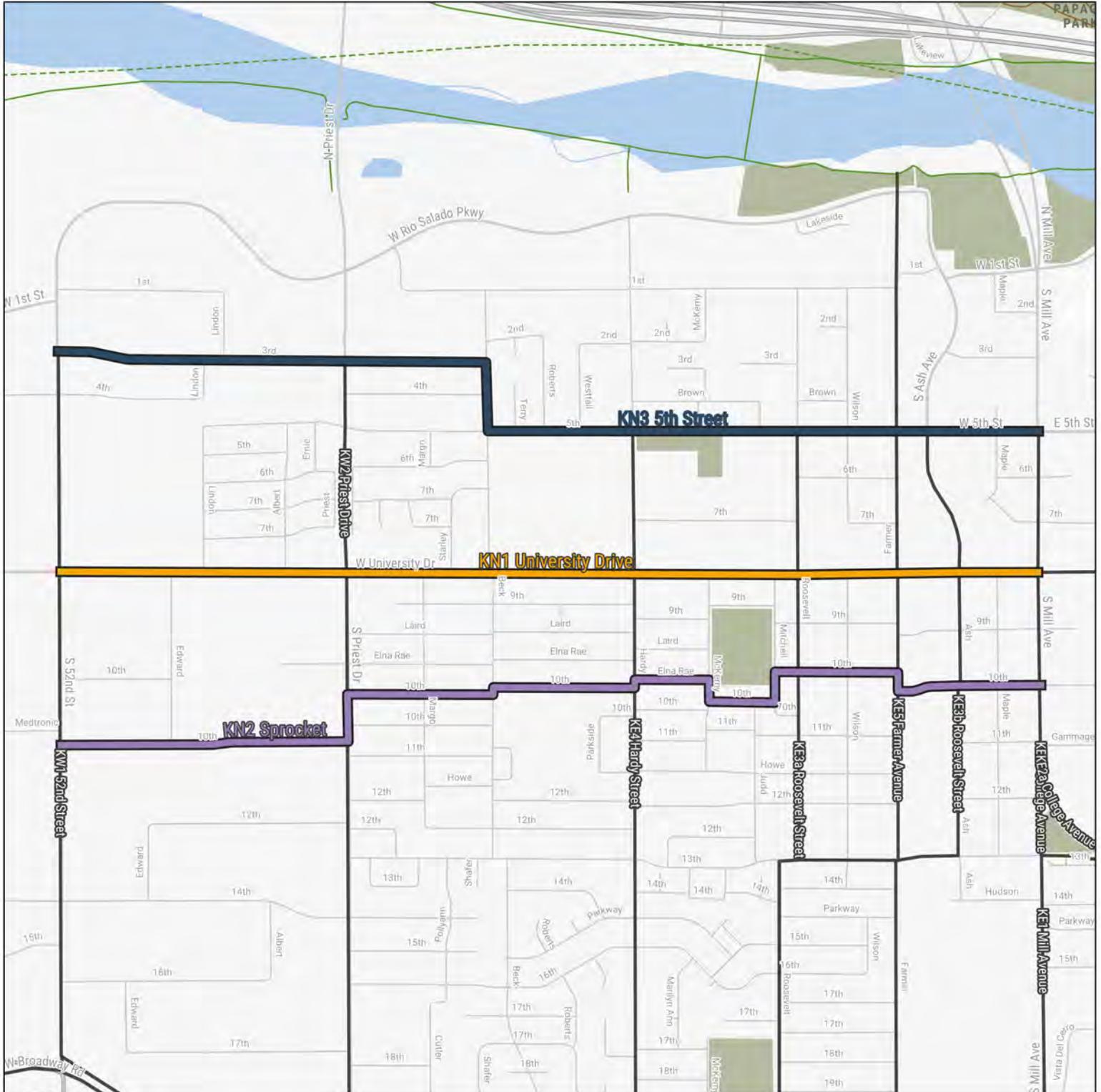
REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe North loop, KN Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



Maricopa Association of Governments

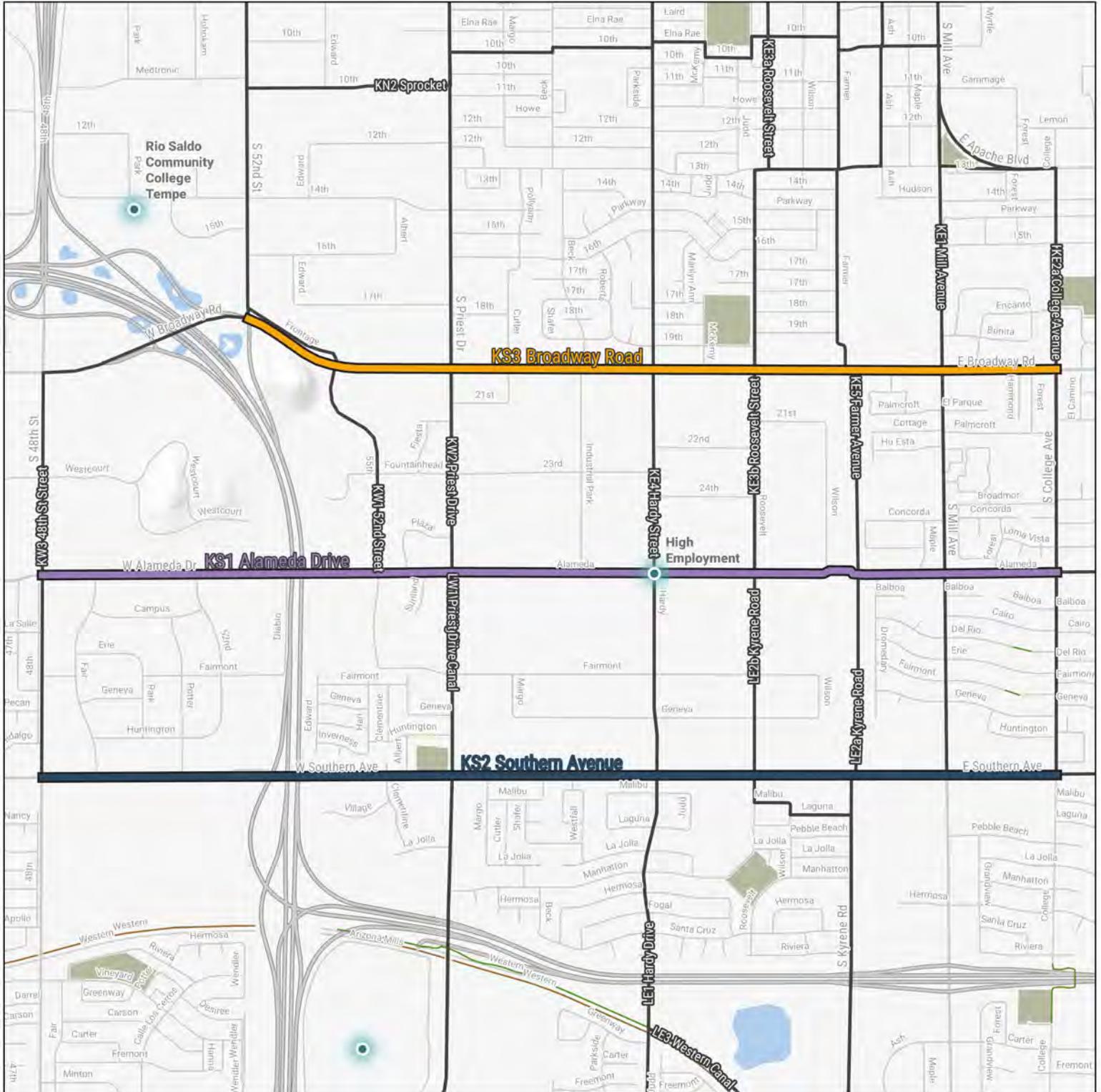
REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe North loop, KS Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

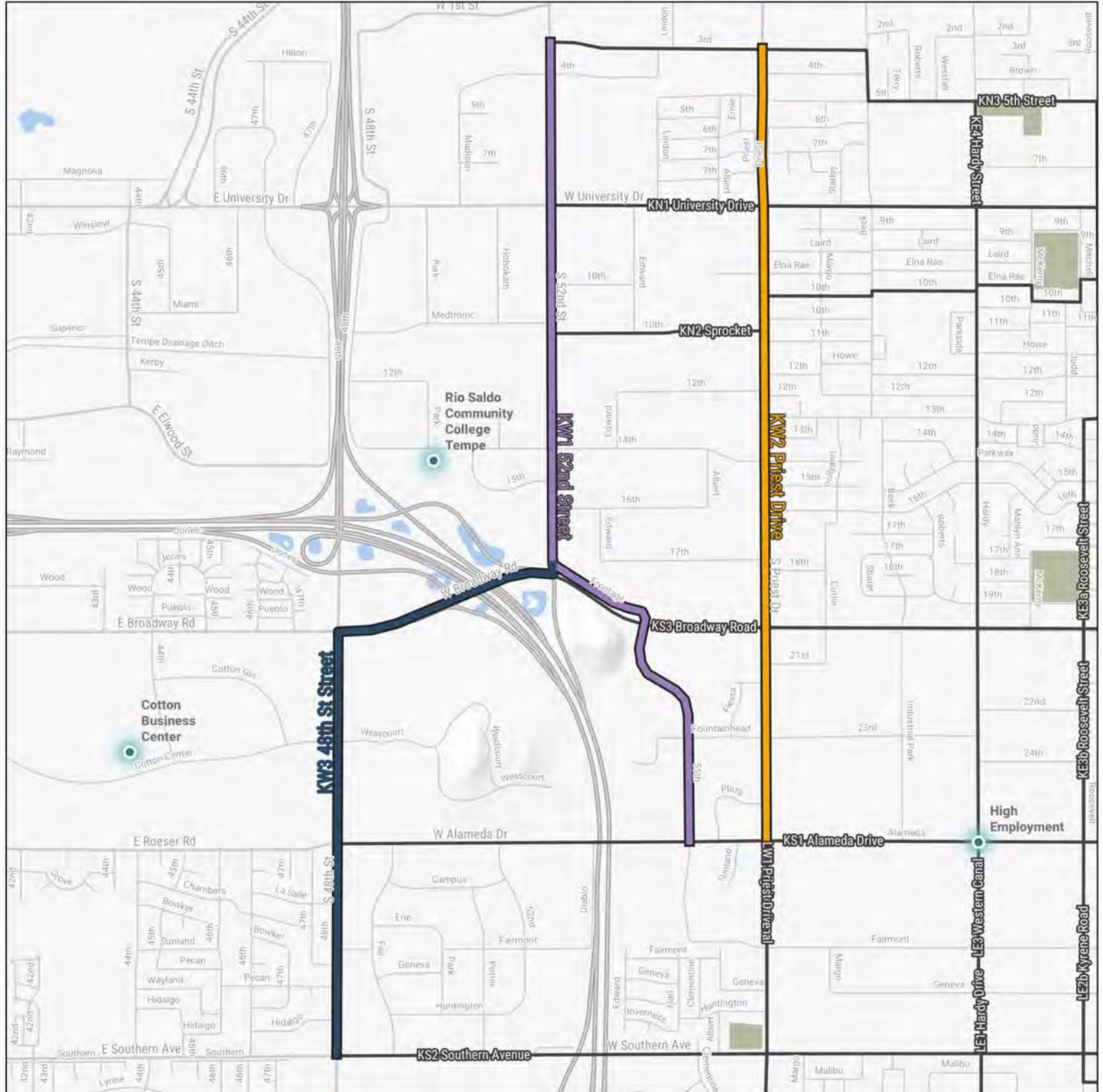
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe North loop, KW Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

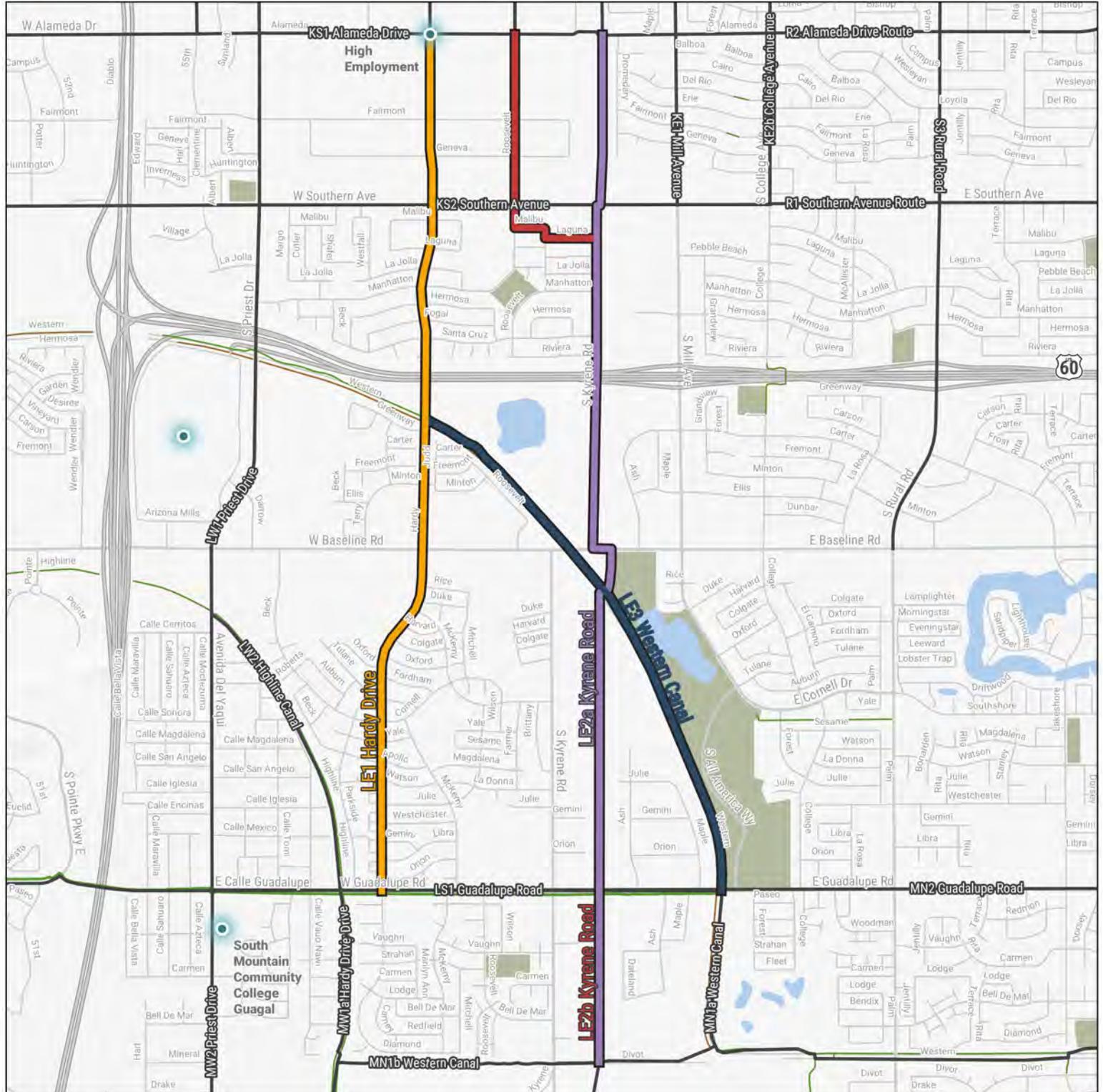


Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe Central loop, LE Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



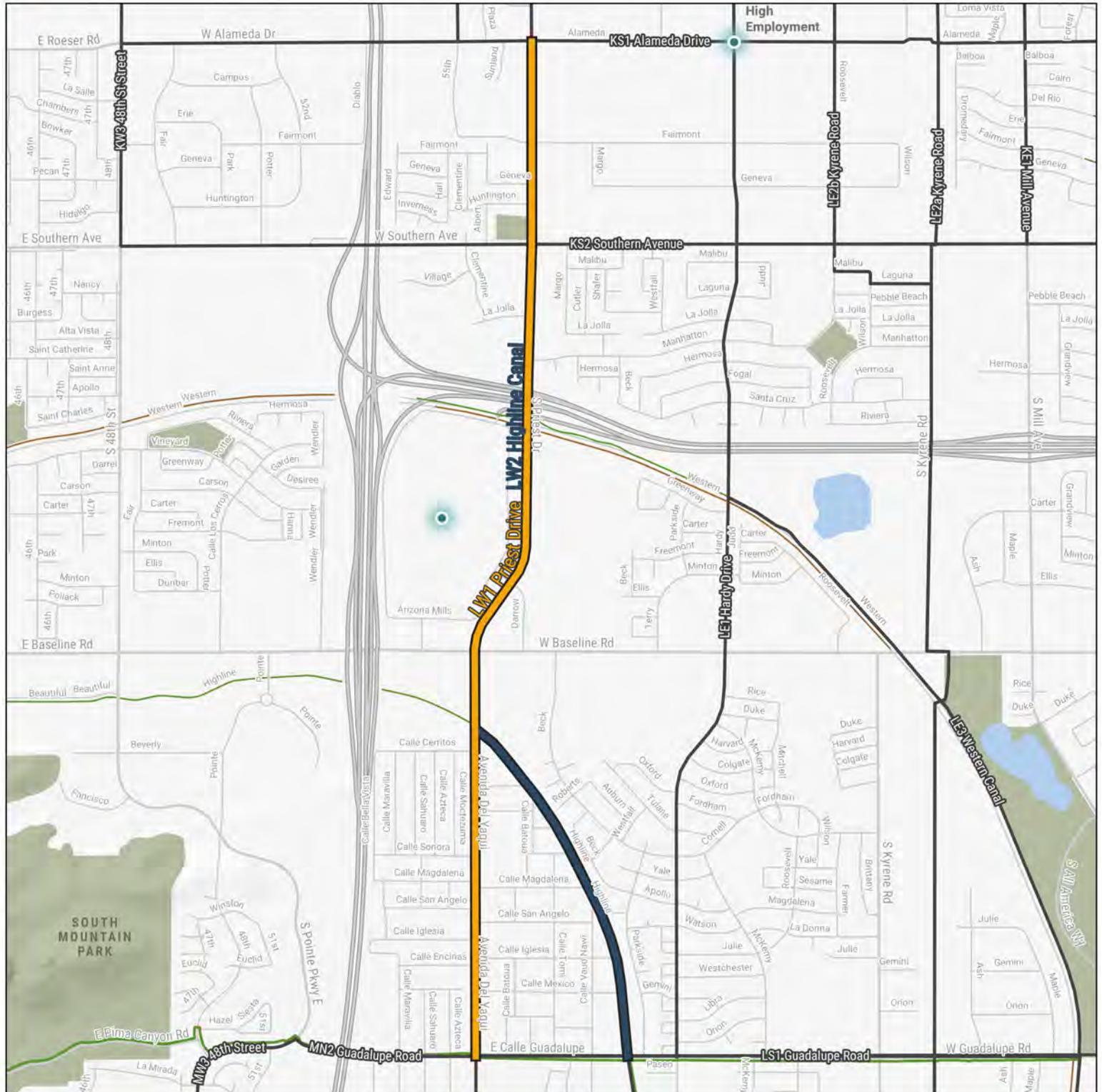
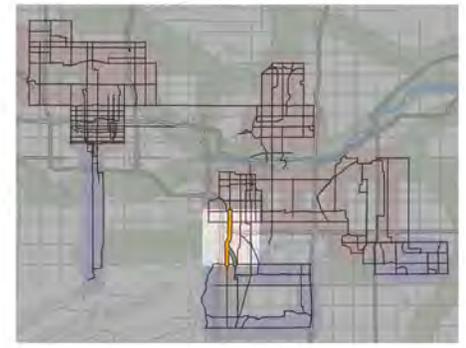
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe Central loop, LW Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



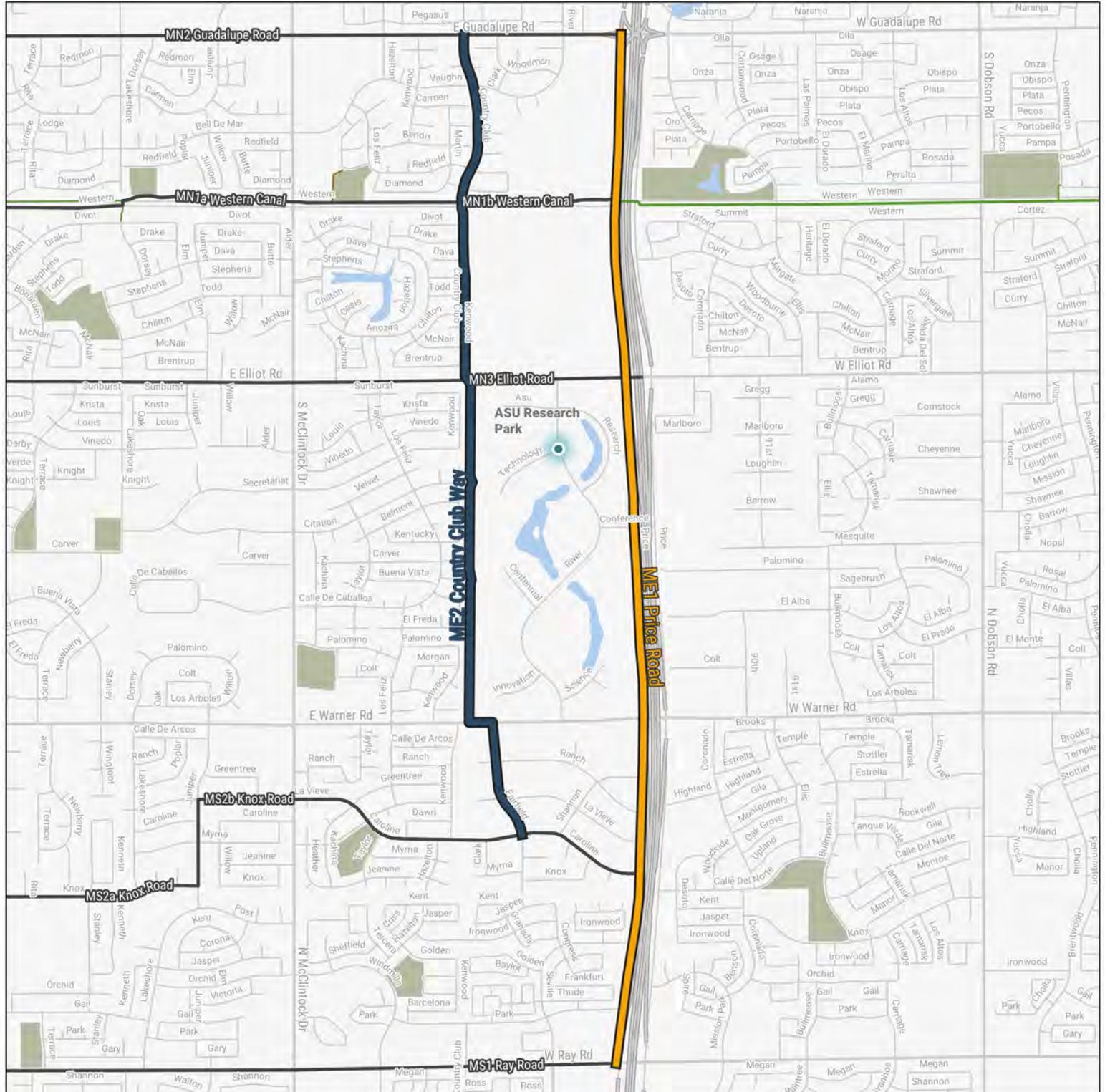
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe South loop, ME Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

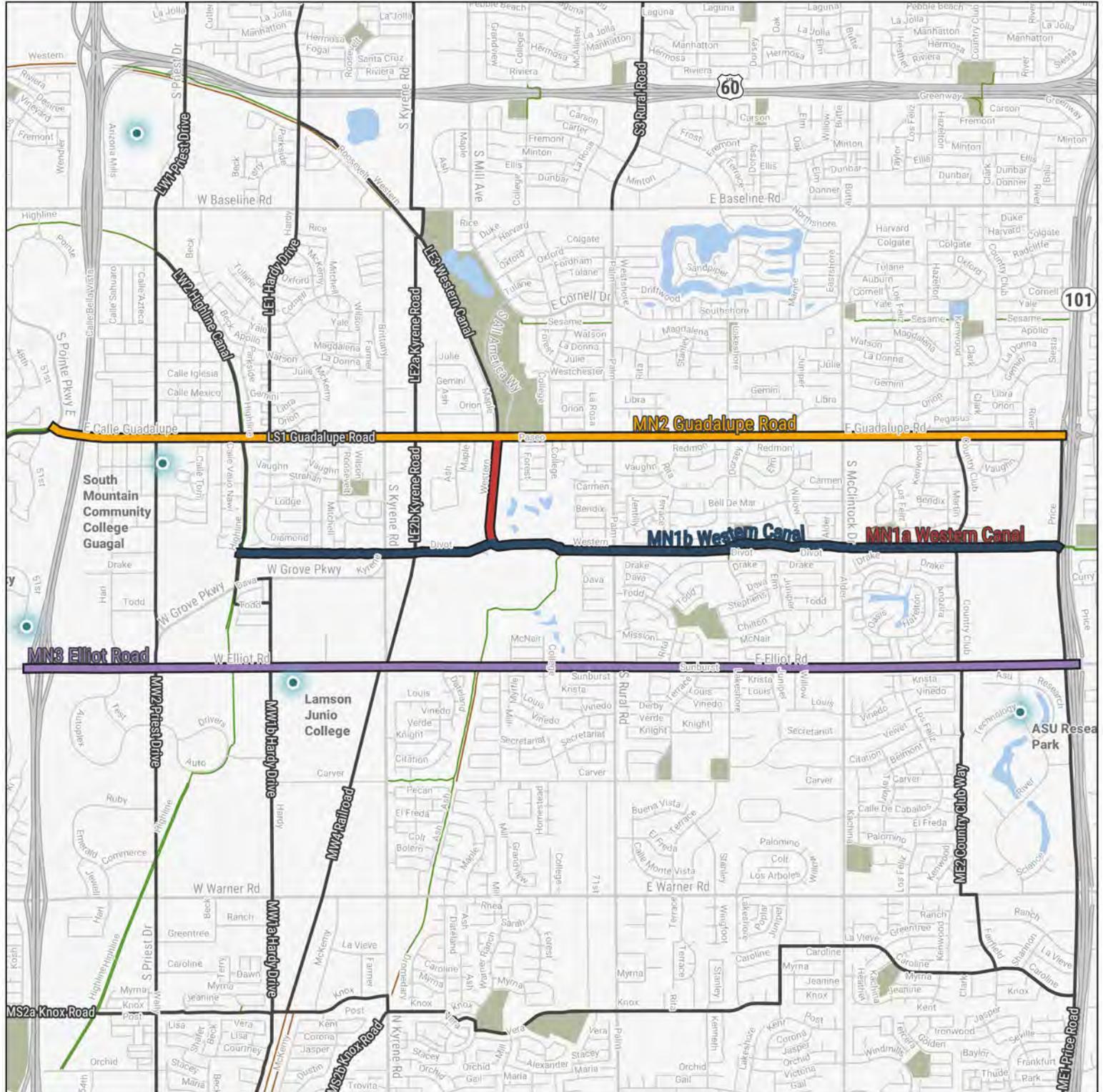
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe South loop, MN Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



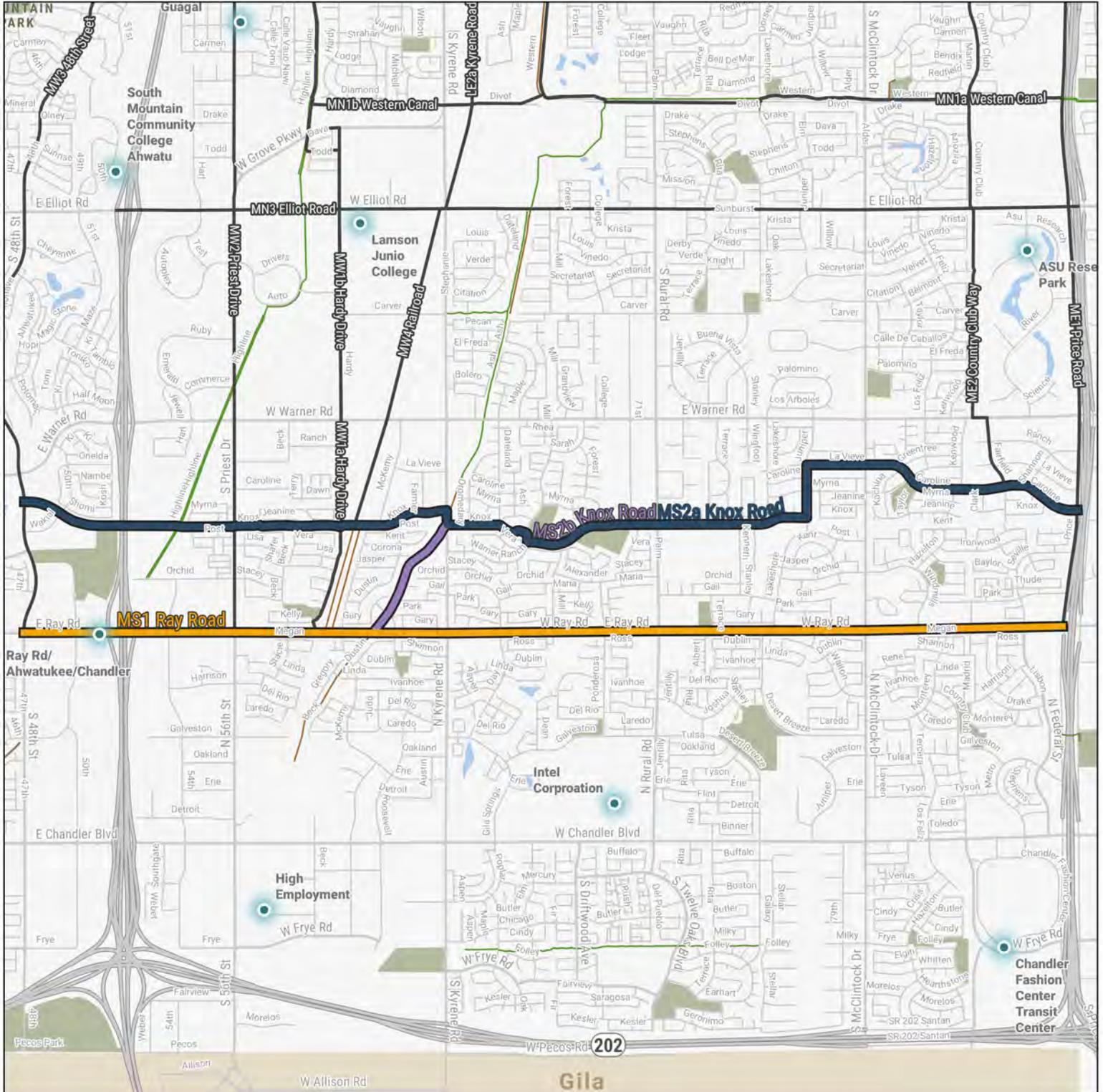
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe South loop, MS Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



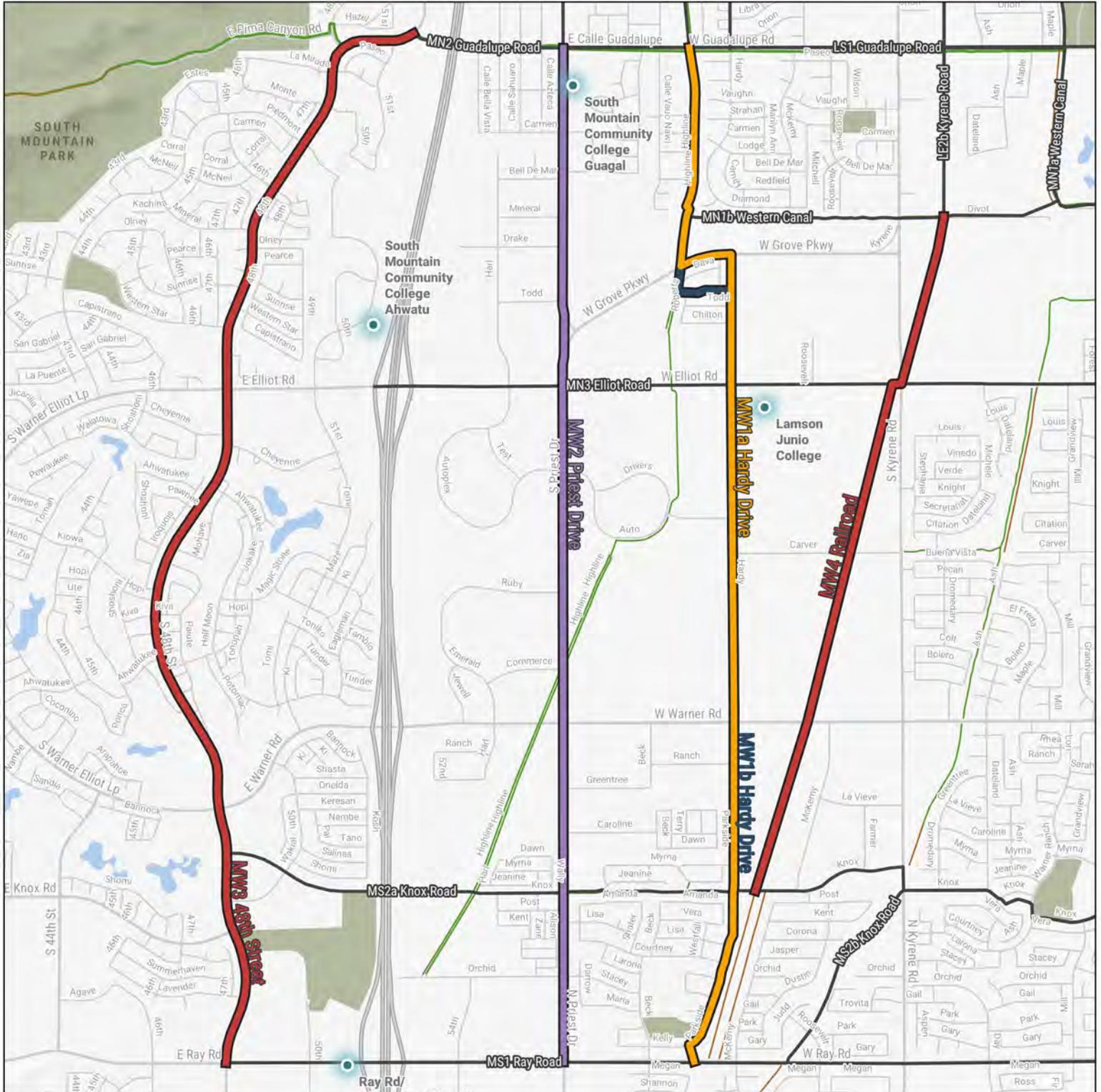
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Tempe South loop, MW Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



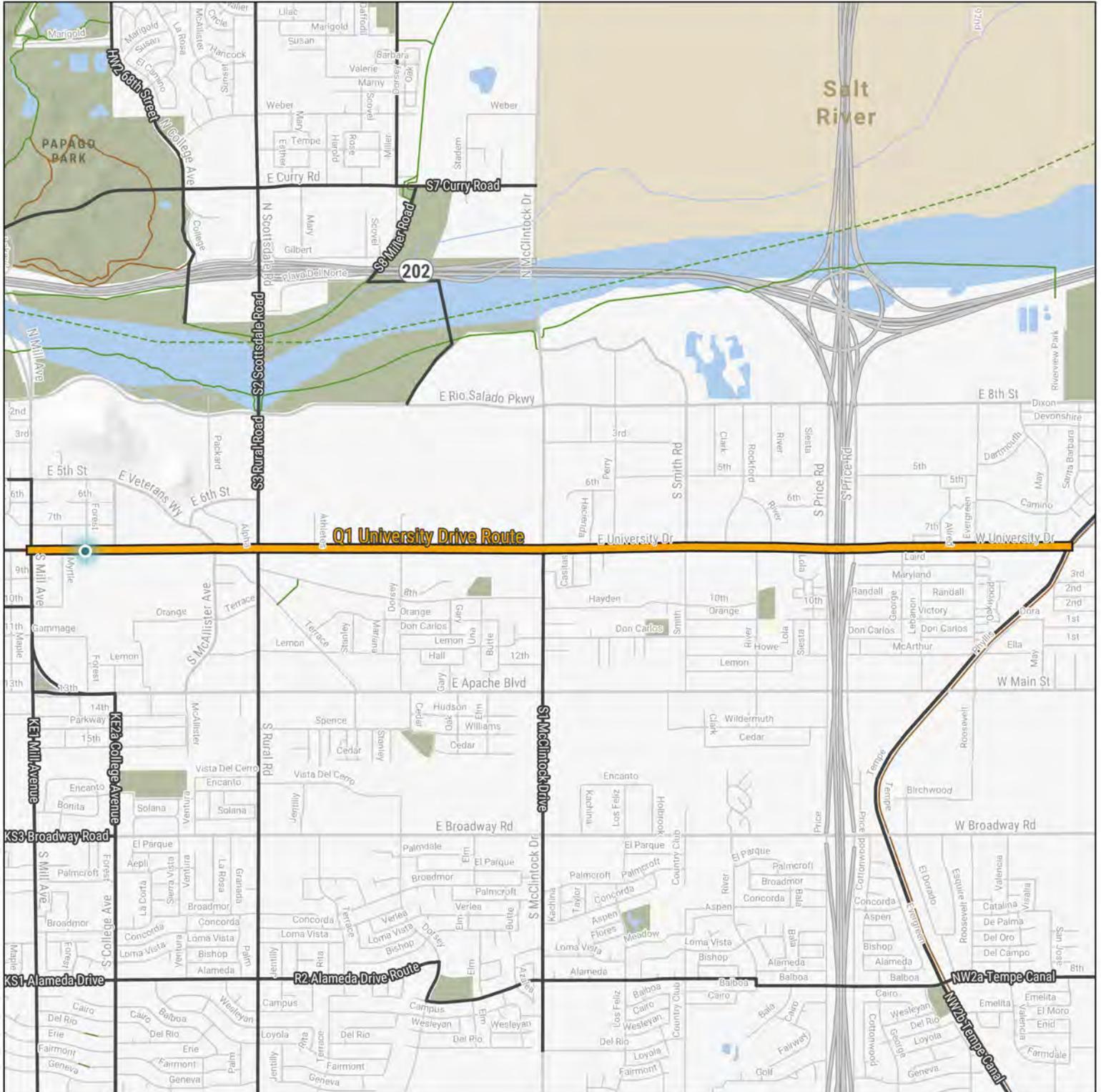
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

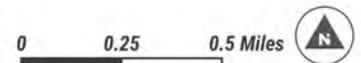
University Drive Corridor, Q Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



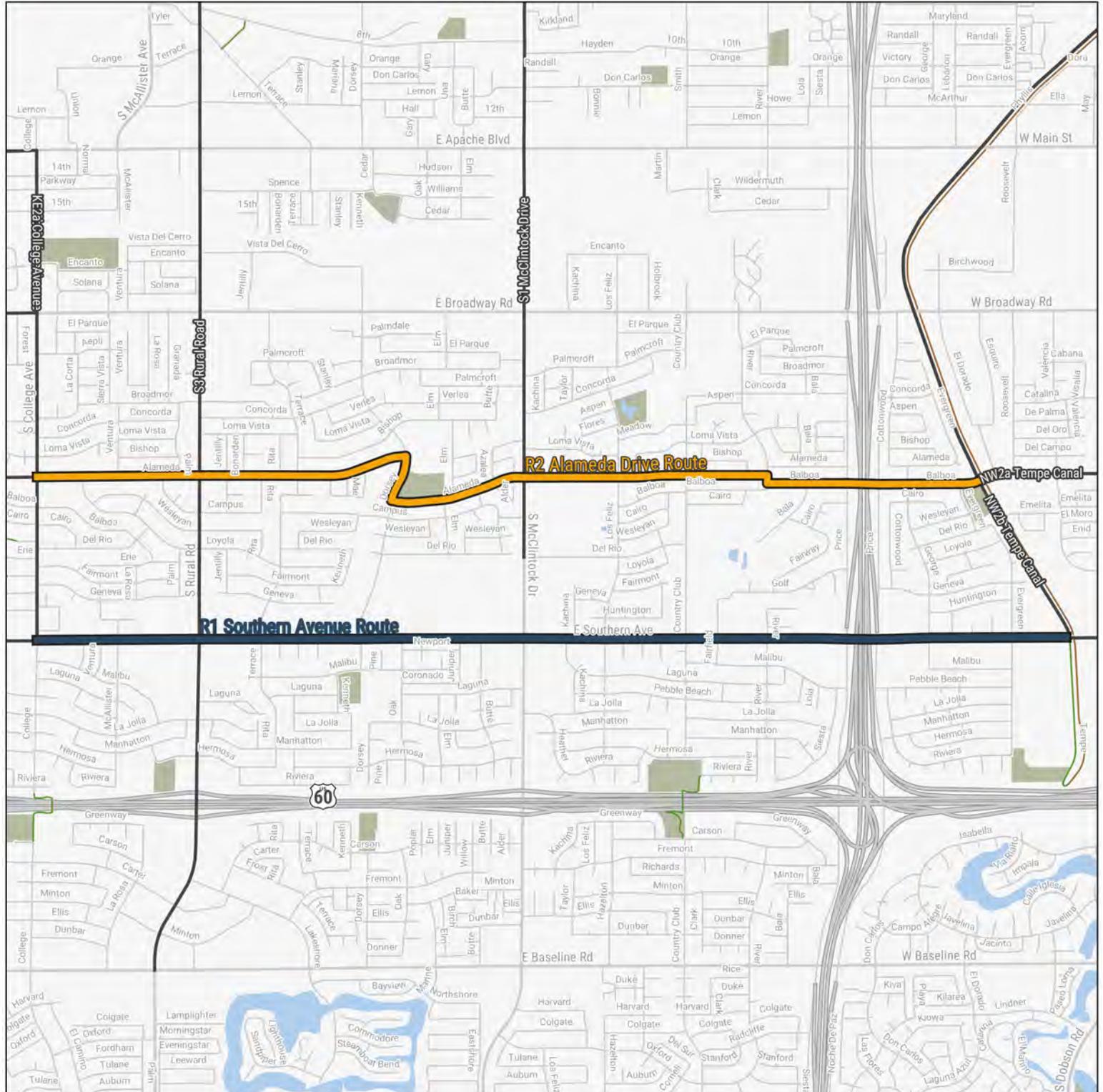
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Southern Avenue Corridor, R Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



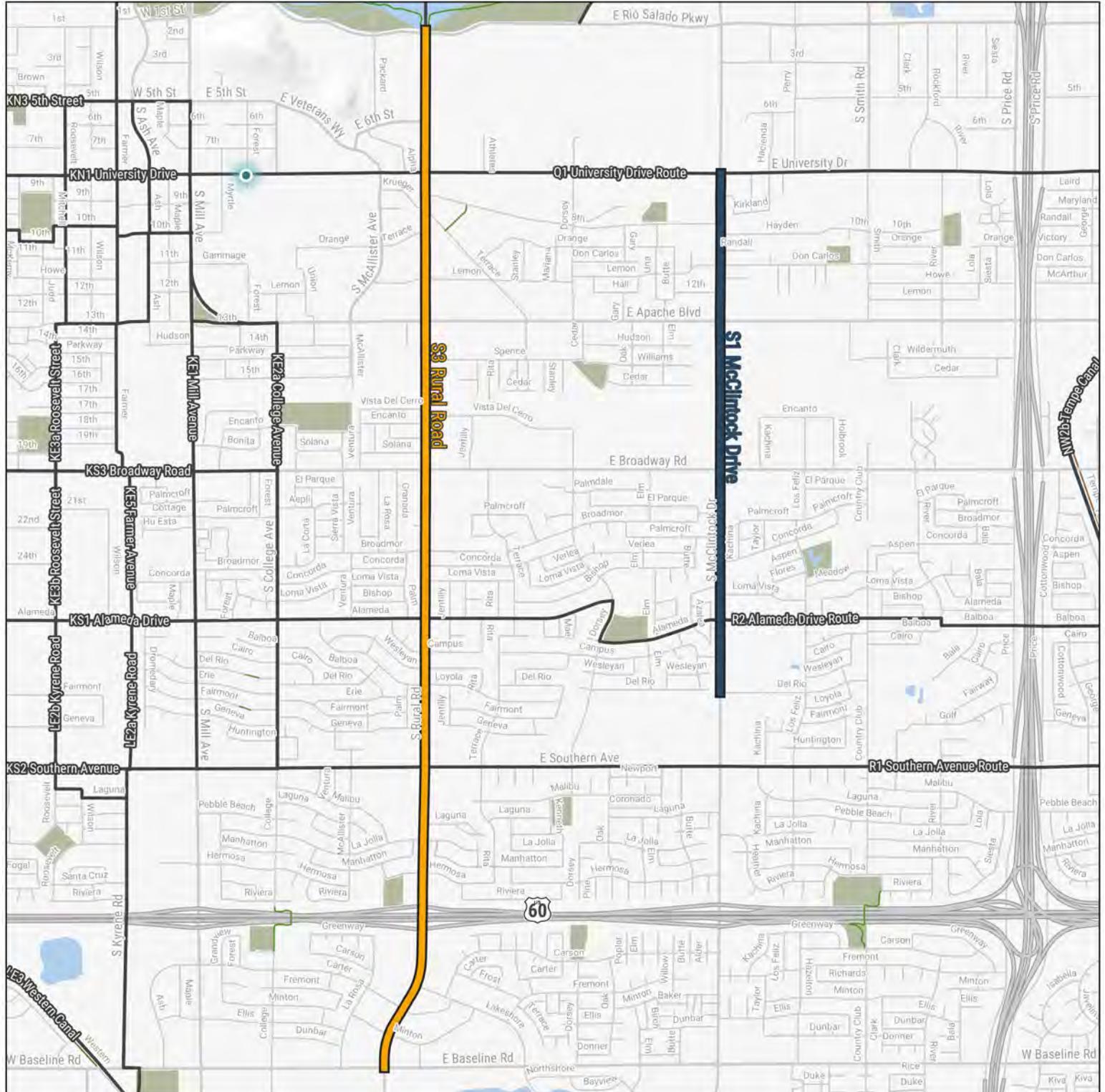
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Other Routes, S-E Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

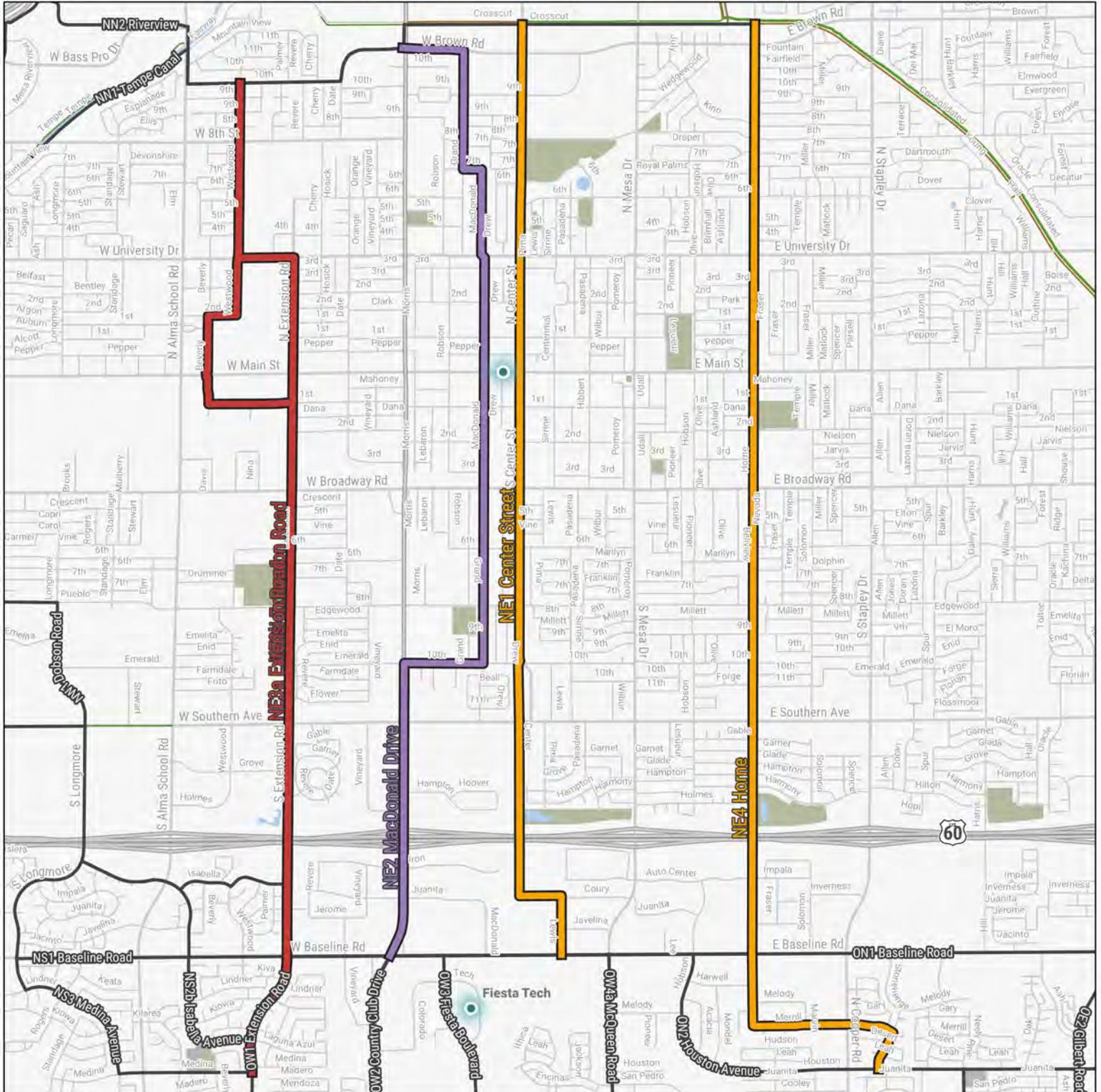
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Mesa loop, NE Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

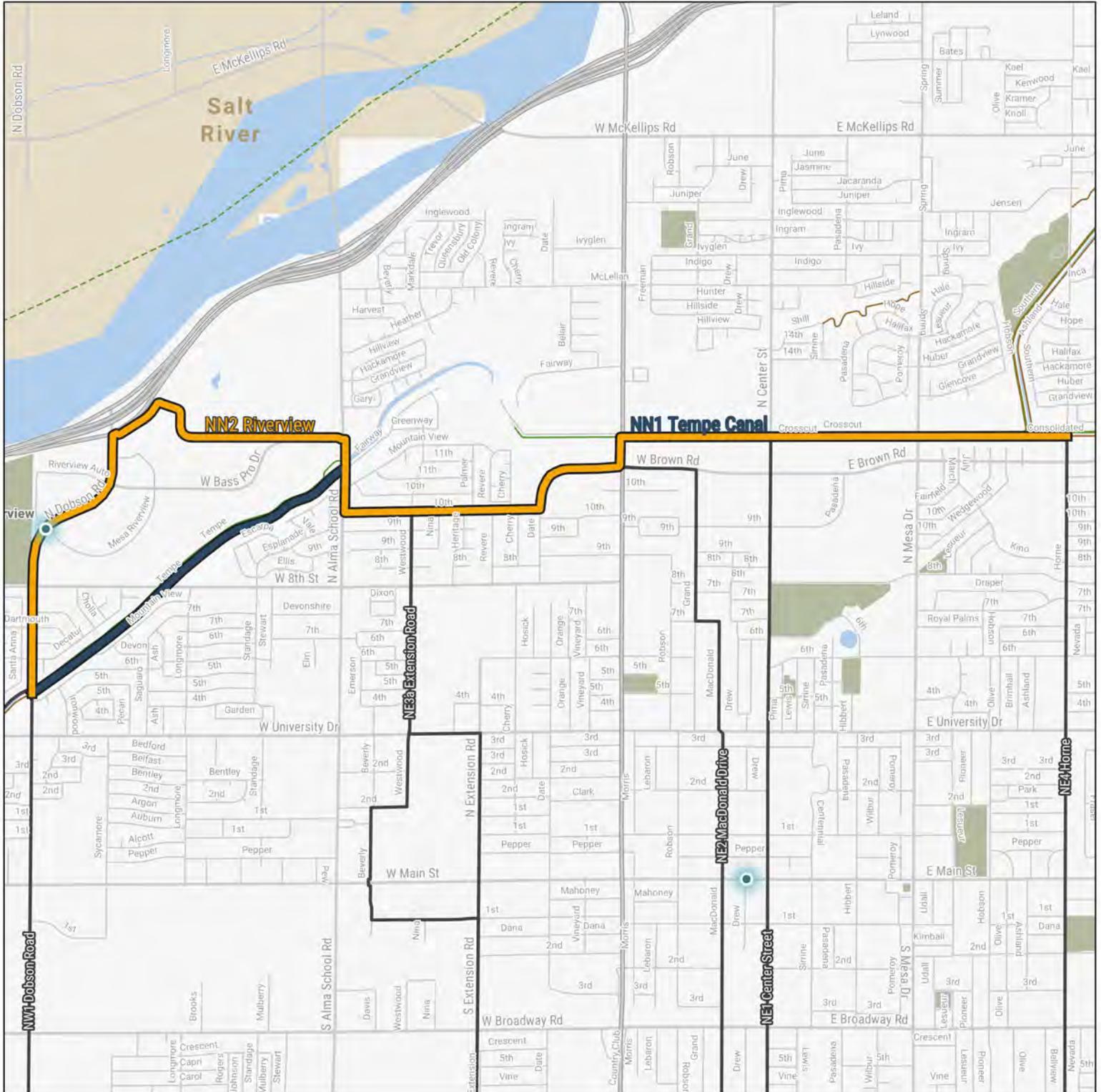
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Mesa loop, NN Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



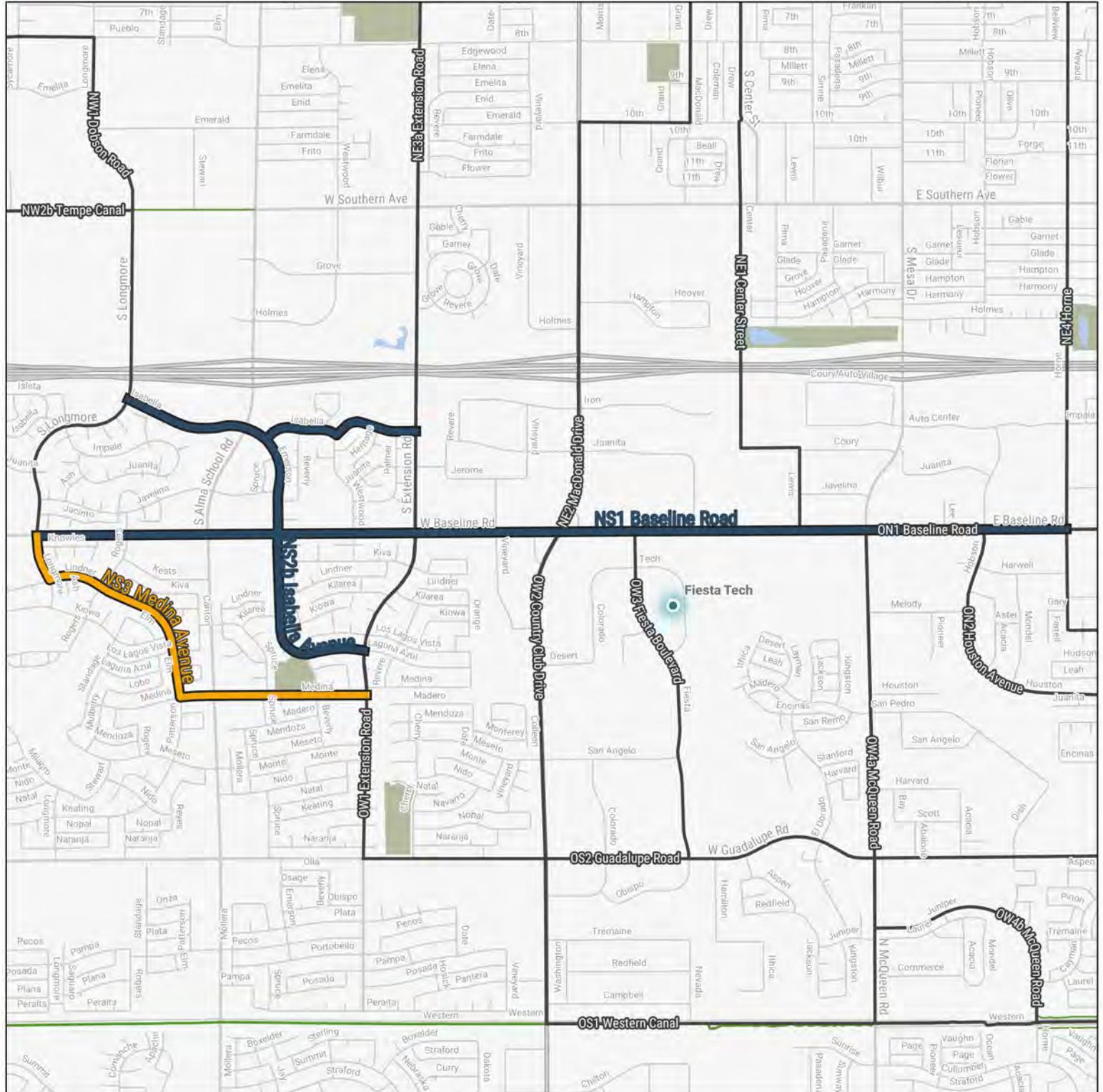
Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments REGIONAL ACTIVE TRANSPORTATION PLAN

Mesa loop, NS Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

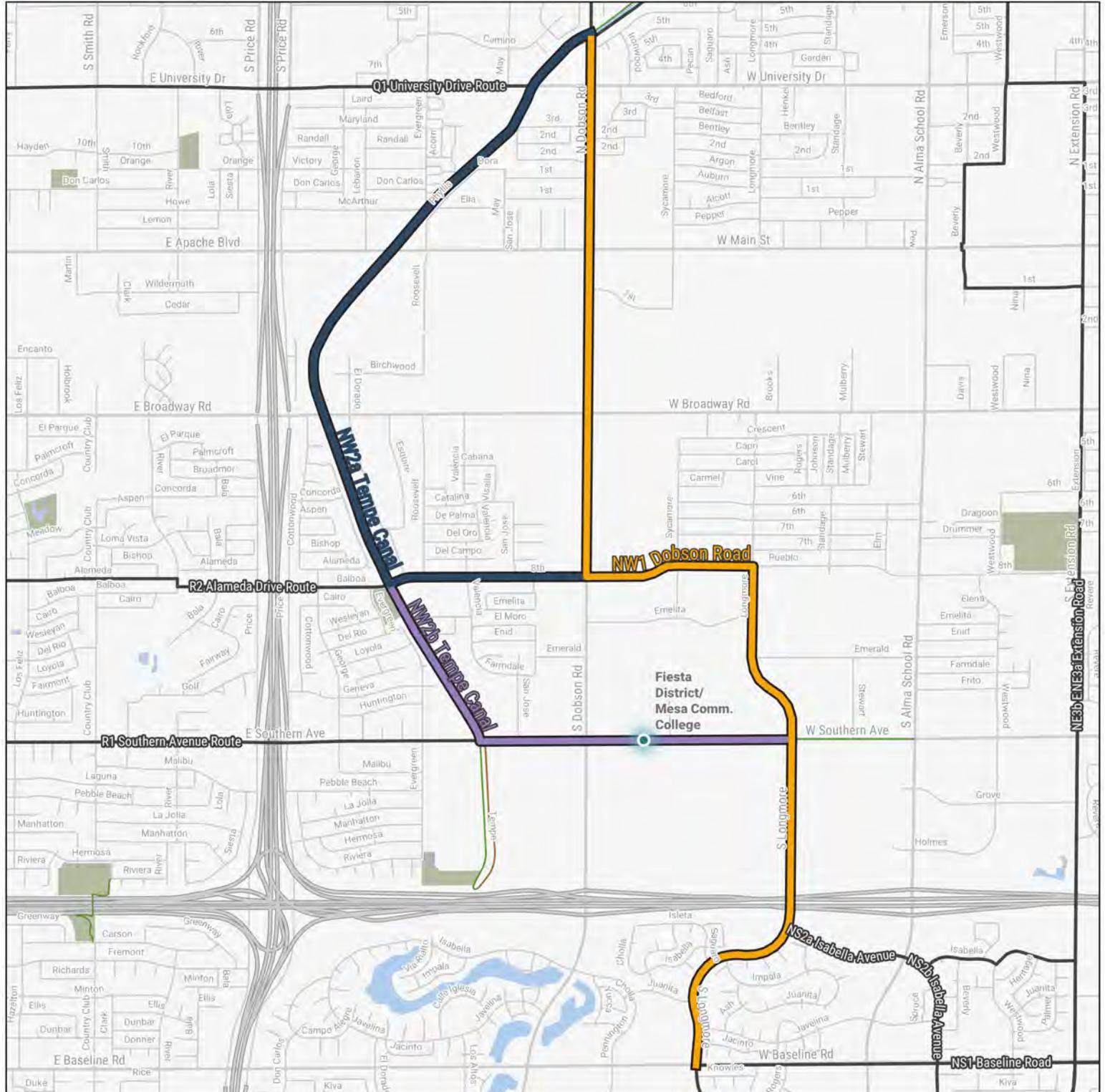
Maricopa Association of Governments

REGIONAL ACTIVE TRANSPORTATION PLAN

Mesa loop, NW Corridor Alignment Alternatives

Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center

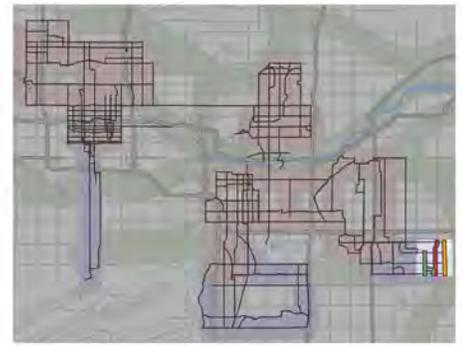


Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

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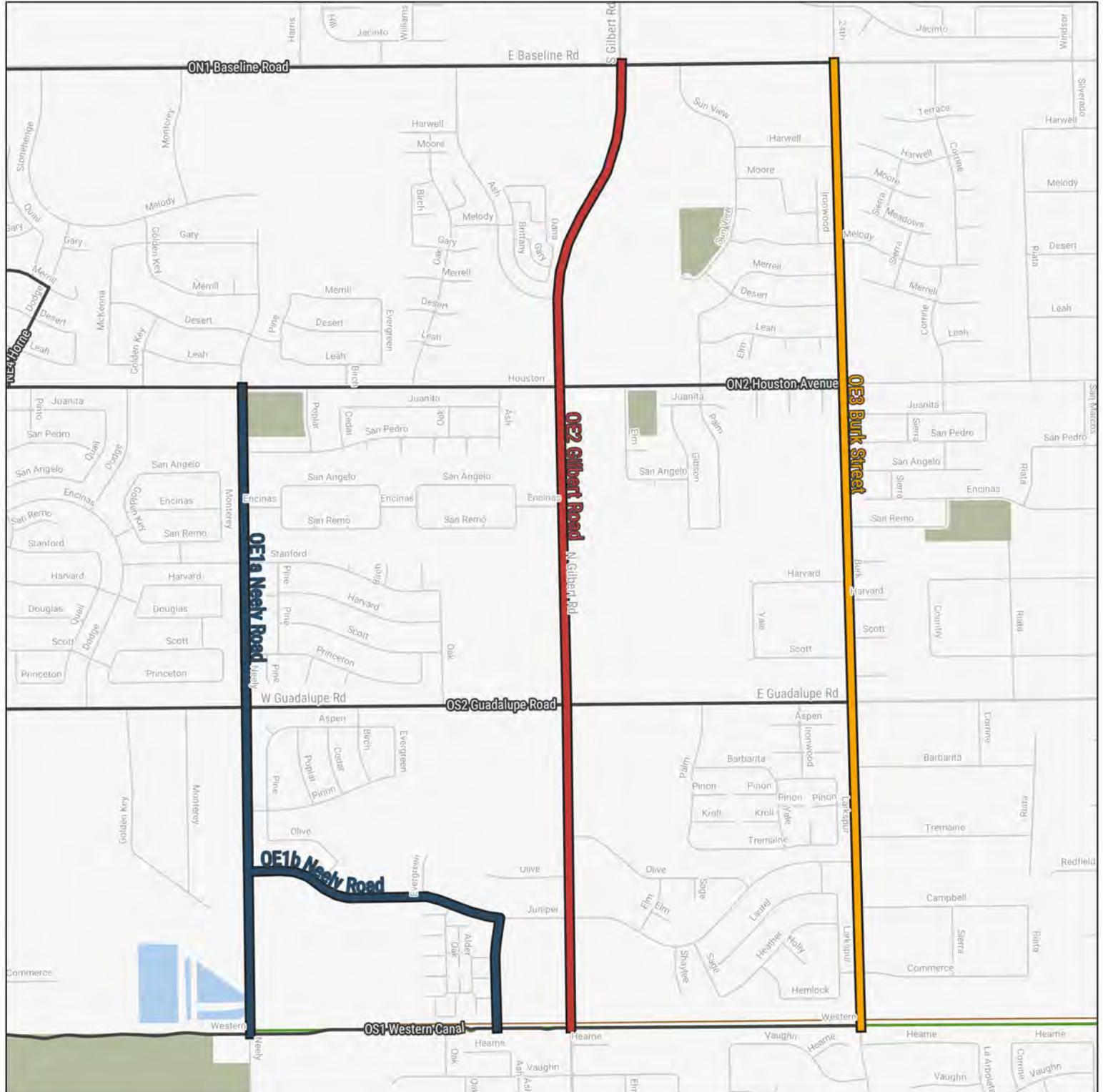
REGIONAL ACTIVE TRANSPORTATION PLAN

Gilbert loop, OE Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

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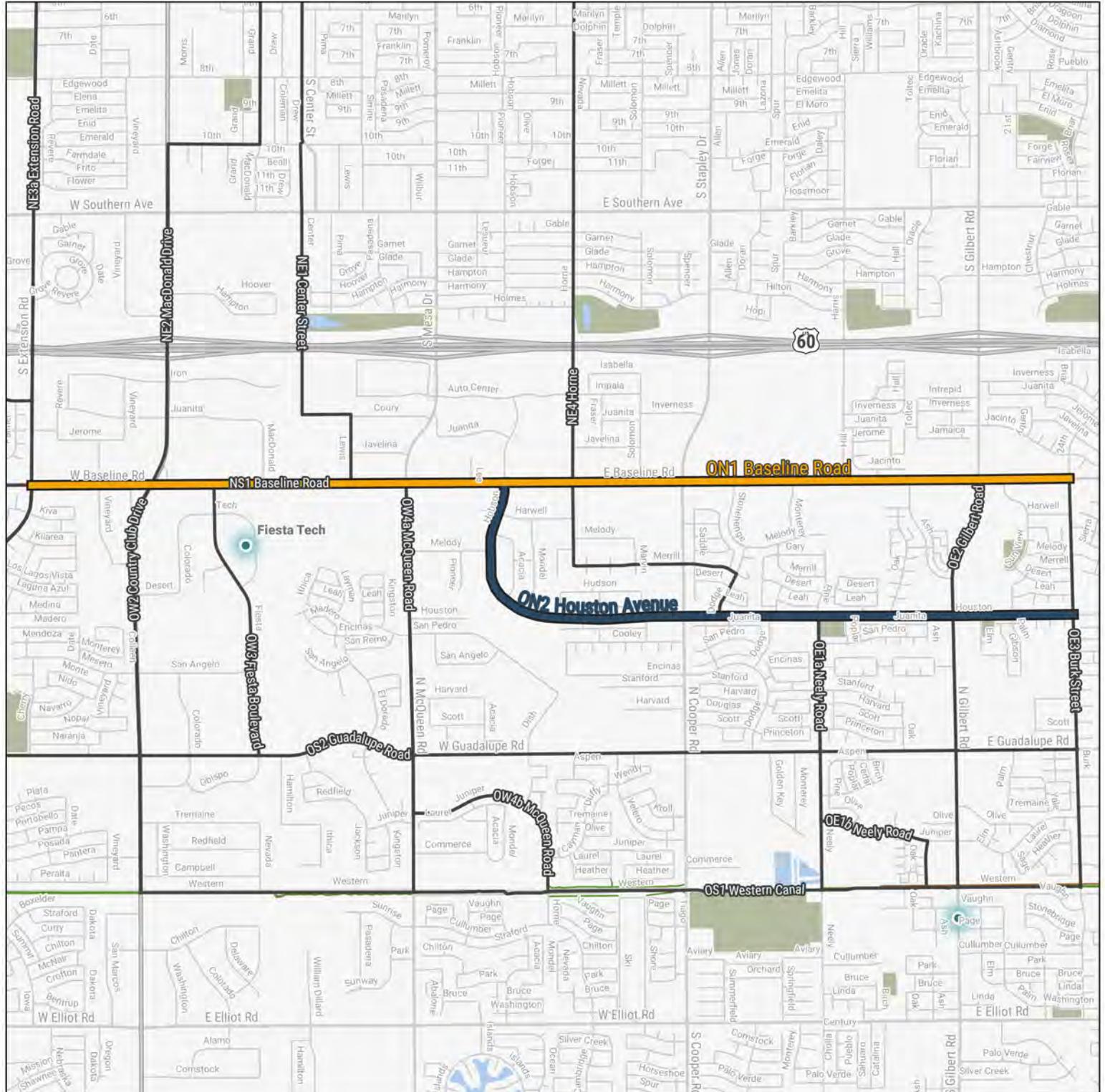
REGIONAL ACTIVE TRANSPORTATION PLAN

Gilbert loop, ON Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

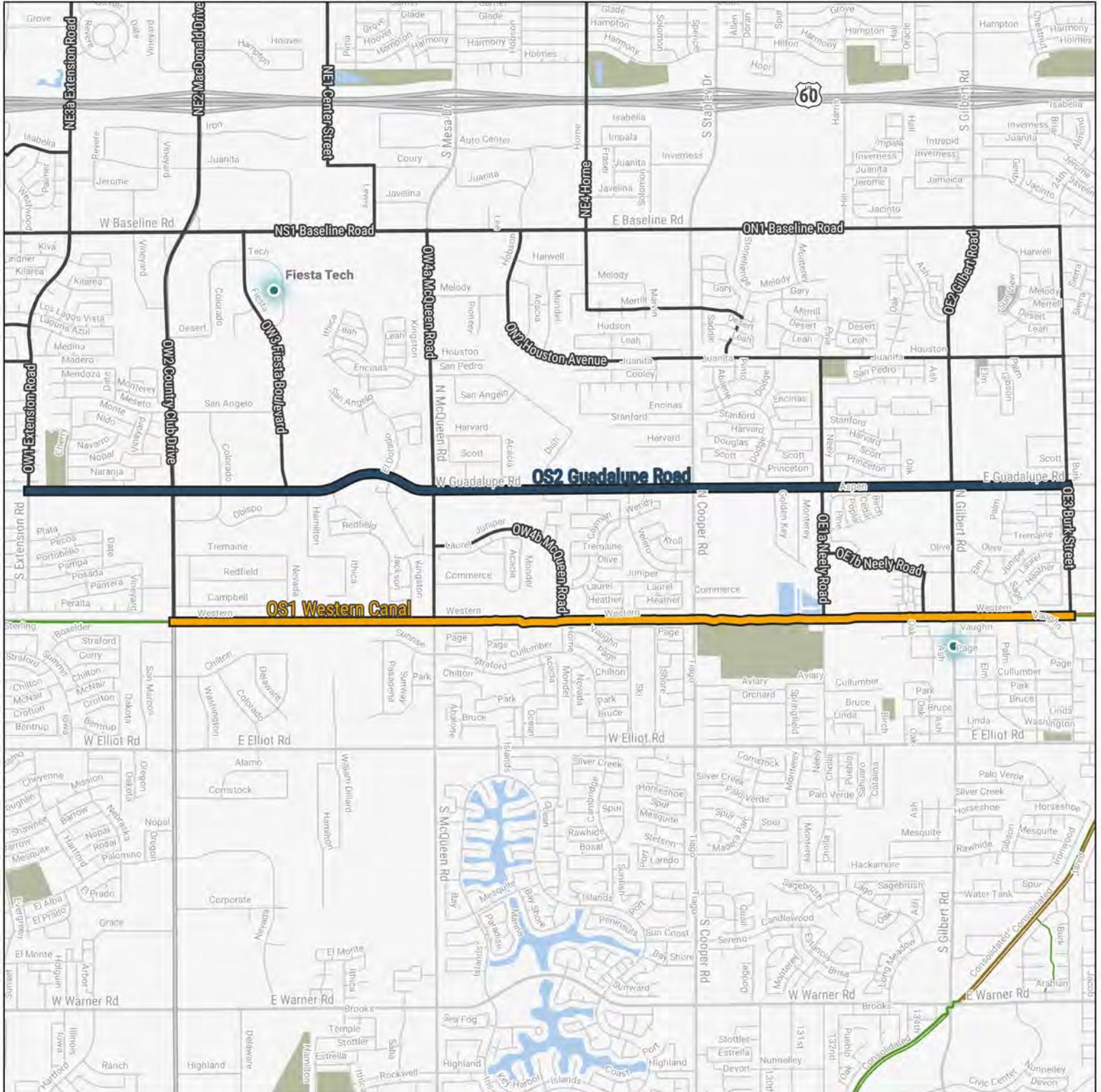
REGIONAL ACTIVE TRANSPORTATION PLAN

Gilbert loop, OS Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.

Maricopa Association of Governments

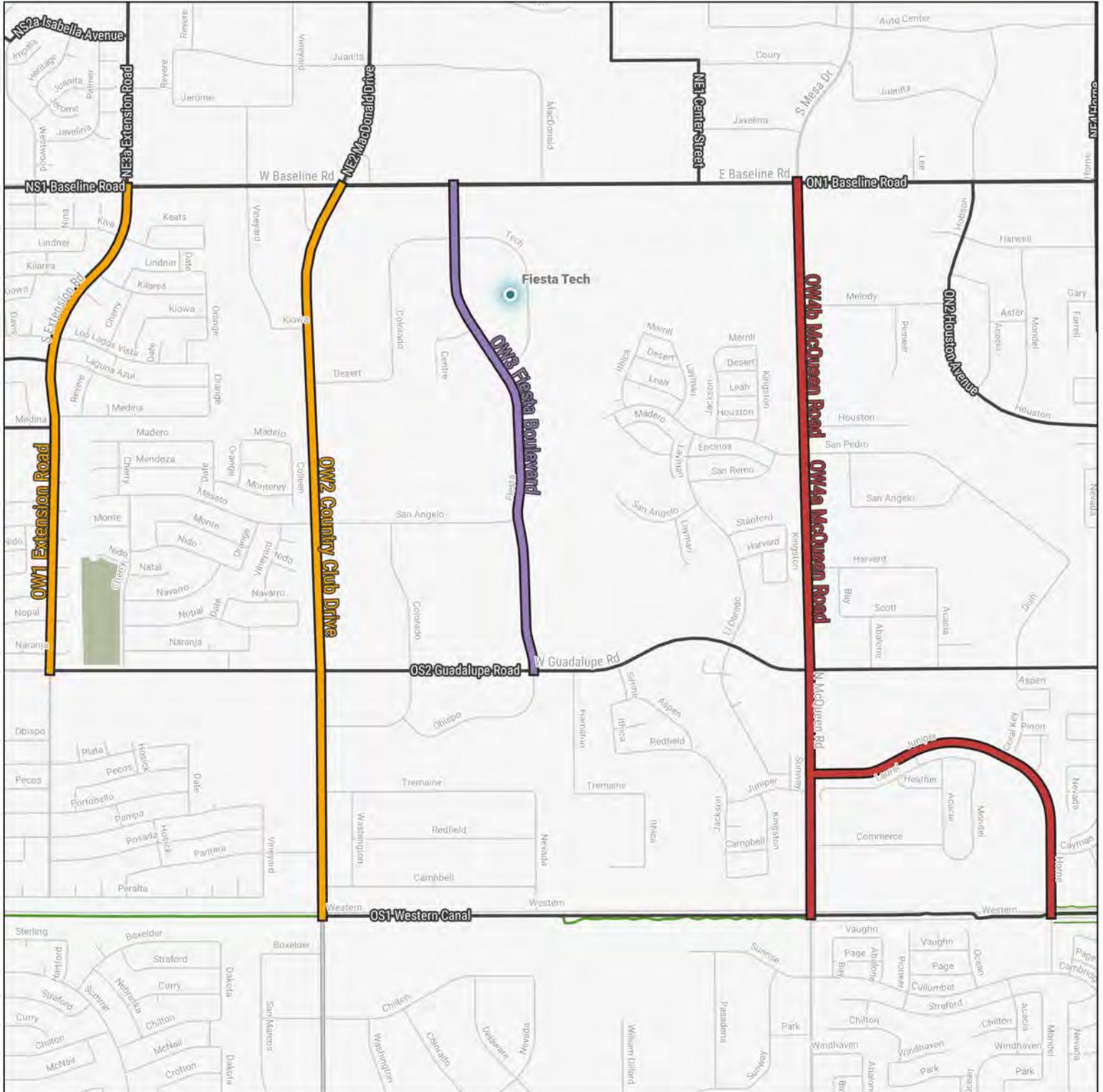
REGIONAL ACTIVE TRANSPORTATION PLAN

Gilbert loop, OW Corridor Alignment Alternatives



Key

- Highest Scoring Alignment Alternative
- Second Highest Scoring Alignment Alternative
- Third Highest Scoring Alignment Alternative
- Remaining Alignment Alternatives
- Other Corridor Alignments
- Existing Shared Use Path - Unpaved
- Existing Shared Use Path - Paved
- Future Shared Use Path
- Activity Center



Note: The numbering of alignment alternatives corresponds with the MAG ATP Corridor Identification Memo.



Date: January 30, 2019 (updated January 13, 2020)

To: Jason Stephens, Maricopa Association of Governments

From: Randy Dittberner, Lee Engineering

Re: MAG ATP Corridor Identification - Updated with stakeholder-suggested routes and to reflect stakeholder comments

This memo is intended to document our work in identifying alternative active transportation routes in support of the MAG Active Transportation Plan.

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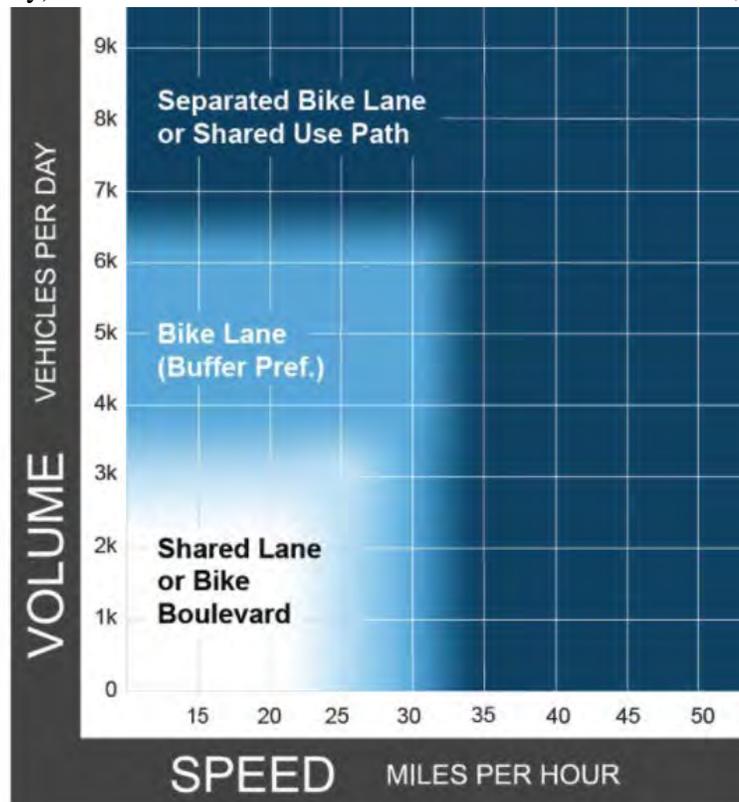
PROCESS

Per your request, we reviewed the corridors designated as part of the MAG “AT Grid” to identify alternatives for high quality/high comfort bicycle facility routing. We used the following criteria to identify alternative routes. Not all routes meet all criteria, but our objective was to identify routes that met as many of these criteria as possible:

- Routes should take into consideration the bicycle plan of the relevant local jurisdiction.
- Routes should be positioned to provide direct access to major activity centers, either by running along a main street serving the activity center or a street a block or two away.
- Routes should be direct. It is undesirable for a route to include jogs and circuitous shared use paths that involve many turns.
- When a route crosses an arterial, it is undesirable for the route to jog along the arterial before resuming unless it provides the most suitable or feasible route.
- Routes should be within the defined AT Grid corridor.

Following stakeholder review, some route were added, modified, or deleted. In some cases, identified routes are already configured with appropriate high-quality active transportation facilities, but in most cases, improvements and upgrades are needed. We have attempted to describe the extent of improvements needed for each suggested route, but our comments should be considered as suggestions at this early stage of the planning process. In a few cases, a large infrastructure improvement (such as a bridge over a freeway) is needed to make a route viable. Pedestrian facilities, which are integral to “complete corridors” and an equitable transportation system, were not identified and evaluated as these facilities are ubiquitous and assessing the quality of these facilities was beyond the scope of the project. However, principles and elements of high quality pedestrian facilities are discussed in the [Active Transportation Toolbox](#). In general, local agencies will be responsible for developing active transportation projects, including assessing conditions and feasibility, and conducting preliminary engineering.

Suggested high-comfort bicycle facility types are largely based on a chart, at right, which is taken from the [Federal Highway Administration’s Bikeway Selection Guide](#).



DELIVERABLES

A map book accompanying this memo shows alternative routes (i.e., alignments) for each of the designated corridors. The route numbering scheme in this memo corresponds to the numbering scheme in the map book.

The following table summarizes the corridors included in this memo and the map book.

<i>Loop</i>	<i>Corridor</i>	<i>Route</i>	<i>Jurisdiction</i>
A. Downtown Phoenix Loop	Southern	AS1 – Washington Street/Jefferson Street	Phoenix
		AS2 – Van Buren Street	
	Northern	AN1 – Fillmore Street	
		AN2 – Roosevelt Street	
		AN3 – McKinley Street	
	Western	AW1 – 3rd Avenue/5th Avenue	
		AW2 – 15th Avenue	
	Eastern	AE1 – 12th Street	
		AE2 – 11th Street	
AE3 – 16th Street			
B. 3rd Avenue		B1 – 3rd Avenue/5th Avenue	Phoenix
		B2 – 15th Avenue	
		B3 – 11th Avenue	
C. 12th Street		C1 – 12th Street	Phoenix
		C2 – 10th Street	
		C3 – 16th Street	
		C4 – 13th Street/14th Street	
D. Willetta Street		D1 – Willetta Street	Phoenix
		D2 – Palm Lane	
		D3 – McDowell Road	
E. North Phoenix Loop	Southern	ES1 – Osborn Road	Phoenix
		ES2 – Oak Street/Encanto Boulevard	
	Northern	EN1 – Missouri Avenue	
		EN2 – Campbell Avenue	
		EN3 – Highland Avenue	
		EN4 – Colter Street	
	Western	EW1 – 31st Avenue	
		EW2 – 27th Avenue	
	Eastern	EE1 – 20th Street	
EE2 – 28th Street			
EE3 – 24th Street			
F. North Central Avenue		F1 – 3rd Avenue	Phoenix
		F2 – 3rd Street	

MAG ATP Corridor Identification

G. GCU Loop	Northern	GN1 – Bethany Home Road	Phoenix
		GN2 – Maryland Avenue	
	Western	GW1 – 31st Avenue	
	Eastern	GE1 – 23rd Avenue	
		GE2 – 17th Avenue GE3 – 15th Avenue	
H. Scottsdale South Loop	Southern	HS1 – McKellips Road	Scottsdale, Tempe
		HS2 – Roosevelt Street	
	Northern	HN1 – Oak Street	Scottsdale
		HN2 – McDowell Road	
		HN3 – Belleview Street	
	Western	HW1 – Crosscut Canal	Phoenix, Scottsdale, Tempe
		HW2 – 68th Street	Scottsdale, Tempe
	Eastern	HE1 – Pima Road	Scottsdale, SRPMIC
		HE2 – Granite Reef Road	Scottsdale
	J. Scottsdale North Loop	Northern	JN1 – Camelback Road
JN2 – Glenrosa Avenue			
JN3 – Indian School Road			
Western		JW1 – 68th Street	
		JW2 – Drinkwater Boulevard	
		JW3 – Scottsdale Road	
Eastern		JE1 – Indian Bend Wash	
		JE2 – Granite Reef Road	
		JE3 – Miller Road	
K. Tempe North Loop	Southern	KS1 – Alameda Drive	Tempe
		KS2 – Southern Avenue	
		KS3 – Broadway Road	
	Northern	KN1 – University Drive	
		KN2 – Sprocket	
		KN3 – 5th Street	
	Western	KW1 – 52nd Street	
		KW2 – Priest Drive	
		KW3 – 48th Street	
	Eastern	KE1 – Mill Avenue	
		KE2 – College Avenue	
		KE3 – Roosevelt Street	
		KE4 – Hardy Street	
KE5 – Farmer Avenue KE6 – North/South Rail Spur Path			
L. Tempe Central Loop	Southern	LS1 – Guadalupe Road	Guadalupe, Tempe
	Western	LW1 – Priest Drive	

MAG ATP Corridor Identification

		LW2 – Highline Canal	
	Eastern	LE1 – Hardy Drive	Tempe
		LE2 – Kyrene Road	
		LE3 – Western Canal	
M. Tempe South Loop	Southern	MS1 – Ray Road	Chandler, Phoenix, Tempe
		MS2 – Knox Road	
	Northern	MN1 – Western Canal	Tempe
		MN2 – Guadalupe Road	Guadalupe, Tempe
		MN3 – Elliot Road	Tempe
	Western	MW1 – Hardy Drive	Guadalupe, Tempe
		MW2 – Priest Drive	
		MW3 – 48th Street	Phoenix
		MW4 – Railroad	Tempe
	Eastern	ME1 – Price Road	Tempe
ME2 – Country Club Way			
N. Mesa Loop	Southern	NS1 – Baseline Road	Mesa
		NS2 – Isabella Avenue	
		NS3 – Medina Avenue	
	Northern	NN1 – Tempe Canal	Mesa
		NN2 – Riverview	
	Western	NW1 – Dobson Road	Mesa
		NW2 – Tempe Canal Path	Mesa, Tempe
	Eastern	NE1 – Center Street	Mesa
		NE2 – MacDonald Drive	
		NE3 – Extension Road	
NE4 – Horne			
O. Gilbert Loop	Southern	OS1 – Western Canal	Chandler, Gilbert
		OS2 – Guadalupe Road	Gilbert, Mesa
	Northern	ON1 – Baseline Road	Gilbert, Mesa
		ON2 – Houston Avenue	Gilbert
	Western	OW1 – Extension Road	Mesa
		OW2 – Country Club Drive	Gilbert, Mesa
		OW3 – Fiesta Boulevard	Gilbert
		OW4 – McQueen Road	
	Eastern	OE1 – Neely Road	Gilbert
		OE2 – Gilbert Road	
OE3 – Burk Street			
P. South Central Avenue	South of Buckeye Road	PS1 – Central Avenue	Phoenix
		PS2 – 7th Street	
		PN1 – Central Avenue	
		PN2 – 3rd Avenue	

	North of Buckeye Road	PN3 – 1st Street	
		PN4 – 3rd Street	
Q. University Drive		Q1 – University Drive	Mesa, Tempe
R. Southern Avenue		R1 – Southern Avenue	Tempe
		R2 – Alameda Drive	
S. Other Routes		S1 – McClintock Drive	Tempe
		S2 – Scottsdale Road	Scottsdale, Tempe
		S3 – Rural Road	Tempe
		S4 – Roosevelt Street	Phoenix
		S5- 3rd Street	
		S6 – Oak Street	
		S7 – Curry Road	Tempe

TIER 1 CORRIDORS

Tier 1 corridors connect activity centers having a high level of demand/propensity for active transportation trips.

A. DOWNTOWN PHOENIX LOOP

A corridor identified as the Downtown Phoenix Loop encircles downtown Phoenix. As with other loops shown on the AT Grid, each of the four corridors that comprise the downtown loop will be discussed individually.

Southern Corridor

The southern corridor of the Downtown Phoenix Loop is shown on the AT Grid roughly bounded by Van Buren and Lincoln Streets. Two alternative routes were identified for the southern corridor.

[AS1 - Washington Street/Jefferson Street Route \(Includes AS1a and AS1b\)](#)

This route would use Washington Street for westbound active transportation traffic (AS1a) and Jefferson Street for eastbound (AS1b), matching the existing one-way configuration of this pair of streets. Both are classified by the City of Phoenix as arterials.

Existing conditions:

- Washington and Jefferson Streets are the primary east-west corridors approaching and serving downtown Phoenix. They connect many major downtown destinations.
- Light rail runs along Washington Street east of Central Avenue (westbound) and on Jefferson Street east of 1st Avenue (eastbound). This active transportation route would connect with light rail stations on Washington/Jefferson Streets at 3rd and 12th Streets, and at the 1st Avenue/Central Avenue stations.
- One-way bike lanes on the Washington and Jefferson frontage roads connect to the east side of downtown from 7th to 24th Streets.

- Washington and Jefferson Streets are identified collectively as a “Tier 1 corridor” for improvements in the 2014 City of Phoenix Bicycle Master Plan.

Discussion:

- While light-rail does not currently exist west of Central/1st Avenues, plans are currently underway to extend light rail to the west along Washington/Jefferson Streets, which will provide a similarly constrained cross-section.
- The presence of light rail means that limited opportunities exist to reconfigure the bike lane position without major reconstruction.

High-comfort facility need: Separated Bike Lanes (SBLs)

[AS2 - Van Buren Street Route](#)

This route would use Van Buren Street, an arterial, in both directions.

Existing conditions:

- Outside of downtown Phoenix (7th Avenue to 7th Street), Van Buren Street carries less traffic than many arterials and has excess capacity.
- Van Buren Street serves key downtown destinations, including the main transit station between Central and 1st Avenues.
- The City of Phoenix is currently developing a [project to provide high-quality bicycle accommodations](#) on Van Buren Street east of 7th Street. The project is intended to eliminate one traffic lane in each direction and convert it to a buffered bike lane.
- No similar project is under development west of 7th Avenue, but it appears that similar excess capacity exists west of downtown that would allow a lane reduction project there also.
- Van Buren Street is straight and continuous, with signalized crossing at high-volume intersections.

Discussion:

- In downtown Phoenix (7th Avenue to 7th Street), there are limited opportunities to change the cross-section of Van Buren Street because of dense development, closely-spaced intersections, and traffic demands.
- The 5-legged intersection at Van Buren Street, 7th Avenue, and Grand Avenue may be uncomfortable for many cyclists and has dual right turns onto 7th Avenue/Grand Avenue.

High-comfort facility need: SBLs

[Other Routes Considered](#)

No other east-west streets within the defined corridor are continuous between 16th Street and 7th Avenue. Major constraints such as railroad facilities, grade separations, and multi-block developments limit the availability of east-west routes both south of and within downtown.

Northern Corridor

The northern corridor of the Downtown Phoenix Loop is roughly bounded by Van Buren Street and I-10. Two alternative routes were identified for the northern corridor.

AN1 - Fillmore Street Route

This route would use Fillmore Street between 16th Street and 10th Avenue, then traverse south on 10th Avenue for a short block before using Grand Avenue northwest to the intersection of 15th Avenue and Roosevelt Street. East of 7th Street, Fillmore Street is a local residential street, but west of 7th Street it is classified as a collector. Grand Avenue is a major arterial, and 10th Avenue is a local street.

Existing conditions:

- The eastern portion of Fillmore Street is designated by the City of Phoenix as a bicycle boulevard. It is equipped with wayfinding and green-painted “lane-within-a-lane” sharrows between 7th Street and Central Avenue.
- Fillmore Street provides good access to downtown destinations such as the Arizona State University Downtown Campus and the Arizona Center.
- Traffic volumes and speeds are relatively low, particularly outside of downtown.
- Grand Avenue is a designated bicycling corridor, with green-painted bike lanes and other effective bicycling infrastructure.

Discussion:

- Fillmore Street itself extends in a continuous alignment only as far west as 7th Avenue. A PHB exists at the 7th Avenue crossing, but west of there the connectivity is circuitous.
- A controlled crossing is likely to be necessary at 10th and Grand Avenues to allow eastbound cyclists to make a left turn.
- On-street parking is permitted and heavily used in some blocks between Central and 7th Avenues.

High-comfort facility need:

- East of 7th Street: bicycle boulevard
- Central Avenue to 7th Street: Volumes and speeds may not indicate SBLs, but the existing roadway configuration suggests that a road diet is a logical way to dedicate bike lanes, and a road diet would produce enough extra pavement for SBLs in this segment.
- Central to Grand Avenues: bike lanes or traffic-calmed bicycle boulevard
- Grand Avenue: Bike lanes (as existing) or SBLs

AN2 - Roosevelt Street Route

This route would use Roosevelt Street from 16th Street to 15th Avenue.* Roosevelt Street is classified by the City of Phoenix as a minor collector.

* City of Phoenix’s preferred alignment.

Existing conditions:

- In downtown Phoenix, Roosevelt Street serves a rapidly growing area, including vast new high-density residential development as well as dining and other retail establishments. High activity is less prominent east of 7th Street and west of 7th Avenue, which are largely single-family residential areas.
- The Roosevelt Street route connects with the LRT stop in the plaza between Central and 1st Avenues.
- Bicycle facilities exist on parts of Roosevelt Street. An eastbound bike lane begins at 9th Street and continues east, while a westbound bike lane ends at 10th Street. Marked bike lanes are provided west of 7th Avenue in both directions. On the west side of downtown, the eastbound bike lane runs along the curb while the westbound bike lane runs between parked cars and moving traffic. Within downtown, bike lanes also exist in both directions between Central Avenue and 6th Street.
- The Roosevelt Street bike lanes extend further east and provide a direct, non-interchange bicycle crossing of I-10.
- Roosevelt Street is direct and continuous with signal-controlled crossings at high-volume intersections.

Discussion:

- Gaps exist in existing bike accommodations. Notably, the segment between 6th Street and 9th/10th Streets is very narrow.
- The 6-legged intersection of Roosevelt Street, Grand Avenue, and 15th Avenue provides excellent connectivity to the bike facilities on Grand and 15th Avenues, but the complex nature of the intersection may make turning movements difficult for some cyclists.

High-comfort facility need: Bike lanes. In some segments it may be possible to create an SBL in one or both directions, possibly by positioning parked cars between the bike lane and the through traffic lane.

[AN3 - McKinley Street Route](#)

This route uses McKinley Street, a local street, between 11th Avenue and 16th Street.

Existing conditions:

- McKinley Street is a low-volume local street with on-street parking. It has no pavement markings.
- Crossings of Central and 1st Avenues (and LRT lines) are signalized. Other street crossings are stop-controlled.

Discussion:

- Off-set T-intersections occur along McKinley Street at 7th Street and 7th Avenue.
- The route passes north of downtown and abuts the central transit station, it does not provide direct access to major downtown destinations.

- West of 7th Avenue and east of 7th Street, McKinley passes mostly single-family homes.
- McKinley Street does not provide a logical connection west of 11th Avenue because of the discontinuity across Grand Avenue.

High-comfort facility need: Bicycle boulevard

Other Routes Considered

Fillmore, Roosevelt, and McKinley Streets provide the best east-west connectivity in the vicinity of the northern corridor of the Downtown Phoenix Loop. No other streets are continuous between 16th Street and 15th Avenue; other streets typically traverse only a few blocks.

Western Corridor

Two alternative routes were identified for the western corridor of the Downtown Phoenix Loop.

AW1 - 3rd Avenue/5th Avenue Route (Includes AW1a and AW1b)

This route largely uses 3rd Avenue (AW1a) for northbound bicycle traffic and 5th Avenue (AW1b) for southbound traffic. Both streets are classified as collectors. However, the City of Phoenix has plans to introduce two-way bicycle traffic on 3rd Avenue north of Adams Street. Even still, the corridors further north (north of McDowell Road) are planned to remain a one-way pair, so trips using the corridor for longer distances will probably continue to use the historical one-way pair routing.

Fifth Avenue is not continuous between Washington and Jefferson Streets. Currently, many southbound cyclists shift from 5th Avenue to 4th Avenue to proceed south in this area. It is possible to make this shift on either Adams Street or Monroe Street. (The Phoenix Bike to Work Day route shifts from 5th to 4th Avenue on Monroe Street.) The city's upcoming project emphasizes Adams Street as the logical shift point.

(This section of the memo discusses the segments of 3rd and 5th Avenues between Jefferson Street and McDowell Road since these limits correspond with the upcoming City project. The Downtown Phoenix Loop corridor only extends as far north as Roosevelt Street, but a separate corridor will take advantage of 3rd and 5th Avenues further north.)

Existing conditions:

- Third and 5th Avenues are well-established bicycle routes on streets with lower volume than parallel Central Avenue. The streets have excellent connectivity between the Park Central area and downtown Phoenix.
- The City of Phoenix is [investing significantly in the future of the 3rd and 5th Avenue routes with a new project](#) currently under development. The project will reconfigure 3rd and 5th Avenues as two-way streets between Washington and Roosevelt Streets.
 - Third Avenue will have a northbound bike lane from Washington to Van Buren Streets and a southbound bike lane between Van Buren and Adams Streets. Bike lanes will continue in both directions further north. Where possible a buffered bike lane is proposed. At Roosevelt, the accommodation changes to a two-way SBL on the east

side of the street. (This configuration avoids conflicts at the I-10 interchange.) The SBL extends about ½ mile north to McDowell Road, where the project ends and 3rd Avenue retains its current configuration with a northbound bike lane on the one-way street.

- An SBL is also planned on 5th Avenue between McDowell Road and Roosevelt Street, but this facility will be one-way southbound. It will be positioned on the right (west) side of the street. At Roosevelt Street, the SBL ends but a marked bike lane continues south to Van Buren Street. On 5th Avenue, northbound bicycles are accommodated only using sharrows.
- Existing bicycle accommodations will be significantly improved by the project. The two streets already offer straight and direct connections with signalized crossings at high-volume intersections.
- The route offers excellent connectivity to downtown offices, including City Hall, the County Offices and Courthouse, Phoenix Municipal Court, Comerica Theater, and Hance Park.

Discussion:

- While the two-way SBL on 3rd Avenue will avoid conflicts at the I-10 interchange, the alignment will pass through several at-grade intersections and driveways, introducing potential conflicts.
- Southbound bicycle traffic on 3rd Avenue will experience an awkward transition from the SBL north of Roosevelt to the conventional bike lane south of Roosevelt Street. Southbound bike traffic also will have difficulty accessing the northern terminus of the SBL at McDowell Road.
- The 5th Avenue SBL will experience undesirable conflicts with turning traffic approaching the I-10 interchange.
- The segment of 5th Avenue between Van Buren and Adams Streets is planned to provide only sharrows as a bicycle accommodation, which will weaken the appeal of this corridor. Some cyclists may transition from 5th Avenue to 3rd Avenue north of McDowell to avoid this segment; many local residential streets provide opportunities for this transition.

High-comfort facility need: SBLs

[AW2 - 15th Avenue Route](#)

This route uses 15th Avenue, a collector street, between Jefferson and Roosevelt Streets.

Existing conditions:

- Fifteenth Avenue is a direct, continuous, well-established bicycle facility with signalized crossing treatments at high-volume intersections. The route extends many miles north of downtown Phoenix (including a bridge crossing the Arizona Canal north of Dunlap Avenue), with a direct and low-stress crossing of I-10. The 15th Avenue bike lanes were created through a road diet about 15 years ago.
- The route provides better access to the State Capitol complex than the 3rd/5th Avenue routes.

- The City of Phoenix implemented its first SBL on 15th Avenue between Jefferson and Van Buren in 2017. This segment would remain a portion of the proposed route. The remainder of 15th Avenue in this corridor uses conventional marked bike lanes with green paint in key conflict points.
- The City of Phoenix identified 15th Avenue as a Tier 1 corridor in its 2014 Bicycle Master Plan. There are plans to remove one or more traffic lanes at the traffic signals to provide a more continuous bicycle route along 15th Avenue.

Discussion:

- North of Van Buren Street, 15th Avenue is not in a high-density neighborhood. While it is a collector, it passes through low-density residential development with limited trip attraction for cyclists.
- The route does not provide direct access to downtown Phoenix.

High-comfort facility need: SBLs

Other Routes Considered:

A route along 7th Avenue was considered but rejected. While 7th Avenue offers connectivity, its volume is very high and the single-point urban interchange (SPUI) at I-10 complicates bicycle access. It also passes through the 5-legged Grand Avenue/Van Buren Street intersection. No existing or planned bicycle facilities use this portion of 7th Avenue. Phoenix previously rejected the concept of a lane reduction on 7th Avenue to provide a bicycle facility along the arterial.

No other routes in the western corridor offer north-south connectivity and low-stress intersection crossings. Grand Avenue is a bottleneck to north-south travel in the area.

Eastern Corridor

The eastern corridor of the Downtown Phoenix Loop is roughly bounded by 10th and 16th Streets. Three alternative routes were identified for the eastern corridor.

AE1 - 12th Street Route

The 12th Street route uses 12th Street between Jefferson and Roosevelt Streets. However, 12th Street is not continuous; it jogs about a half-block to the east between Taylor and Van Buren Streets.

Existing conditions:

- North of Van Buren Street, 12th Street is a local residential street with no pavement markings.
- Between Van Buren and Jefferson Streets, 12th Street is a collector street with on-street marked bike lanes. The street provides excellent access to the LRT stations on Washington and Jefferson Streets at 12th Street.
- North of the Downtown Loop, 12th Street crosses I-10 and provides good bicycle accommodations as far north as Thomas Road (as discussed later).

Discussion:

- The lack of continuity of 12th Street between Taylor and Van Buren Streets means that cyclists will be required to execute a jog to remain on the route. The jog at Van Buren Street is the larger disadvantage because Van Buren Street is an arterial and neither intersection is signalized. A traffic signal or BikeHAWK would be desirable at the Van Buren Street crossing.

High-comfort facility need:

- North of Van Buren Street: bicycle boulevard
- South of Van Buren Street: bike lanes

AE2 - 11th Street Route

Between I-10 and Van Buren Street, the neighborhood collector street is 11th Street, rather than 12th Street, as in most of the rest of the city. This route uses 11th Street between Roosevelt and Monroe Streets, but it is not possible to cross either Washington or Jefferson Streets on 11th Street because of the LRT line. As such, this route uses Monroe Street to transition to 12th Street where it continues south to Jefferson Street.

Existing conditions:

- Marked bicycle lanes are provided on 11th Street between Roosevelt and Monroe Streets.
- Traffic volumes and speeds are conducive to acceptable bicycle accommodations.
- The crossing of Van Buren Street at 11th Street is direct (without a jog) and signalized.

Discussion:

- The jog in the corridor at Monroe Street adds travel distance and circuitousness to some trips, particularly those using Washington and Jefferson Streets.
- Eleventh Street is not continuous to the north. An additional jog is required to cross I-10.

High-comfort facility need:

- Roosevelt to Monroe Streets: bike lanes
- Monroe Street, 11th to 12th Streets: bicycle boulevard
- 12th Street south of Monroe Street: bike lanes

AE3 - 16th Street Route

This route uses 16th Street, an arterial, between Roosevelt and Jefferson Streets.

Existing conditions:

- The City of Phoenix recently received a grant for design assistance on [a project to remove a travel lane from 16th Street and use the recovered space to provide marked bike lanes](#). The project is in its early stages.
- The route is direct and has traffic signals at high-volume intersection crossings.

Discussion:

- 16th Street is a long distance from downtown and does not provide connectivity as convenient as some other routes. Few trip attractions are present on the street.
- The street does not provide convenient access to LRT stations but does pass bus stops on the 16 Line.
- 16th Street does not currently offer connecting bicycle facilities to the north or south, so the city's proposed project would improve bicycle accommodations only in a short (3/4 mile) segment.

High-comfort facility need: SBLs

Other Routes Considered

Thirteenth, 14th, and 15th Streets were considered and rejected. None of these streets are direct between Jefferson and Roosevelt Streets. It is not possible to cross the LRT using 13th Street, and 15th Street does not extend north of Fillmore Street. None of the streets offer good crossings of Van Buren Street or I-10.

Moreland Street between 10th and 11th Streets was also suggested as a way to connect Routes C1 and C2. Moreland Street is a local street with front-facing homes. However, Moreland Street does not have the long-distance continuity to serve the Eastern Corridor.

B. 3RD AVENUE CORRIDOR

The 3rd Avenue Corridor extends from the Downtown Phoenix Loop to the North Phoenix Loop, approximately 1½ miles. The corridor is roughly bounded by 3rd Street and 11th Avenue. Three routes were identified for the 3rd Avenue corridor, although one route does not serve the entire corridor.

B1 - 3rd Avenue/5th Avenue Route (Includes B1a and B1b)

As discussed earlier, 3rd Avenue (B1a) and 5th Avenue (B1b) are established bicycle corridors in Phoenix. Also discussed earlier was the project the City of Phoenix plans to implement on the two streets south of McDowell Road that will, in part, improve bicycle accommodations. North of McDowell no changes to existing conditions are currently proposed.

While 3rd and 5th Avenues function as collector streets and have the width, number of lanes, pavement markings, and parcel layout common to collectors, they have been reclassified as local streets between McDowell and Thomas Roads.

Existing conditions:

- South of McDowell Road, the city's 3rd Avenue/5th Avenue project will improve accommodations. (Details of the project were discussed earlier.)
- North of McDowell Road, the existing bicycle accommodations are frequently used. The one-way street configuration minimizes left-turn conflicts and volumes are modest. Traffic

calming devices, including speed humps and roundabouts at Encanto Boulevard, help keep traffic speeds near the 25-mph limit.

- The two streets offer good connectivity to two-way bicycle facilities further north on 3rd Avenue (as discussed in more detail later in this memo).

Discussion:

- Approaching the northern terminus of the 5th Avenue bike lane, at Thomas Road, is difficult because of traffic conflicts on Thomas Road and a circuitous street network north of Thomas Road.
- The street alignment north of Thomas Road to Earll Drive are private streets controlled by the Hospital complex (Barrow Neurological Institute and St. Joseph's Hospital).

High-comfort facility need:

- North of McDowell Road: bike lanes (or buffered bike lanes with on-street parking removed)
- South of McDowell Road: SBLs

[B2 - 15th Avenue Route](#)

This route uses 15th Avenue in both directions between downtown and the North Phoenix Loop.

Existing conditions:

- 15th Avenue is a continuous north-south bicycle facility, one of the few that directly connects downtown with points as far north as Dunlap Avenue and the Arizona Canal.
- Marked bike lanes are provided, and the lanes widen in some places (such as approaching and departing Encanto Boulevard) to buffered bike lanes.
- 15th Avenue offers a high-quality, low-stress crossing of I-10.

Discussion:

- The treatment of the bike lanes at intersections is not always ideal. For instance, at Thomas and McDowell Roads, bicycles approaching the signalized intersections are directed to “shared bike-right turn lanes” where they share space with right-turning vehicles. Departing intersections, the bike lanes widen enough to also accommodate buses stopped at adjacent bus stops. The conflict with buses is infrequent but not ideal where it occurs.
- Few major traffic generators exist along this portion of 15th Avenue. Among the few non-residential land uses along the route are Encanto Park/Golf course and Phoenix College. The route also approaches within a few blocks of the State Fairgrounds.

High-comfort facility need: SBLs

[B3 - 11th Avenue Route](#)

This route uses 11th Avenue, a local street, between Fillmore Street/Grand Avenue and Encanto Boulevard.

The following connections tie well to this route:

- Grand Avenue between 10th Avenue/Taylor Street and 15th Avenue/Roosevelt Street. This section of Grand Avenue is a major arterial, but it has been reduced to a single lane in each direction with green bike lanes.
- 10th Avenue/Fillmore Street between Grand and 7th Avenues. Both 10th Avenue and Fillmore Street are local streets; this connection comes near the Fillmore Street crossing of 7th Avenue, but the offset in Fillmore Street means the connection is not ideal.
- 9th Avenue between Fillmore and McKinley Streets. This two-block segment of 9th Avenue is a local street with mostly front-facing residential land use.

Existing conditions:

- On both sides of I-10, 11th Avenue is suitably narrow with no pavement markings, contributing to slow vehicular speeds.
- An active transportation bridge spans I-10 at 11th Avenue, although the switchback ramps on both sides of the crossing make it difficult for bicyclists to use.

Discussion:

- Active transportation crossings of McDowell Road and Grand Avenue would be needed.
- The route does not extend north of Encanto Boulevard, interrupted by Encanto Park and Golf Course. If a route other than Encanto Boulevard (ES2) is chosen for the Southern Corridor of the North Phoenix Loop, then an alternative path would be needed to make a connection to 11th Avenue.
- The route is considerably west of Central Avenue, too far west to comfortably serve destinations along the Central Avenue corridor.

High-comfort facility need: bicycle boulevard

Other Routes Considered

Among other streets in the defined corridor, only 7th and Central Avenues provide continuous access across I-10. As discussed earlier, 7th Avenue is not an ideal route because of its high volume, high speeds, and the I-10 interchange. Seventh Avenue also has a reversible-flow lane to increase peak-direction traffic capacity, an indication of the constrained curb-to-curb width. Central Avenue carries the LRT line, which limits its opportunities for widening to accommodate high-quality bike accommodations. This portion of Central Avenue uses sharrows but does not provide any dedicated space for cycling.

C. 12TH STREET CORRIDOR

The 12th Street corridor serves the area east of the Central Avenue corridor like the 3rd Avenue corridor serves the west side of Central Avenue. The corridor is roughly bounded by 7th and 16th Streets between Fillmore Street and Thomas Road. Four alternative routes were identified for this corridor.

C1 - 12th Street Route (Includes C1a and C1b)

This route uses 12th Street south from Thomas Road to Moreland Street. At Moreland Street, two options exist: the route can continue south on 12th Street or jog west to 11th Street (the collector street south of I-10). The choice of an option will be determined by which of these two streets are chosen for the eastern corridor in the Downtown Phoenix Loop.

Existing conditions:

- Bike lanes are provided on 12th Street between Thomas and Moreland. Although a collector street, 12th Street has modest traffic volume below 5,000 vehicles per day.
- The route serves North High School, Coronado Park, and Banner Good Samaritan Medical Center, but otherwise land use is mostly single-family residential.
- A roundabout at Oak Street helps moderate traffic speeds.
- The route is signalized at high-volume intersections.

Discussion:

- North of McDowell Road, on-street parking is provided only on the west side of the street for most of its length. However, since the street has front-facing single-family homes, there is often a demand for parking on both sides of the street, and anecdotal observations suggest that parked vehicles sometimes block the northbound bike lane.
- The crossing of I-10 avoids an interchange location, but immediately south of the overpass, the southbound bike lane conflicts with a heavy-volume southbound right-turn movement to Moreland Street. This conflict can be avoided by using the 11th Street route instead of 12th Street, and it may be a factor that causes 11th Street to be a preferred alignment.
- 12th Street does not continue north of Thomas Road, and Thomas Road itself is not well suited to comfortable cycling.

High-comfort facility need:

- North of Moreland Street: bike lanes
- South of Moreland Street: bicycle boulevard
- Moreland Street between 11th and 12th Streets: bike lanes
- Moreland Street between 10th and 11th Streets: bicycle boulevard

C2 - 10th Street Route

This route uses 10th Street between Thomas Road and Fillmore Street.

Existing conditions:

- The route crosses I-10 at a dedicated bicycle/pedestrian bridge. Access to the bridge is direct and convenient because the freeway is depressed below grade, so no ramps or other major grade change is required to cross.
- Traffic volumes are low, traffic calming devices are present, and the local residential nature of the street means it operates mostly without pavement markings.
- A signalized crossing is provided at McDowell Road.

- The route is direct and continuous between Roosevelt and Thomas. If the route is to extend as far south as Fillmore Street, slight jogs are required at Roosevelt and Pierce Streets.

Discussion:

- The northern terminus at Thomas Road is difficult to access because of speeds and volumes on Thomas Road, and Thomas Road is not well suited to comfortable cycling. The intersection of 10th Street and Thomas Road is unsignalized.
- The route serves Banner Good Samaritan Medical Center and Emerson Elementary School, but otherwise it does not connect high-volume land uses.
- The route does not connect as conveniently to the south as other routes because it is discontinuous between Polk and Van Buren Streets. There are also slight jogs crossing Roosevelt and Pierce Streets.
- 10th Street between McDowell Road and I-10 is a private street controlled by Banner Good Samaritan Medical Center.

High-comfort facility need: bicycle boulevard

C3 - 16th Street Route

This route uses 16th Street, an arterial, between Thomas Road and Roosevelt Street. The route is on the eastern edge of the defined corridor.

Existing conditions:

- This segment connects to the city's proposed bike accommodations further south on 16th Street, as discussed earlier.
- While 16th Street is an arterial, its traffic volume is lower than some. Volumes may be low enough to extend the road diet further north to provide on-street bicycle accommodations. However, the pavement narrows in some segments such that this may not be possible (i.e. Coronado Street to Granada Road).
- The route is direct and continuous with signalized arterial crossings.

Discussion:

- Bike lanes may not be seen as suitable on this street by some cyclists because of high speeds and volumes (24,000 vehicles per day).
- The I-10 interchange introduces turning conflicts, but the half-diamond configuration means that there are no conflicts on the east side of the interchange.

High-comfort facility need: SBLs

C4 – 13th Street/14th Street Route

This route uses 13th Street, a local street, between Van Buren and Moreland Streets, then uses Moreland Street to the 12th Street bridge across I-10. North of I-10, the route uses Culver Street to 14th Street, both local streets, between Oak Street and Randolph Road. The route then uses Randolph Road, also a local street, as far north as Osborn Road.

Existing conditions:

- The route serves almost exclusively residential parcels, with some commercial along Van Buren Street, Thomas Road, and Osborn Road. Garfield Elementary School is adjacent to the route between Roosevelt and McKinley Streets.
- North of Taylor Street, residential homes mostly do not face 13th Street, which limits on-street parking demand.
- Randolph Road features traffic calming devices.
- This route is one of few that connects between Oak Street and Osborn Road.

Discussion:

- The crossing of Thomas Road is challenging because of the jog (about 300 feet) in 14th Street. A signalized crossing would be needed for high comfort, and SBLs would be appropriate to direct users between the two 14th Street intersections. However, existing development on both sides of Thomas Road (including east and westbound bus stops) limit the ability to construct SBLs.
- The Randolph Road and 14th Street intersection can be awkward for northbound bicyclists.
- The route does not extend south of Oak Street, although 14th Street itself does continue. The southern portion of 14th Street lacks an active crossing at McDowell Road and a grade separation over I-10. Use of 14th Street north of Oak Street would likely require a connection to a different route in this corridor to travel south of Oak Street.
- Thirteenth Street is unsignalized at Van Buren Street, and it is unlikely to be a good candidate for a high-comfort active transportation crossing because of proximity to an existing nearby offset Pedestrian Hybrid Beacon. The existing PHB would involve some redundant travel for 13th Street cyclists to use.
- Between Van Buren and Polk Streets, perpendicular parking, rather than parallel, is customary for residents and business customers. Changes to pavement and curb treatments would be needed to convert formally to parallel parking to reduce conflicts between cyclists and vehicles backing out of parking.
- A jog in 13th Street at Taylor Street somewhat impedes the route's directness.
- If this route is selected, discussions with Phoenix should be held to reverse the STOP signs at Pierce and McKinley Streets to stop east/west traffic. The STOP signs at Roosevelt Street cannot be reversed.
- No crossing of I-10 exists along the 13th Street alignment. If this route is chosen, another connection to the north must be designated. Moreland Street provides an acceptable connection west to 12th Street, but beyond 12th Street, a jog in Moreland Street makes this route less ideal.
- The route does not continue south of Van Buren Street; an alternative connection would be needed to the south. Light-rail tracks make 13th Street discontinuous at both Washington and Jefferson Streets.

High-comfort facility need:

- 14th Street, 13th Street, Moreland Street, Culver Street: bicycle boulevard

- 12th Street: SBLs

Other Routes Considered

While 7th Street crosses I-10, it is a challenging interchange and corridor for most cyclists; the City of Phoenix previously rejected any lane reductions to provide bicycle facilities on this street. Like 7th Avenue, 7th Street has a reversible-flow lane to increase peak-direction capacity. The grid network in this part of Phoenix offers several north-south alternative routes, but no other streets cross I-10 and none have advantages significant enough to overcome this flaw.

D. WILLETTA STREET CORRIDOR

A corridor is designated on the AT Grid connecting the 3rd Avenue and 12th Street corridors, centered between McDowell Road and I-10. This corridor is designated as the Willetta Street corridor. Three routes were identified along this corridor.

D1 - Willetta Street Route (Includes D1a, D1b, and D1c)

A route was identified between 15th Avenue and 12th Street that partially uses Willetta Street. It is the only through route identified between McDowell Road and I-10 but has many discontinuities. Starting at 15th Avenue, the route uses Culver Street to the frontage road on the west side of 7th Avenue, where it jogs south to use an existing bicycle/pedestrian bridge over 7th Avenue. The route proceeds along a shared use path between Kenilworth Elementary School and I-10 before crossing under 5th Avenue and 3rd Avenue to reach Hance Park. The route travels through Hance Park and crosses under Central Avenue. East of Central Avenue, the route jogs north to Willetta Street and uses Willetta Street to 12th Street.

Depending on the route selected for the 3rd Avenue Corridor, connections from the Willetta Street Route may be needed to 3rd Avenue (D1a), 5th Avenue (D1b), and/or 7th to 15th Avenues (D1c).

Existing conditions:

- The route maximizes the use of grade-separated crossings, with underpasses and overpasses at Central, 3rd, 5th, and 7th Avenues.
- The route provides direct service to the Phoenix Burton Barr Central Library, Banner Good Samaritan Medical Center, Hance park, and several other destinations.

Discussion:

- In existing conditions, it is not possible to cross 7th Street at Willetta Street. This crossing would need to be improved (likely by grade separation) to make the route viable.
- Willetta Street passes through the Banner Medical Center campus, and the portion between 9th and 12th Streets is private. An agreement with the hospital would be required to use this route.
- In existing conditions, there is not a logical connection between Hance Park and Willetta Street east of Central Avenue. It may be possible to use adjacent city-owned property to make this connection.

- West of 5th Avenue, access to the underpass is not well configured for bicyclists. Direct access is provided by stairs, and the alternative ramp route is circuitous.
- The ramp on the west side of the 7th Avenue pedestrian bridge is not well suited for high volume bicycle traffic.
- The Willetta Street route does not continue as far east as 16th Street. Local street connections exist, but the options are circuitous.

High-comfort facility need: bicycle boulevard

D2 - Palm Lane Route

This route uses Palm Lane between 15th Avenue and 16th Street. Palm Lane is a local street that does serve some residential uses, but it also has some characteristics of a collector, such as signalized arterial crossings.

Existing conditions:

- Traffic calming devices and narrow width help control vehicle speeds.
- The route provides access to traffic generating uses between 1st Avenue and 7th Street, including high-rise office towers, the Phoenix Art Museum, high-density residential property, and other retail and service uses.
- The route is direct, with no jogs along its length.

Discussion:

- While Palm Lane is signalized where it crosses Central Avenue and 7th Street, a signal or other treatment would be needed to cross 7th Avenue. (A PHB is currently under construction to cross 16th Street. It should be completed within the next month.)
- Palm Lane is discontinuous west of 1st Avenue. While a pass-through route exists for pedestrians, the route would need to be improved to better accommodate cycling, which will require neighborhood association approval. The discontinuity does help control traffic volume along the route.

High-comfort facility need: bicycle boulevard

D3 - McDowell Road Route

This route uses McDowell Road, an arterial, between 15th Avenue and 16th Street.

Existing conditions:

- The route is direct and continuous with signalized crossings at major intersections.
- The route provides access to LRT at Central Avenue.
- McDowell Road serves major destinations in the Central Corridor, along with Banner Good Samaritan Medical Center, the Phoenix Art Museum, and many retail land uses.

Discussion:

- McDowell Road is one of the few continuous streets within the defined Willetta Street corridor, but it carries heavy traffic volume at high speed.
- Adjacent development limits opportunities for widening. The street typically carries three lanes away from 7th Street and two lanes approaching 7th Street. It may be possible to eliminate the third lane in favor of marked bike lanes.
- The route has not been identified by the City of Phoenix for bicycle accommodations.

High-comfort facility need: SBLs

[Other Routes Considered](#)

No other streets within the defined corridor accommodate continuous travel between 16th Street and 15th Avenue.

E. NORTH PHOENIX LOOP

A corridor identified as the North Phoenix Loop encloses an area of central Phoenix, between roughly Thomas Road, Camelback Road, 24th Street, and 31st Avenue. The crossing of I-17 is the most difficult bottleneck to overcome in this loop.

Southern Corridor

The southern corridor of the North Phoenix Loop is roughly bounded by Oak Street and Osborn Road. Two alternative routes were identified for the southern corridor.

[ES1 - Osborn Road Route](#)

This route uses Osborn Road between 28th Street and 29th Avenue, then jogs north to Whitton Avenue and the Grand Canal to reach as far west as 31st Avenue. Osborn Road is a collector between 19th Avenue and 20th Street and again between 29th Avenue and 27th Avenue. It is a minor collector elsewhere along the route.

Existing conditions:

- Other than at I-17 and in the very west end of the route, Osborn Road is direct and continuous, with signalized crossings at major intersections.
- Bike lanes exist on Osborn Road between 19th Avenue and the I-17 frontage road and again between 20th and 28th Streets.
- The route passes under SR-51 at a non-interchange location. Although bike lanes do not exist at this point, the lack of an interchange minimizes turning conflicts.
- Osborn Road passes through mostly residential areas, but it connects with dense development and LRT along the Central Avenue corridor. The route also passes several schools.
- The route connects to the Grand Canal Path at two points: 29th Avenue and near 18th Street. (It should be noted that the Grand Canal Path does not cross I-17, however.)
- A roundabout at 23rd Avenue helps control traffic speeds in this residential neighborhood.

Discussion:

- The segment between 19th Avenue and 20th Street is a four-lane facility that carries considerable traffic.
- The route does not cross I-17; a bridge would be needed to accommodate this crossing. A bridge over I-17 at Osborn Road was a high priority of the City of Phoenix and was identified as a key crossing point by the Spine study, but considerable resident opposition recently led the city to abandon its pursuit of this structure. The bridge was also formally removed from the Spine study and replaced with another crossing elsewhere due to the local opposition. However, I-17 crossings are rare, and this crossing is strategically important for active transportation connectivity. It is included here because of its presence within the defined corridor.
- A connection would be needed from 29th Avenue to the Grand Canal Path.
- The Grand Canal and Grand Avenue complicate direct access between Osborn Road and 31st Avenue. The route would be improved with a bridge over the Grand Canal, but development along the north side of the canal appears to limit opportunities for a bridge. The route in this area is indirect with many turns, including a short segment of Grand Avenue.

High-comfort facility need:

- 28th Street to I-17 east frontage road: SBLs
- I-17 crossing: active transportation grade separated crossing
- I-17 west frontage road to 29th Avenue: bike lanes
- 29th Avenue: bicycle boulevard
- Grand Avenue: two-way SBL on the northeast side

[ES2 - Oak Street/Encanto Boulevard Route](#)

This route uses the Oak Street/Encanto Boulevard alignment, ½ mile south of Thomas Road, between 31st Avenue and 28th Street. Encanto Boulevard is a collector between 19th and 31st Avenues. Oak Street is a minor collector between 3rd and 28th Streets. Elsewhere the route is classified as a local street.

Existing conditions:

- Encanto Boulevard has bike lanes between 7th and 17th Avenues that provide good connectivity.
- Oak Street crosses SR-51, providing vital connectivity. However, the crossing requires the use of switchback ramps on both sides of the freeway, which is not a good configuration for cyclists.
- The alignment is prioritized as a tier II Corridor in the Citywide Bicycle Master Plan, but only east of 19th Avenue.
- Oak Street has lower volumes and speeds than other continuous routes through the corridor. Roundabouts at 3rd Avenue, 5th Avenue, and 12th Street help control traffic speeds.
- The route connects to the Grand Canal, the 20th Street/SR-51 Path, and many other bike routes.

- The route serves the Heard Museum and an LRT station on Central, Encanto Park, the State Fairgrounds, and several employment centers and schools. However, east of 7th Street it serves predominantly residential neighborhoods.
- The City of Phoenix has an active [project to improve cycling accommodations on Oak Street between 3rd and 20th Streets](#). Oak Street already has bike lanes in most of this segment, but the project will improve the facility and provide better crossings of arterials, including a PHB at 7th Street.

Discussion:

- Encanto Boulevard does not cross I-17. A grade-separated crossing would be required, but this crossing has not proceeded as far in project development as the Osborn crossing. It was not recommended as a crossing point in the ADOT Spine Study.
- Oak Street is discontinuous between Central Avenue and 3rd Street. It would be possible to divert the route to Hoover Street for this segment, but the connection between Oak and Hoover Streets at Central Avenue will need to consider the adjacent LRT station. The nearby property is owned by the Heard Museum, a private facility.
- Encanto Boulevard is gated west of 1st Avenue. This closure helps limit traffic along the street, but the gate configuration would need to be improved to allow more convenient bicyclist access (although sidewalk bypass routes are available, they are not ideal). Gate improvements would require neighborhood approval.
- Where Encanto Boulevard passes the State Fairgrounds Entrance just west of 17th Avenue, westbound traffic has dual-right turn lanes. This configuration is not well suited to parallel bike lanes and may be one reason bike lanes do not extend farther west than this point. It may be possible to remove the permanent double-right and use this operation only during fairgrounds events.

High-comfort facility need:

- 28th to 24th Streets: SBLs
- 24th to 3rd Streets: bike lanes
- 3rd Street, Oak to Hoover Streets: The City of Phoenix is currently pursuing [a project to implement a road diet on 3rd Street](#) between Indian School Road and Garfield Street. The project will add bike lanes and will make the jog between Oak and Hoover more comfortable.
- Hoover Street, 3rd Street to Central Avenue: bicycle boulevard
- Central Avenue, Hoover to Oak Streets: two-way SBL or SUP on the east side
- Central to 7th Avenues: bicycle boulevard. The gate at 1st Avenue and roundabouts at 3rd and 5th Avenue limit the ability to designate bike lanes.
- 7th Avenue to I-17: bike lanes
- I-17 crossing: active transportation grade separated crossing
- I-17 to 31st Avenue: bike lanes

Other Routes Considered

Unfortunately, neither of the proposed routes includes an existing crossing of I-17. Only two streets cross I-17 within the defined southern corridor: Grand Avenue, a 6-lane major arterial, has frequent

interchanges along its length. Bicycles and pedestrians are permitted on this street, but it does not have the comfort, access, or connectivity appropriate for a major bike facility. Thomas Road, a 6-lane arterial, crosses I-17 at a high-volume diamond interchange. While cyclists today likely use both of these corridors to cross I-17 because of the lack of other options, these facilities were determined to be less preferred than the Osborn Road and Encanto Boulevard routes. Neither Thomas Road nor Grand Avenue are identified as bicycle routes in the City's Bicycle Master Plan. No pedestrian/bicycle improvements were recommended at the Thomas Road and I-17 interchange as a part of the recently completed I-10/I-17 MAG/ADOT Spine Study.

Northern Corridor

The northern corridor of the North Phoenix Loop is generally bounded by Missouri and Campbell Avenues between 28th and 31st Streets. Four alternative routes were identified for the northern corridor, but two of the alternatives have considerable overlap.

[EN1 - Missouri Avenue Route](#)

This route would use Missouri Avenue between 24th Street and 31st Avenue. Missouri Avenue is a collector street east of 19th Avenue and a minor collector west of 19th Avenue.

Existing conditions:

- Other than at I-17, Missouri Avenue is direct and continuous, with signalized crossings of major arterials.
- Missouri Avenue crosses SR-51 at a non-interchange location.
- Missouri Avenue has existing marked bike lanes between 27th and 31st Avenues.
- This route would also serve the GCU Loop, discussed later.
- Missouri Avenue provides a connection to USBR 90 along 20th Street.

Discussion:

- In 2016, the City of Phoenix began [a project to implement a road diet on Missouri Avenue](#) between 19th Avenue and 24th Street. The project would have used the repurposed space to provide high-quality bicycle accommodations in the segment. However, due to resident opposition, this project was cancelled and, according to the city, the road diet “is no longer being considered.” However, Missouri Avenue was identified as a Tier II corridor on the city's Bicycle Master Plan, and improvements are needed to make the corridor more comfortable for cycling.
- A new I-17 crossing would be required. This crossing was identified as a desired pedestrian/bicycle bridge as part of the MAG/ADOT Spine Study.
- Missouri Avenue does not serve as many points of activity as Camelback Road. It passes mostly through residential neighborhoods, though it does pass by retail uses between 7th Street and SR-51. At 31st Avenue it connects to the Grand Canyon University campus.
- East of 24th Street, Missouri Avenue changes names to Thunderbird Trail (private street) and provides the main access to the Arizona Biltmore. The Biltmore precludes the connection of Missouri Avenue and 28th Street.

High-comfort facility need:

- 24th Street to 19th Avenue: SBLs
- 19th Avenue to I-17: bike lanes
- I-17 crossing: active transportation grade separated crossing
- I-17 to 27th Avenue: bicycle boulevard
- 27th to 31st Avenues: bike lanes

EN2 - Campbell Avenue Route (Includes EN2 and EN2a)

This route would use Campbell Avenue from 28th Street to the Grand Canal at 10th Street, then would use the Grand Canal Path as far west as 18th Avenue, where the route would jog back to Campbell Avenue. An alternative option (EN2a) would use 3rd Avenue and Hazelwood Street instead of 18th Avenue to transition between Campbell Avenue and the Grand Canal Path. The combined use of the shared use path and Campbell Avenue is needed because Campbell Avenue is discontinuous through central Phoenix.

Campbell Avenue is a minor collector street for the entire route, except between 16th and 20th Streets, where it is a local street on either side of SR-51.

Existing conditions:

- Campbell Avenue crosses SR-51, providing mobility. However, the crossing requires the use of switchback ramps on both sides of the freeway.
- Campbell Avenue has bike lanes for much of its length and is a highly-used cycling corridor.
- The route serves several schools, including Bourgade, Brophy, Xavier, Central, and Camelback High Schools, along with other elementary and middle schools.
- [A project is currently underway to improve the Grand Canal](#) portion of the route. The project will improve the crossings at 7th Street, Central Avenue, and 7th Avenue, and will pave (or repave) and add amenities to the shared use path.
- A portion of Campbell Avenue between 20th and 28th Streets is part of USBR 90.
- The EN2a alternative includes a high-quality connection between the Grand Canal Path and Hazelwood Street at 3rd Avenue, where a dedicated active-transportation bridge also crosses the canal. Hazelwood Street is a low-volume traffic-calmed local street.
- Between 7th and 15th Avenues, Campbell Avenue is traffic-calmed, controlling motorist speeds.
- Campbell Avenue is signalized where it crosses 15th Avenue.

Discussion:

- A crossing of I-17 does not exist at Campbell Avenue. This crossing was not identified to be constructed by the MAG/ADOT Spine study, and no efforts to construct the crossing are known. Furthermore, there are no identified pedestrian/bicycle improvements identified for either Camelback Road or Bethany Home Road at I-17 in the MAG/ADOT Spine Study, dissuading their use as alternate crossings.

- The portion of the route that uses the Grand Canal Path is somewhat disconnected from the surrounding neighborhoods. Connections and canal crossings are provided only every ½ mile (although the 3rd Avenue crossing is an exception).
- The lack of directness of the route is a disadvantage.
- Other than the schools mentioned earlier, the route does not serve significant high-density trip-attracting uses.
- A concern about the EN2a alternative is the crossing of 7th Avenue. The route jogs about 125 feet between Hazelwood Street east of 7th Avenue and Campbell Avenue to the west. A signalized crossing is unlikely to be feasible because of the proximity of the planned signal at the Grand Canal Path. Active travelers could divert south to the new Grand Canal Path signal, but if this signal is the designated crossing point, users may prefer to use the Grand Canal Path itself rather than Hazelwood Street and Campbell Avenue.

High-comfort facility need:

- 28th to 10th Streets: bike lanes
- 10th Street to 3rd Avenue: shared use path (existing with planned improvements)
- EN2 route:
 - 3rd to 18th Avenues: shared use path (existing with planned improvements)
 - 18th Avenue, Grand Canal to Campbell Avenue: bicycle boulevard
- EN2a route:
 - 3rd to 15th Avenues: bicycle boulevard
 - 15th to 18th Avenues: bike lanes
- 18th Avenue to I-17: bike lanes
- I-17 crossing: active transportation grade separated crossing
- I-17 to 31st Avenue: bike lanes

EN3 - Highland Avenue Route

This route is the same as the Campbell Avenue Route between 10th Street and 23rd Avenue, but it provides different connections on each end. On the east end, the route uses 10th Street north ¼ mile to Highland Avenue. On the west end, the route uses 23rd Avenue ½ mile north to Camelback Road to cross I-17.

Highland Avenue is a collector between 16th and 20th Streets and a local street elsewhere. Camelback Road is an arterial.

Existing conditions:

- Highland Avenue serves major retail facilities at the Colonnade and Town and Country shopping centers.
- Highland Avenue crosses SR-51 without the need to use switchback ramps, although the crossing includes a half-diamond interchange, which introduces vehicular conflicts for eastbound bicyclists.
- Highland Avenue is traffic calmed between 16th and 10th Streets, reducing motorist speeds.
- Signalized crossings are present at all high-volume crossings along Highland Avenue.

- The Camelback Road crossing of I-17 exists. Camelback Road serves significantly more trip-generating uses than the other routes in this area. However, the Camelback Road crossing is congested and there are no scheduled pedestrian/bicycle crossing improvements recommended as a part of the MAG/ADOT Spine Study.
- 23rd Avenue has existing marked bike lanes and connects both north and south of the route.
- Highland Avenue provides a connection to USBR 90 at 20th Street.

Discussion:

- Highland Avenue is a high-volume street where it crosses SR-51.
- While Camelback Road does cross I-17, the crossing occurs at a SPUI that is not comfortable for active transportation. The interchange is relatively modern, so it does include sidewalks and signalized crossings of all ramps. In addition, extra pavement has been provided over the bridge itself that could be used to accommodate future bike lanes.
- Away from the I-17 interchange, Camelback Road carries high traffic volume.
- This route is not shown as extending to 28th Street. Highland Avenue is discontinuous east of 24th Street. While local street connections exist to 28th Street, the routes are awkward because of many turns.

High-comfort facility need:

- 24th to 16th Streets: SBLs
- 16th to 10th Streets: bike lanes
- 10th Street, Highland Avenue to Grand Canal: bicycle boulevard
- 10th Street to 23rd Avenue: overlaps with Campbell Avenue route
- 23rd Avenue, Campbell Avenue to Camelback Road: bike lanes
- Camelback Road, 23rd to 31st Avenues: SBLs

EN4 - Colter Street Route

This route would use Colter Street between 31st Avenue and 24th Street. Colter Street is a local street, but it does have characteristics of a collector between 16th Street and 17th Place, where it meets SR-51 at a half-diamond interchange.

Existing Conditions:

- A preliminary design project for a pedestrian and bicycle route along Colter Street between 15th Avenue and 20 Street (funded by MAG) is currently underway.
- For most of its length, Colter Street is traffic calmed, contributing to low motorist speeds.
- A Pedestrian Hybrid Beacon provides a high-comfort crossing of Central Avenue.
- Semi-diverters limit vehicular access in the Windsor Square neighborhood, east of Central Avenue and west of 7th Street.
- Colter Street provides an ideal connection to the GCU campus at 31st Avenue and connects other campus facilities further east.
- East of I-17, traffic calming devices limit the speed and volume along the street.
- The route crosses 19th Avenue and the LRT tracks directly at a traffic signal.

Discussion:

- Arterial street crossing treatments would be needed at 7th Street, 7th Avenue, and 24th Street. Crossing treatments may also be needed at high-volume collectors such as 12th Street and 15th Avenue.
- Colter Street is discontinuous immediately east of the SR-51 interchange. Due to existing residential development, it does not appear that a connection could easily be provided along the corridor, suggesting the need for a circuitous detour.
- The SR-51 interchange is not conducive to comfortable cycling; significant improvements would be needed because of high traffic volumes and conflicts with multiple-lane turning movements.
- The one-way (westbound-only) diverter 150 feet east of Central Ave and 170 feet west of 7th Street (eastbound-only) would need to be modified to provide for eastbound and westbound bicyclist travel respectively.
- No bridge over I-17 exists on the Colter alignment. This grade separation has not been identified as a key priority by the City of Phoenix, and it is not a recommended bicyclist/pedestrian crossing in the 2018 MAG/ADOT Spine Study report.

High-comfort facility need:

- 31st Avenue to I-17: bike lanes
- I-17 crossing: active transportation grade separated crossing
- I-17 to 16th Street: bicycle boulevard
- 16th Street to 17th Place: SBLs
- 17th Place to 18th Street: connection or detour
- 18th to 24th Streets: bicycle boulevard

Other Routes Considered

No other routes in the defined corridor cross I-17.

Western Corridor

The western corridor of the North Phoenix Loop is roughly bounded by 27th and 35th Avenues. Two alternative routes were identified for the western corridor.

EW1 - 31st Avenue Route

This route uses largely 31st Avenue, a minor collector, between Encanto Boulevard and Missouri Avenue. However, 31st Avenue does not cross the Grand Canal, so a circuitous route was identified to cross the canal that uses Clarendon Avenue, 32nd Avenue, and Weldon Street to reach Grand Avenue.

31st Avenue is a minor collector between Indian School and Camelback Roads and between Missouri and Maryland Avenues. It is a major collector between Thomas Road and Grand Avenue, and a local street elsewhere.

Existing conditions:

- The northern portion of this route uses a paved shared use path that runs along the 31st Avenue alignment between Missouri Avenue and Camelback Roads. This alignment avoids interaction with traffic but retains good connectivity to adjacent land use, including Grand Canyon University. The segment also seamlessly connects with 31st Avenue segments to the north and south.
- 31st Avenue is a designated bicycle corridor in Phoenix, with marked bike lanes between Camelback Road and Glenrosa Avenue. Even south of the bike lane segment the street has relatively low volume.

Discussion:

- The southern portion of the corridor passes through a largely industrial area where there may be interactions with trucks.
- The crossing of Grand Avenue and the Grand Canal is an awkward discontinuity. No clear options are available to improve the directness of the route because of the street network and adjacent development.
- Aside from GCU, there are few major destinations along the corridor.

High-comfort facility need:

- Missouri Avenue to Camelback Road: off-street shared use path
- Camelback Road to Clarendon Avenue: bike lanes
- Local streets in the discontinuous segment: bicycle boulevard
- Grand Avenue, Weldon Avenue to 31st Avenue: two-way SBL on the northeast side
- Grand Avenue to Encanto Boulevard: bike lanes

[EW2 - 27th Avenue Route](#)

This route uses 27th Avenue, an arterial, between Encanto Boulevard and Missouri Avenue.

Existing conditions:

- 27th Avenue carries lower traffic volume than some arterials because of its proximity to I-17 and its discontinuity north of Northern Avenue. The third northbound lane may not be needed for capacity reasons.
- 27th Avenue directly crosses the corridor's two bottlenecks, the Grand Canal and Grand Avenue.
- While the route does not access GCU as well as 31st Avenue, it does provide access to other nearby retail uses. Access to GCU can occur via Colter Street or Missouri Avenue from 27th Avenue.
- 27th Avenue crosses angled railroad tracks along the south side of the Grand Avenue alignment (Thomas Road intersection).

Discussion:

- The Grand Avenue interchange ramps are well designed to accommodate bicycling, but they perhaps represent the highest-volume turning conflicts along the route.

- The speed limit along 27th Avenue is 40 mph.
- The City has not previously identified 27th Avenue as a bicycling corridor. It does not directly connect to other facilities north and south of the route.

High-comfort facility need: SBLs

Other Routes Considered

Within the defined corridor, 35th Avenue crosses the Grand Canal, but it carries significantly more traffic than 27th Avenue and would be less likely to provide an opportunity for a road diet.

Eastern Corridor

The eastern corridor of the North Phoenix Loop is roughly bounded by 20th and 28th Streets. Three alternative routes were identified for the eastern corridor.

EE1 - 20th Street Route

This route uses the 20th Street alignment between Missouri Avenue and Oak Street. At Thomas Road, 20th Street switches between the east and west sides of SR-51, but this route remains on the east side of SR-51 for its entire length. South of Thomas Road, the route uses a paved off-street shared use path and 20th Place to reach Oak Street.

For most of its length, 20th Street is a minor collector.

Existing conditions:

- 20th Street is a Tier I corridor on the City's Bicycle Master Plan.
- The City of Phoenix is undertaking [a project to improve bicycling accommodations on 20th Street](#). Phase 1 of the project will involve the segment between the Grand Canal and Missouri Avenue. Design is in its early stages, but the project proposes to enhance the existing bike lanes with improved protection and provide intersection improvements, among other changes.
- The street serves major destinations such as the Colonnade and Town & Country shopping centers and Phoenix Children's Hospital.
- South of Thomas Road, a paved off-street shared use path is provided to Sheridan Street. This facility avoids vehicular conflicts.
- The route connects with existing bike facilities on Oak Street, the Grand Canal, and Campbell Avenue. It also extends to the south and north as a viable cycling corridor.
- The City's Oak Street project, mentioned earlier, includes improvements on this route between Oak Street and the Grand Canal, adjoining the 20th Street project.
- High-volume street crossings are signalized.
- The portion of 20th Street between Campbell and Missouri Avenues is part of USBR 90.

Discussion:

- The segment between Highland Avenue and Camelback Road is very wide with many turning movements that are potential sources of conflict.

- The route must cross Thomas Road at the SR-51 SPUI, then traverse along a portion of the northbound SR-51 entrance ramp to reach 20th Street proper. These areas may be uncomfortable for many bicyclists, particularly when traveling southbound because it is contrary to the normal traffic flow. Southbound bicycle traffic will need to cross 20th Street at what is currently an unsignalized location to reach the proposed SBL on the east side of 20th Street to ride south toward the Thomas Road interchange.

High-comfort facility need:

- 20th Place, Oak to Sheridan Streets: Two-way SBL on the west side
- Sheridan Street to Thomas Road: off-street shared use path
- Thomas Road to Grand Canal: two-way SBL/SUP on the east side
- Grand Canal to Missouri Avenue: SBLs

EE2 - 28th Street Route

This route uses 28th Street, a minor collector, between Oak Street and Campbell Avenue.

Existing conditions:

- As a minor collector, 28th Street has a street width and traffic speed and volume that are conducive to an effective cycling route.
- 28th Street is direct and signalized at major intersections.
- 28th Street provides a connection to USBR 90 at Campbell Avenue.

Discussion:

- 28th Street does not connect with Missouri Avenue to the north. While it does extend as far north as Camelback Road, there are few opportunities for comfortable cycling from the 28th Street/Camelback Road intersection.
- Other than Camelback High School, 28th Street connects mostly residential land use. It does not pass by major retail or office land uses that exist on nearby streets.
- No bicycling accommodations currently exist on 28th Street.

High-comfort facility need: bike lanes

EE3 - 24th Street Route

This route would use 24th Street, an arterial, between Oak Street and Missouri Avenue.

Existing conditions:

- The route serves high-density uses along much of its length, including the Biltmore shopping center and offices near Camelback Road, as well as considerable retail further south.
- The route is direct and has signalized major-street crossings. It is one of few streets to cross the Grand Canal.

Discussion:

- The street has high volumes and turning movements and speed limits ranging from 35 to 40 mph.
- This portion of 24th Street is not designated as a bicycling corridor on Phoenix's Bicycle Master Plan.
- The route is designated as a future Bus Rapid Transit corridor for the T2050, limiting roadway repurposing options.

High-comfort facility need: SBLs

[Other Routes Considered](#)

No other streets in the defined corridor cross the Grand Canal.

F. NORTH CENTRAL AVENUE CORRIDOR

A corridor identified as North Central Avenue connects the north and south corridors of the North Phoenix Loop, bounded roughly by 7th Street and 7th Avenue. Two routes were identified in this corridor.

[F1 - 3rd Avenue Route \(Includes F1a and F1b\)](#)

This route uses 3rd Avenue from Thomas Road to Missouri Avenue. A major collector between Thomas and Indian School Roads, 3rd Avenue is a local street further north. Optionally, 5th Avenue could be used for southbound bicycle traffic south of Park Central (Route F1b).

Existing conditions:

- The City of Phoenix is currently engaging in a resident-originated project to improve pedestrian accommodations on 3rd Avenue between Camelback Road and Missouri Avenue.
- As discussed earlier, 3rd Avenue south of this corridor is a major bicycling corridor and a focus for new investment. In this segment, 3rd Avenue has bike lanes between Thomas Road and Flower Street and again between Clarendon and Roma Avenues.
- 3rd Avenue crosses the Grand Canal at a well-designed active transportation bridge. The lack of a vehicular bridge controls the speed and vehicular traffic volume on nearby streets.
- North of the Grand Canal, 3rd Avenue has traffic calming features and other characteristics of a local street.
- 3rd Avenue has signalized major street crossings and connects destinations such as Park Central, Barrow Neurological Institute/St. Joseph's Hospital, the LRT station on Camelback Road, and a connection to downtown Phoenix. It is near high-density uses along Central Avenue.

Discussion:

- The bike lane discontinuity between Flower Street and Clarendon Avenue needs to be improved.

- It is challenging for southbound cyclists to transition from 3rd to 5th Avenue. The route used by the City of Phoenix bike-to-work day ride uses Earll Drive, 6th Avenue, and 5th Avenue past St. Joseph's Hospital. This route may be viable, but the portion between Earll Drive and Thomas Road is privately owned by the hospital. No other good routes exist for this transition that do not involve contraflow riding on a one-way street.

High-comfort facility need:

- Thomas Road to Campbell Avenue: bike lanes
- Campbell to Missouri Avenues: bicycle boulevard

[F2 - 3rd Street Route](#)

This route uses 3rd Street from Thomas to Indian School Roads, then passes through Steele Indian School Park to reach Central Avenue at Glenrosa Avenue. The route uses Central Avenue from Glenrosa to Missouri Avenues. 3rd Street is a collector; Central Avenue is an arterial.

Existing conditions:

- A preliminary design project for a pedestrian and bicycle corridor between Lincoln Street and the Rio Salado Path (funded by MAG) is currently underway.
- As discussed earlier, the city's project on 3rd Street is proposed to remove a travel lane in each direction to provide better cycling accommodations. This project extends as far south as McDowell Road.
- The portion of the route that passes through Steele Indian School Park avoids traffic but is indirect. Improvements would be needed to clarify the route and avoid parking areas.
- The route serves high-density development and LRT stations directly on Central Avenue.
- Bike lanes exist on Central Avenue north of Mariposa Street, and the bike lanes are buffered from traffic north of Camelback Road.

Discussion:

- Southbound bicyclists would need to cross an angled light rail track.
- The speed limit on Central Avenue is 35 mph.
- The city's proposed project on 3rd Street would not extend south of McDowell Road, and this segment has high speeds and volumes.
- Third Street crosses I-10 at an interchange with the freeway's High Occupancy Vehicle lanes.
- Through portions of downtown Phoenix, 3rd Street is one-way southbound. Northbound bicycles could be accommodated on the 4th Street/5th Street corridors, consistent with parallel motor vehicle traffic, or using a contraflow lane on 3rd Street. It would be challenging for northbound active travelers to transition to the 4th/5th Street corridors because of a lack of a convenient route; no such transitions were identified.

High-comfort facility need:

- Oak to Midway Streets (Steele Indian School Park entrance): SBLs
- Midway Street to Central Avenue: off-street shared use path through the park
- Glenrosa Avenue to Mariposa Street: shared lane

- Mariposa Street to Missouri Avenue: SBLs

Other Routes Considered

Both 7th Street and 7th Avenue cross the Grand Canal, but neither is well suited to bicycling because of heavy traffic volumes and the reversible-lane operation. Phoenix previously opposed any lane reductions along these streets for repurposing. Another route could have used Central Avenue south of Glenrosa Avenue, but 3rd Street is expected to have more preferable bicycling infrastructure after the city's project is complete. No other streets are continuous in this area.

G. GCU LOOP

A corridor designated as the GCU Loop connects Grand Canyon University with the area near Christown Spectrum Mall in northwest Phoenix. The loop is roughly bounded by 35th Avenue, 19th Avenue, Montebello Avenue, and Camelback Road.

Southern Corridor

The routes identified in the northern corridor of the North Phoenix Loop (EN1, EN2, EN3, and EN4) also serve the southern corridor of the GCU Loop.

Northern Corridor

The northern corridor of the GCU Loop is roughly bounded by Missouri Avenue and Rose Lane. Two alternative routes were identified for the northern corridor. An additional route uses Montebello Avenue between 19th and 23rd Avenues, but this will be discussed as part of the eastern corridor.

GN1 - Bethany Home Road Route

This route uses Bethany Home Road, an arterial, between 23rd and 31st Avenues.

Existing conditions:

- The route has an existing crossing of I-17, but the crossing occurs at a SPUI where cyclists encounter major turning movement conflicts and require long clearance intervals.
- As at the Camelback Road interchange, additional pavement is provided across the bridge for future bike lanes. However, the additional pavement is too narrow to accommodate SBLs.

Discussion:

- No bicycle facilities exist along the route and none are known to be planned.
- It may be possible to remove one of the three westbound lanes in a road diet, but this may not be possible through the I-17 interchange. This effort would also require reconstructing medians on both sides of I-17.

High-comfort facility need: SBLs

GN2 - Maryland Avenue Route

This route uses Maryland Avenue, a minor collector, between 15th and 31st Avenues. However, Maryland is discontinuous between 21st and 23rd Avenues, so the route passes through Washington Park on a combination of existing and proposed off-street shared use paths.

Existing conditions:

- Maryland Avenue is well outside the defined northern corridor, but it was included because it is one of the few streets with a non-interchange crossing of I-17. The crossing is exclusively for active transportation use. While it does require the use of helical ramps, the continuity across the freeway is rare along the I-17 corridor. Many cyclists would choose to divert to Maryland Avenue (instead of Bethany Home Road) even though it is out of their way, expressly because of the comfort and safety provided by the grade-separated crossing.
- Bike lanes are marked between 15th and 21st Avenues. While bike lanes are not present west of 23rd Avenue, the street is most often wide enough to accommodate this change to pavement marking. However, with front facing homes along the south side of Maryland Avenue and low traffic levels, bike lanes may not be needed.
- The route provides access to Washington High School, Washington and Granada Parks, and the Washington Activity Center at 23rd Avenue.
- The route crosses the 19th Avenue LRT line at a traffic signal, but it does not provide convenient access to an LRT station.

Discussion:

- It may be necessary to adjust on-street parking to provide marked bike lanes in some areas.
- The street narrows just west of 27th Avenue, and 90 parking along the north side of Maryland Avenue in this area is not desirable.
- Maryland Avenue does not connect as many activity destinations as Bethany Home Road.
- The route through Washington Park is somewhat circuitous and would require new construction for a reasonably direct route.

High-comfort facility need:

- West of 23rd Avenue: shared roadway
- 23rd to 21st Avenues: off-street shared use path
- East of 21st Avenue: bike lanes

Other Routes Considered

No other nearby streets provide connectivity and a crossing of I-17.

Western Corridor

The western corridor of the GCU Loop is roughly bounded by 31st and 39th Avenues. Only one alternative route was identified for the western corridor.

GW1 - 31st Avenue Route

This route uses 31st Avenue, a minor collector, between Campbell and Maryland Avenues.

Existing conditions:

- As discussed earlier, 31st Avenue near GCU is an ideal connection. North of Missouri Avenue it has been traffic calmed with landscaped medians, and on-street bike lanes exist. It crosses major intersections at traffic signals.
- The route provides direct and convenient access to the GCU campus, and it continues both north and south of the GCU Loop.

Discussion:

- The route is at the eastern edge of the defined corridor and does not well serve destinations further west.

High-comfort facility need:

- South of Missouri Avenue: facility type as discussed in the North Phoenix Loop
- North of Missouri Avenue: bike lanes

[Other Routes Considered](#)

Other than 31st Avenue, only 35th Avenue is direct through the corridor. Both 37th and 39th Avenues are discontinuous between Camelback and Bethany Home Roads. 35th Avenue is a high-volume arterial that offers very poor accommodations for cyclists, and it is not in the city's plan to improve. The street also would be difficult to access at the southern and northern termini of the corridor because of the need for a jog.

Eastern Corridor

The eastern corridor of the GCU Loop is roughly bounded by 15th and 21st Avenues. Three alternative routes were identified for the eastern corridor.

[GE1- 23rd Avenue Route](#)

This route would use 23rd Avenue, a minor collector, between Campbell and Maryland Avenues.

Existing conditions:

- The corridor has modest traffic speeds and volume and has marked bike lanes along its entire length.
- The street is direct and has signalized crossings of major streets.

Discussion:

- The marked bike lanes are dropped passing through some intersections.
- The route serves some retail uses at Camelback and Bethany Home Roads, but most of the corridor is residential.
- The route is on the western edge of the defined corridor and hence does not approach the heavy retail activity along 19th Avenue.

High-comfort facility need: bike lanes

GE2- 17th Avenue Route

This route would use 17th Avenue, a local street, between Colter Street and Montebello Avenue. The route would also use Montebello Avenue, a local street, to transition between 17th and 23rd Avenues.

Existing conditions:

- 17th Avenue is a local street with a signalized crossing at Missouri Avenue and all-way stop-control at Montebello Avenue.
- Although it is a local street, 17th Avenue does not serve single-family residential homes. It passes through mostly multi-family housing as well as Solano Park and a YMCA.
- Both Colter Street and Montebello Avenue cross the LRT line on 19th Avenue at traffic signals. A portion of Montebello Avenue is marked with bike lanes and provides convenient access to the southern entrance of Christown Spectrum Mall.
- The route provides access to the LRT station at 19th and Montebello Avenues.
- Colter is a continuous street and provides some access to commercial uses at 19th Avenue.

Discussion:

- Montebello Avenue is discontinuous across 19th Avenue. This route assumes that an active transportation shared use path would be constructed between 19th Avenue and its west frontage Road at the Montebello signal to allow cyclists to use the frontage road to transition between the west and east segments of Montebello Avenue.
- The route is indirect because of the short distance (less than ½ mile) between Colter Street and Montebello Avenue. The route would be acceptable for trips with specific origins and destinations in the area but is not well suited for longer trips.
- West of 19th Avenue, both Montebello Avenue and Colter Street pass through single-family neighborhoods as traffic-calmed local streets.

High-comfort facility need:

- Colter Street: bicycle boulevard
- 17th Avenue: bicycle boulevard
- Montebello Avenue east of 19th Avenue: bike lanes
- Montebello Avenue west of 19th Avenue: bicycle boulevard

GE3 -15th Avenue Route

This route would use 15th Avenue between the Grand Canal and Maryland Avenue. 15th Avenue is a collector south of Bethany Home Road and a minor collector north of there.

Existing conditions:

- As mentioned earlier in segments further south, 15th Avenue is a designated bicycle route. It is marked with bike lanes along the route and has signalized major street crossings.
- 15th Avenue serves the east end of Christown Spectrum Mall and other retail uses. It also passes the Yucca Branch of the Phoenix Public Library and Solano School.
- North of Bethany Home Road the street is traffic-calmed, although the land use is mostly residential.

Discussion:

- The treatment of the bike lanes at some intersections is subpar, because cyclists are required to share space with right-turning vehicles.
- The route is on the east end of the defined corridor and may be out of the way for some travelers.

High-comfort facility need: bike lanes

[Other Routes Considered](#)

Only 19th Avenue is a logical candidate because of its direct connectivity and continuity. However, the heavy traffic volumes on this major arterial are complicated by the presence of light rail north of Camelback Road and dense adjacent development that leaves little room for developing a bicycle facility that would be comfortable for the traffic levels. Nineteenth Avenue is also a potential future T2050 Bus Rapid Transit corridor.

H. SCOTTSDALE SOUTH LOOP

A corridor designated as the Scottsdale South Loop is bounded roughly by the Crosscut Canal, McDowell Road, Pima Road, and McKellips Road. Though it has Scottsdale in its name, the loop passes through parts of Phoenix, Tempe, and the Salt River Pima-Maricopa Indian Community (SRPMIC) in addition to the City of Scottsdale.

Southern Corridor

The southern corridor of the Scottsdale South Loop is roughly bounded by Roosevelt Street and the Weber Drive alignment. Two alternative routes were identified for the southern corridor.

[HS1 - McKellips Road Route](#)

This route uses McKellips Road (or the McKellips Road alignment) for its entire length. Most of the route forms the southern boundary of the City of Scottsdale, but the street is wholly on the SRPMIC east of the 84th Street alignment, and it is in the City of Tempe west of Scottsdale Road.

Scottsdale's street classification map does not include an entry for McKellips Road, but it functions in Scottsdale as an arterial. The Tempe portion is classified as a collector.

Existing conditions:

- Bike lanes are present on McKellips Road between Miller Road and McClintock Drive.
- The route is direct and continuous, and it is centered within the southern corridor.
- Frontage roads are available in some portions of the street that could accommodate bicycle traffic, but the treatments at intersections are often not ideal for cycling.
- McKellips Road has access to USBR 90 (68th Street/College Avenue).

Discussion:

- A connection does not exist between the west end of McKellips Road and the Crosscut Canal. Such a connection would be needed if the Crosscut Canal is used as the route on the western corridor of the Scottsdale South Loop. However, an active transportation bridge does exist over the Crosscut Canal just south of the McKellips Road alignment, and this bridge would be a convenient opportunity for McKellips Road users to access the shared use path on the west side of the Crosscut Canal to head north.
- East of Hayden Road, the street is bounded on the south by farmland in the SRPMIC, which does not attract active transportation trips. The north frontage is also in low demand, as it serves mobile home communities and a cemetery.
- Widening to provide bicycle accommodations is not currently identified as a recommendation in Scottsdale's transportation plan.

High-comfort facility need:

- Crosscut Canal to western cul-de-sac: off-street shared use path on new alignment
- Western cul-de-sac to College Avenue: shared roadway
- College Avenue to 73rd Street alignment: SBLs
- 73rd to 76th Streets/Miller Road: shared frontage road
- 76th Street/Miller Road to Pima Road: SBLs

[HS2 - Roosevelt Street Route \(Includes HS2a and HS2b\)](#)

This route uses Roosevelt Street, which changes names to Continental Drive west of Scottsdale Road. On the eastern end of the route, Roosevelt Street does not connect with the Pima Road alignment, so two options are provided that use local streets for this access: one route (HS2a) uses Latham Street, Diamond Street, 87th Place, and Portland Street; this route is somewhat more direct but involves more turns. A second route (HS2b) uses Roosevelt Circle to 87th Place; this route is designated on the city's bicycle map.

Roosevelt Street is a suburban minor collector in Scottsdale. Continental Drive is on the boundary between Scottsdale and Tempe, but neither city shows it on their street classification map, suggesting that it is a local street. However, it functions as a minor collector.

Existing conditions:

- The corridor is traffic calmed west of Hayden Road and has low speeds and volumes.
- Bike lanes are present on Roosevelt Street between Hayden Road and 84th Street.
- The route connects to the Indian Bend Wash Path.
- Connections to the 84th Street and Pima Road alignments are preferred over the McKellips Road route.
- This route has access to USBR 90 (68th Street).

Discussion:

- No connection exists between Continental Drive and the Crosscut Canal. The public portion of Continental Drive ends about 700 feet from the shared use path, and the intervening

property is part of the privately-owned PERA Club, within Tempe. It is possible (and assumed) that an agreement could be reached to extend a route through PERA Club property.

- Some traffic calming devices—chokers—on Roosevelt Street would disrupt bike lanes.
- Although the route is classified as a minor collector, portions have characteristics of local streets, including traffic calming devices, front-facing homes, and on-street parking.

High-comfort facility need:

- Crosscut Canal through PERA Club: off-street shared use path on new alignment
- Continental Drive: bicycle boulevard
- Scottsdale Road to 76th Street: bicycle boulevard
- 76th to 77th Streets: bike lanes
- 77th to 79th Streets: bicycle boulevard
- 79th Street to Grace Street/Latham Street: bike lanes
- Local street connections to the Pima Road alignment: bicycle boulevard

Other Routes Considered

No streets south of McKellips Road cross the Indian Bend Wash, and while a connection may be possible at Weber Drive, this street does not cross into the SRPMIC, and such a route would not attract trips. North of McKellips Road, no other streets are continuous within the defined corridor.

Northern Corridor

The northern corridor of the Scottsdale South Loop is roughly bounded by Roosevelt and Oak Streets. Three alternative routes were identified for the northern corridor, but two of the routes differ only west of the Indian Bend Wash.

HN1 - Oak Street Route

This route uses Oak Street from the Crosscut Canal to Pima Road. Oak Street is classified by Scottsdale as a minor collector for most of its length.

Existing conditions:

- Oak Street is marked with bike lanes between 72nd Place and 76th Street, and then again between Hayden Road and 87th Terrace. West of 72nd Place, the route often has an edge stripe that delineates on-street parking, but the parking is lightly used. Chokers on the street are designed with a passage between the curb and the raised device to accommodate bicyclists.
- Oak Street provides excellent connectivity to all the north-south routes in the Scottsdale South Loop, including a bridge over the Crosscut Canal.
- The route serves Coronado High School, Eldorado Park and associated facilities, Hohokam Elementary School, and retail uses on Scottsdale and Hayden roads. Most of the rest of the corridor is residential.
- Oak Street continues to the west in Phoenix as a cycling route, and the segment west of 68th Street is a part of USBR 90.

Discussion:

- It is possible to cross the Indian Bend Wash, but the crossing is not direct. A combination of new and existing off-street shared use paths is assumed in the section between 76th and 77th Streets.
- The route is at the far north end of the defined corridor.

High-comfort facility need:

- Crosscut Canal to 72nd Place: bicycle boulevard
- 72nd Place to 76th Street: bike lanes
- 76th to 77th Streets: off-street shared use path on combination of new and existing alignment
- 77th Street to Hayden Road: bicycle boulevard
- Hayden Road to 87th Terrace: bike lanes

[HN2 - McDowell Road Route](#)

This route uses McDowell Road, a major urban arterial west of Miller Road (76th Street) and a major suburban arterial east of Miller Road.

Existing conditions:

- The street has bike lanes between Miller and Hayden Roads and again between Granite Reef and Pima Roads. Remaining sections of McDowell Road do not have bike accommodations.
- The street connects major activity centers, such as the soon-to-be-redeveloped Papago Plaza, SkySong, and many other retail and employment facilities.
- The portion of McDowell Road in Phoenix (west of 64th Street) does have bike lanes, and McDowell Road makes a convenient connection to the Galvin Bikeway.
- McDowell Road provides a connection to USBR 90 at 68th Street.

Discussion:

- McDowell Road carries extremely high traffic volumes at high speed. It crosses the Papago Buttes between Phoenix and Scottsdale and connects to high-demand centers in Scottsdale.
- The City of Scottsdale is scheduled to start construction of the McDowell Road Bike Lanes project in Spring 2020. The project will complete the installation of bike lanes along McDowell Road citywide in Scottsdale.

High-comfort facility need: SBLs

[HN3 - Belleview Street Route](#)

This route uses McDowell Road east of 76th Street, but it uses several local streets east of 76th Street: Culver Street, Enterprise Drive, and Belleview Street, and 66th Street. Portions of this route are recommended by the City of Scottsdale on its bike map. East of Scottsdale Road, Belleview Street changes name to Enterprise Drive.

Existing conditions:

- The local streets on this route carry very low traffic, and some are traffic calmed.
- 76th Street, a minor collector, is marked with bike lanes.
- Belleview Street connects to USBR 90 at 68th Street.
- The recently completed Crosscut Canal Bridge and Path project provides connections between the west side of the Crosscut Canal (and the tunnel under McDowell) and the neighborhood at Belleview and 66th Street.

Discussion:

- The crossing of Scottsdale Road is unsignalized; a crossing treatment would be needed to make this route viable.
- It appears that portions of this route use private streets.
- The route is less direct than McDowell Road and is largely residential (with front facing homes west of Scottsdale Road), but it maintains access to parcels along the McDowell frontage due to convenient cross-access points.

High-comfort facility need:

- 66th Street, Belleview Street: bicycle boulevard
- Scottsdale Road to 74th Street: bicycle boulevard
- 74th to 76th Streets: shared use path, modified to improve connections
- 76th Street: bike lanes
- East of 76th Street: Overlaps with the McDowell Road Route

[Other Routes Considered](#)

No other streets within the defined corridor are continuous and cross the Indian Bend Wash.

Western Corridor

The western corridor of the Scottsdale South Loop is roughly bounded by Galvin Parkway and 68th Street. Two alternative routes were identified for the western corridor.

[HW1 - Crosscut Canal Route \(Includes HX1a and HX1b\)](#)

This route uses the Crosscut Canal between McKellips Road and Oak Street. In this portion of the shared use path, the main paved route is on the west bank of the canal, and a secondary unpaved shared use path is on the east bank. South of McDowell Road, the shared use path serves as the boundary between Phoenix and Tempe; the west bank is in Phoenix and the east bank is in Tempe. Further north, the canal is entirely within Scottsdale. (Further south, south of Marigold Lane, the canal is entirely within Tempe, but this portion of the canal is not within Route HW1.)

Existing conditions:

- The Crosscut Canal is a major paved and well-maintained off-street active transportation facility. It has no at-grade street crossings along the route, with an underpass at McDowell Road and a bridge between McDowell Road and Belleview Street. The Crosscut Canal carries high volumes of bicycle traffic and is well suited to long-distance travel.

- The Crosscut Canal provides access to the Phoenix Zoo and Galvin Parkway on a spur route (HX1). It also serves the Desert Botanical Garden.
- The Crosscut Canal provides a connection to USBR 90 at Oak Street.

Discussion:

- The Crosscut Canal provides limited connectivity to adjacent parcels, particularly to the east since the main shared use path is on the west canal bank.
- Even the parcels that exist adjacent to the shared use path tend not to be trip-attracting parcels. They are mostly vacant and residential parcels with only some retail at McDowell Road.

High-comfort facility need: Shared use path

[HW2 - 68th Street Route](#)

This route uses 68th Street, which changes names to College Avenue south of Continental Drive. The route is in Tempe south of Continental Drive and in Scottsdale further north. In Scottsdale the street is considered a minor suburban collector, and in Tempe it is classified as a collector.

While the Scottsdale South Loop is designated with its southern corridor near McKellips Road, a route could be extended south along College Avenue, Gilbert Drive, and shared use path as far south as the Tempe Town Lake.

Existing conditions:

- The route is direct and continuous. While it passes through two jurisdictions, the treatment is very similar in both cities: marked bike lanes exist along the entire street. All major street crossings are traffic-signal controlled.
- The route serves more adjacent land use than the Crosscut Canal, but it still provides access to almost exclusively residential parcels.
- It provides access to the southern corridor without the need for a bridge across the canal.
- College Avenue/68th Street is a long-distance route that provides valuable connections to the north and south outside the Scottsdale South Loop. The portion south of Oak Street is part of USBR 90.
- South of McKellips Road, marked bike lanes exist on both College Avenue and Gilbert Drive. While bike lanes extend under SR-202, they do not continue further south.
- A shared use path along the west side of College Avenue exists between Gilbert Drive and Curry Road. This route is appropriate for cycling and avoids the intersection of College Avenue and Mesquite Circle. However, transitioning the route from one-way bike lanes to a two-way shared use path on the west side may be challenging. The on-street route is also an acceptable option.
- The shared use path south of Gilbert Drive is wide and heavily used by cyclists and pedestrians, providing good connectivity to other Town-Lake-area shared use paths.

Discussion:

- At McDowell Road, cyclists approaching the intersection are required to share the right-turn lane with right-turning vehicles, which is not ideal.
- The northbound bike lane on College Avenue is discontinuous between Curry Road and Weber Drive. It appears that pavement could be reallocated to designate a bike lane in this area.

High-comfort facility need:

- North of SR-202: Bike lanes
- South of SR-202: Existing shared use paths

[Other Routes Considered](#)

Galvin Parkway was considered because of its existing excellent bicycle accommodations but rejected because of the difficulty in connecting to the southern corridor. No other streets exist on the west side of the loop.

Eastern Corridor

The eastern corridor of the Scottsdale South Loop is roughly bounded by 84th and 92nd Streets. The Pima Road alignment is the boundary between Scottsdale and the SRPMIC. Two alternative routes were identified for the western corridor.

[HE1 - Pima Road Route](#)

South of Oak Street, this route uses 87th Terrace to connect to an existing off-street shared use path on the west side of the Pima Road alignment. This alignment is used for the remainder of the route to the south.

Existing conditions:

- The path is marked for two-way bicycle traffic along most of its length and has very few driveway and street crossings.

Discussion:

- The existing paved path ends about ¼ mile north of McKellips Road and does not continue through the SRPMIC, although it appears space is available to develop a shared use path here. This connection would be needed if McKellips Road is selected to serve the southern corridor of this loop.
- The approaches and crossing at McDowell Road may need to be improved to be better suited to bicycle traffic, but the crossing is traffic-signal controlled.
- The existing path may need to be widened in some areas.
- The route does not connect well to adjacent parcels, and it passes through almost exclusively residential areas.

High-comfort facility need:

- 87th Terrace: bicycle boulevard

- South of 87th Terrace cul-de-sac: paved shared use path

HE2 - Granite Reef Road Route

This route uses the Granite Reef Road alignment, in some areas referred to as 84th Street. This street is a minor suburban collector in Scottsdale.

Existing conditions:

- The street serves considerably more trip-attracting uses than the Pima Road route, but it remains mostly a residential connector.
- The route has existing bike lanes north of Roosevelt Street. Between McDowell Road and Oak Street, the lanes are wider than typical bike lanes, which may allow them to be buffered.

Discussion:

- The street dead ends about ¼ mile north of McKellips Road. A vacant corridor exists where it may be possible to make a connection, but this corridor serves a drainage canal and is on the boundary between Scottsdale and the SRPMIC, introducing jurisdictional issues. The area is currently fenced and gated. This connection would be needed if the southern corridor is served by McKellips Road.
- The existing bike lanes are discontinuous across the McDowell intersection, and the intersection may need some improvements to make it more bicycle-friendly.
- On-street parking is highly used south of Roosevelt. While bike lanes are probably not needed in this section because of the low volume, adjacent parked cars can be a threat to cyclists.
- While the route provides access to commercial properties at McDowell Road, the rest of this route is largely residential.

High-comfort facility need:

- Oak to Roosevelt Streets: bike lanes
- Roosevelt Street to cul-de-sac: bicycle boulevard
- Cul-de-sac to McKellips Road: off-street path on new alignment

Other Routes Considered

North-south connectivity is an issue in this area; not even the two recommended routes are continuous. No other streets in the defined corridor offer continuity. 92nd Street is continuous between McKellips and McDowell Roads, but accessing it requires crossing through two freeway interchanges, and it is on the SRPMIC and serves very little developed land.

J. SCOTTSDALE NORTH LOOP

A corridor designated as the Scottsdale North Loop is bounded roughly by Scottsdale Road, Hayden Road, 5th Avenue, and McDowell Road.

Southern Corridor

The southern corridor of the Scottsdale North Loop uses the same routes as the northern corridor of the Scottsdale South Loop (HN1, HN2, and HN3). No additional corridors were identified specifically associated with the North Loop.

Northern Corridor

The northern corridor of the Scottsdale North Loop is roughly bounded by the Osborn Road and Highland Avenue alignments. Three alternative routes were identified for the northern corridor.

[JN1 - Camelback Road Route](#)

This route uses Camelback Road between Scottsdale and Granite Reef Roads. Camelback Road is a minor suburban arterial west of Hayden Road and a minor suburban collector further east.

Existing conditions:

- Camelback Road connects major activity centers in the Scottsdale Waterfront area. To the east are mostly residential areas, but other uses exist as well.
- The City of Scottsdale implemented [a variable speed limit operation on Camelback Road](#) between Scottsdale and Miller Roads that reduces the speed limit during certain times of day from 35 mph to 25 mph as a way to mitigate pedestrian crashes and injuries.
- Bike lanes are marked on Camelback Road between Scottsdale and Hayden Roads, although traffic volume and speed suggest that bike lanes alone are not a comfortable accommodation for many cyclists in this area.
- The route is direct and connects with north-south routes in this loop.

Discussion:

- Existing on-street parking would complicate implementation of bike lanes east of 82nd Street. However, this area of Camelback Road is posted at 25 mph and has traffic calming features (speed humps and median island gateway treatment).

High-comfort facility need:

- West of 82nd Street: SBLs
- East of 82nd Street: bicycle boulevard

[JN2 - Glenrosa Avenue Route](#)

This route uses Glenrosa Avenue, 5th Avenue, and a network of mostly local streets to connect across the northern corridor without using an arterial street.

Existing conditions:

- This route lacks high arterial street traffic and speed.
- The route includes a grade-separated crossing of Hayden Road (underpass).
- This route best serves downtown Scottsdale.

Discussion:

- The route has many turns and considerable redundant travel distance.
- The portion of the route in downtown Scottsdale, on 5th Avenue, 6th Avenue, and Stetson Drive, use streets with front-in angle parking, which is not desirable for a bicyclist route.
- The route jogs along 76th Street for about 400 feet between 6th and Montecito Avenues. A traffic signal exists at Montecito, but not at 6th Avenue, and the proximity of these intersections suggests that a traffic signal or PHB (BikeHAWK) may not be desirable at 6th Avenue. While 76th Street has bike lanes, it is a major urban collector with two travel lanes in each direction and a raised median; its width makes crossing at an uncontrolled intersection undesirable.

High-comfort facility need:

- West of 76th Street: bicycle boulevard
- 76th Street: SBLs
- 76th Street to 79th Place: bicycle boulevard
- Indian Bend Wash crossing: off-street shared use path
- East of Indian Bend Wash: bicycle boulevard

JN3 - Indian School Road Route

This route uses Indian School Road between 68th Street and Granite Reef Road. Indian School Road is a major arterial west of Goldwater Boulevard and a minor arterial east of there. It is considered urban between Goldwater Boulevard and 76th Street and suburban elsewhere.

Existing conditions:

- Indian School Road has marked bike lanes for its entire length along the route, with slip lanes near the Indian Bend Wash Path that connect from the bike lane to the Path. The route is direct and continuous with signalized major street crossings.
- The route serves considerable retail, civic, service, and other trip-attracting uses along most of its length.

Discussion:

- Traffic volumes and speeds are high.

High-comfort facility need: SBLs

Other Routes Considered

No other direct routes exist in the defined northern corridor.

Western Corridor

The western corridor of the Scottsdale North Loop is roughly bounded by 68th and 76th Streets. Three alternative routes were identified for the western corridor, but two have some overlap.

JW1 - 68th Street Route

This route uses 68th Street for most of its length. Between Thomas and Indian School Roads, 68th Street is a major suburban collector, and elsewhere it is a minor suburban collector.

If the northern corridor route is north of Indian School Road, the 68th Street route would use the Arizona Canal Path for its northern portion. The south bank shared use path is proposed because it is paved for its entire length between 68th Street and Camelback Road.

Existing conditions:

- The Arizona Canal Path is one of the most popular shared use paths in the Phoenix area, and the Scottsdale Waterfront portion is heavily developed. It can be crowded with pedestrian traffic at times. This portion of the route connects to trip-attracting land uses. The shared use path crosses under Goldwater Boulevard.
- As mentioned earlier, 68th Street south of Thomas Road has marked bike lanes and one through lane in each direction.
- The 68th Street portion of the route is direct and continuous, though it serves mostly residential land use. Some retail exists at Thomas Road.
- 68th Street south of Oak Street is part of USBR 90.
- The segment north of Osborn Road has been [designated as a “Transportation Safety Zone”](#) by the City of Scottsdale.

Discussion:

- North of Thomas Road, the bike lanes drop away. A road diet may be possible in this area.
- The route is on the western edge of the defined corridor.

High-comfort facility need:

- South of Thomas Road: bike lanes
- Thomas to Indian School Roads: SBLs
- Arizona Canal Path: paved shared use path

JW2 – Drinkwater Boulevard

This route uses Drinkwater Boulevard, a major urban arterial, as an alternative to Scottsdale Road through downtown Scottsdale. The remainder of the route uses Scottsdale Road.

Existing conditions:

- Drinkwater Boulevard adds connections to Scottsdale Stadium, the main library, and City Hall, among other uses, and maintains the connections to other uses to the north and south on Scottsdale Road.

Discussion:

- Where Drinkwater Boulevard passes under the Civic Mall south of Indian School Road, existing pavement width limits the ability to add bicycle accommodations. A similar problem exists where Drinkwater passes under a pedestrian overpass north of Stetson Drive.

- Furthermore, the raised median on Drinkwater Boulevard means that removing a lane in one direction would not permit a bike lane in the opposite direction without relocating and reconstructing the median.
- There is a grade change on Drinkwater Blvd to go under the Scottsdale Civic Center.
- Adding bike accommodations to Drinkwater Boulevard is not in Scottsdale's Transportation Master Plan.
- The route bypasses much of the traditional old-town Scottsdale.
- The southbound route requires a left turn from westbound Drinkwater Boulevard onto southbound Scottsdale Road approximately 600 feet north of Earll Drive. This movement is currently unsignalized; an improved crossing would be necessary to make this route viable.

High-comfort facility need: SBLs

[JW3 - Scottsdale Road Route](#)

This route uses Scottsdale Road, a major urban arterial, from roughly McDowell to Camelback Roads.

Existing conditions:

- Scottsdale Road has bike lanes south of Earll Drive, near the Drinkwater Boulevard diverge point. The bike lanes do not continue north.
- Scottsdale Road is arguably the city's main thoroughfare, so accommodating cyclists along this corridor maximizes their direct access to downtown trip-attracting uses.
- In downtown Scottsdale, traffic volume is heavy at about 27,000 vehicles per day, but speeds are controlled by frequent traffic signals.

Discussion:

- The portion of Scottsdale Road north of the Drinkwater Boulevard merge does not have bike lanes, and the bridge over the Arizona Canal limits opportunities for infrastructure changes.
- Development near the curbs limits opportunities for pavement widening, so providing high-comfort bicycling accommodations probably would require a reduction to one vehicular lane in each direction.
- Head-in angle parking exists on the east side of Scottsdale Road for a short distance south of Main Street. Parallel parking is present elsewhere downtown.
- The transitions at the Goldwater and Drinkwater Boulevard merges are potentially awkward for cyclist connectivity because of unexpected turns and conflict with multiple-lane merge and diverges.

High-comfort facility need: SBLs

[Other Routes Considered](#)

A route was considered along 70th Street and Marshall Way to avoid the high-volume 68th Street, Scottsdale Road, and Drinkwater Boulevard. However, this route was rejected because it is excessively circuitous. Goldwater Boulevard was considered as an alternative or supplement to Drinkwater Boulevard and Scottsdale Road. Like Drinkwater, Goldwater Boulevard has no bicycle

accommodations, but Drinkwater was preferred because it serves more trip-attracting destinations. A split route was also considered, with southbound bicycle traffic on Goldwater and northbound on Drinkwater. This might simplify the construction of protected bike lanes since only one direction would need to be affected on both streets. However, the streets are somewhat far apart (½ mile) to be considered a bicycling one-way pair.

Eastern Corridor

The eastern corridor of the Scottsdale North Loop is roughly bounded by 76th and 84th Streets. Three alternative routes were identified for the eastern corridor.

JE1 - Indian Bend Wash Route

This route uses the Indian Bend Wash Path north of Murray Lane. South of Murray lane the route uses 77th Street to connect to McDowell Road. The route could extend as far north as Camelback Road.

Existing conditions:

- The Indian Bend Wash Path is Scottsdale’s premier shared use path. This path is grade separated at Thomas, Osborn, and Indian School Roads. It has only very few at-grade crossings of other streets, which are well designed and tend to be respected by drivers.
- The route is popular among cyclists and other active transportation users. It can be crowded at times. The shared use path is well marked and easy to navigate despite some circuitousness.
- The shared use path traverses both north and south beyond the limits of this route, providing excellent connectivity. It also crosses several east-west bicycle routes, but these are not always easy to identify or access.
- No significant infrastructure improvements are needed to make this route viable.

Discussion:

- This route does not connect well to adjacent parcels. The route generally has a sense of a park setting and not an urban setting.
- The route diverts from the shared use path to 77th Street at Murray Lane because there is not a good connection from the shared use path to McDowell Road near the overpass. While 77th Street is a high-quality facility with marked bike lanes, many cyclists will find it not as comfortable as the shared use path itself.
- The connection to Camelback Road (if that is used as the northern portion of the loop) is somewhat awkward and would require some improvement.

High-comfort facility need:

- South of Murray Lane: bike lanes
- North of Murray Lane: paved off-street shared use path

JE2 - Granite Reef Road Route

This route uses Granite Reef Road (84th Street), except between Osborn Road and Columbus Avenue, where it uses 83rd Street. Granite Reef Road is a minor suburban collector for most of its length. It is a local street between Osborn and Indian School Roads.

Existing conditions:

- 84th Street has marked bike lanes between Thomas and Coronado Roads and again between Indian School and Camelback Roads.
- North of Thomas Road the street is traffic-calmed, and while it lacks bike lanes it also has low speeds and volumes.
- This route connects to the proposed route further south on 84th Street, discussed earlier.

Discussion:

- The discontinuity in Granite Reef Road between Osborn Road and Columbus Avenue is a significant disadvantage to this route. It is unlikely that a direct route could be constructed because of the presence of Pima Elementary School. However, among the streets used to circumnavigate the discontinuity, Osborn Road has bike lanes and 83rd Street and Columbus Avenue are local streets with front-facing houses.
- This route is on the eastern edge of the defined corridor.
- It connects two elementary schools and some office, medical, and retail uses at McDowell Road, but the bulk of the corridor is residential.

High-comfort facility need:

- South of Thomas Road: bike lanes
- Thomas to Osborn Roads: shared roadway
- Osborn Road, Granite Reef Road to 83rd Avenue: bike lanes
- 83rd Street, Columbus Avenue: bicycle boulevard
- Columbus Avenue to Indian School Road: shared roadway
- North of Indian School Road: bike lanes

JE3 - Miller Road Route

This route uses Miller Road/76th Street between McDowell and Camelback Roads. From Osborn to Camelback the route is a major urban collector, and elsewhere it is a minor suburban collector.

Existing conditions:

- The route serves Coronado High School, Scottsdale Stadium, and many retail uses, particularly at major street intersections and in the northern portion of the route. It is direct with signalized major-street crossings.
- For most of its length it carries only one lane in each direction, helping to control speeds. However, it carries two lanes in each direction in the segment between 2nd Street and Camelback Road.
- The street is marked with on-street bike lanes its entire length.

Discussion:

- The route is on the western edge of the defined corridor, and in fact it is so far west as to limit the utility of the Scottsdale North Loop. However, the route is included because of its existing bicycle accommodations.

High-comfort facility need: bike lanes

[Other Routes Considered](#)

Hayden Road was considered, its proximity to the high-quality Indian Bend Wash Path left it as a lower priority. Furthermore, Hayden Road is a 6- to 7-lane facility that is posted at 45 mph. No other direct streets were identified.

K. TEMPE NORTH LOOP

A corridor designated as the Tempe North Loop is bounded roughly by University Drive, Mill Avenue, Alameda Drive, and the 50th Street alignment.

Southern Corridor

The southern corridor of the Tempe North Loop is roughly bounded by Broadway Road and Southern Avenue. Three alternative routes were identified for the southern corridor.

[KS1 - Alameda Drive Route](#)

This route uses Alameda Drive between 48th Street and College Avenue. Alameda Drive is classified by the City of Tempe as a collector street east of I-10 and a local street west of I-10.

Existing conditions:

- Alameda Drive is not marked with bike lanes, but occasional discontinuities help control traffic volume and speed.
- In most segments the width appears to be sufficient to add marked bike lanes without additional pavement.
- Traffic signals are present at major intersections.
- The Alameda Drive alignment is identified in the City of Tempe’s Transportation Plan as a BIKEiT route, local labeling for a bicycle boulevard. This corridor is designated as the “Wheel” route. The city recommends this corridor for improvements by 2020 that include improved pavement markings, signing, traffic management, crossings, landscaping, and branding.
- The route provides direct access to Tempe Diablo Stadium and employment uses from area neighborhoods.
- The City of Tempe has [a project underway to implement bicycle improvements on the Alameda corridor](#) between 48th Street and Rural Road, including the entirety of this route.

Discussion:

- A crossing of I-10 does not exist at Alameda Drive. This route is viable without an I-10 crossing, but only if the western corridor remains east of I-10. A crossing at this location was recommended by the MAG/ADOT Spine Study and is included in the City's Transportation Plan as a recommended bicycle/pedestrian crossing by 2020. The crossing is funded as part of I-10 improvements in this area.
- Alameda Drive is discontinuous between Wilson Street and Dromedary Drive, and there does not appear to be available right-of-way along this alignment. The street does not have a vehicular crossing of the Union Pacific Railroad (UPRR) tracks, but it does have a paved at-grade active transportation crossing. However, on the west side of the tracks, the crossing enters a private parking lot. An improved connection would be needed through this private property. This crossing is also recommended as a 2020 improvement by the City's Transportation Plan.
- The lane configuration is poor passing through the Hardy Drive and Priest Drive intersections in both directions, where a second through lane is introduced for a very short distance. This lane is probably not needed or helpful for capacity reasons outside of the peak hours, and could be converted to better use.
- The street passes through industrial land uses between Priest and the UPRR tracks, and conflicts with trucks may occur. The eastern end of the corridor is mostly residential.

High-comfort facility need:

- West of I-10: buffered bike lanes
- I-10 crossing: active transportation grade separated crossing
- I-10 to Wilson Street: buffered bike lanes
- Wilson Street to Dromedary Street: shared use path and railroad crossing
- Dromedary Street to College Avenue: buffered bike lanes

[KS2 - Southern Avenue Route](#)

This route would use Southern Avenue, an arterial, between 48th Street and College Avenue.

Existing conditions:

- Southern Avenue crosses I-10 at a non-interchange location, eliminating vehicular turning movement conflicts with active travelers.
- The street is identified for a buffered or protected bike lane by 2020 in the city's Transportation Plan, along with streetscape improvements. The improvements encompass the entire route.
- The portion of Southern Avenue west of 48th Street in Phoenix has two lanes in each direction with bike lanes. It is likely that one of the extra travel lanes east of 48th Street in Tempe can be converted to a better use.
- The street has a mix of uses, including industrial, retail, and residential.

Discussion:

- Despite the lack of an I-10 interchange, Southern Avenue is a wide, high-volume street with three lanes westbound and two lanes eastbound for most of its length. It does not have bicycle accommodations.
- The route is on the southern edge of the defined corridor.

High-comfort facility need: SBLs

[KS3 - Broadway Road Route](#)

This route would use entirely Broadway Road, an arterial street.

Existing conditions:

- Broadway Road crosses I-10 at an existing bridge, though the crossing is at an interchange and is not ideal for active travelers.
- Broadway is identified in the City's Transportation plan to be fitted with a buffered or protected bike lane by 2020, but the segment east of Mill Avenue is not included in the planned improvements. Streetscape work is included.

Discussion:

- The route carries high traffic volume and speed, particularly near the I-10 interchange.
- The street has marked bike lanes, accented with green paint, east of Mill Avenue, but the lanes are not buffered or separated.
- The route is on the northern edge of the defined corridor.
- Westbound cyclists would need to cross a two-lane entrance ramp to westbound I-10.

High-comfort facility need: SBLs

[Other Routes Considered](#)

No other routes cross or are planned to cross I-10 or the UPRR within the defined corridor. Cairo Drive was considered as an alternative to Alameda Drive between 55th and Roosevelt Streets, but it was determined to be too short to overcome the planned improvements on Alameda Drive. Cairo Drive also passes through mostly industrial land uses. No other streets are direct and continuous for a long enough segment to generate a meaningful alternative route.

Northern Corridor

The northern corridor of the Tempe North Loop is roughly bounded by 1st and 13th Streets. Three alternative routes were identified for the northern corridor.

[KN1 - University Drive Route](#)

This route would use University Drive, an arterial, from roughly 52nd Street to Mill Avenue.

Existing conditions:

- University Drive provides direct access to Arizona State University’s main campus and downtown Tempe, along with retail, high-density residential, and other trip-generating uses.
- The route has bike lanes accented with green paint for its entire length, [implemented in 2015 as part of a Tempe project](#).
- Parts of the street may be wide enough to introduce a buffer between the bike lane and travel lanes (such as westbound between Lindon Lane and 52nd Street).
- The City of Tempe is currently making several changes to this corridor including installing new landscaped medians near ASU, and the 6-foot bike lanes will become 5-foot bike lanes with a 1-foot buffer of stamped asphalt and green paint at intersections.
- The medians are part of a City/ASU IGA. The bike lane treatment was determined by public involvement, with 68% of survey respondents voting for the buffer treatment.

Discussion:

- Traffic speeds and volumes are high, particularly where the bike lane is situated between the through lanes and a right-turn lane.
- The portion of University Drive between Ash Avenue and Mill Avenue will be part of the Tempe Streetcar line (eastbound only), creating flangeway issues along the eastbound lanes.

High-comfort facility need: SBLs

[KN2 - Sprocket Route](#)

This route would use the City of Tempe’s BIKEiT bicycle boulevard labeled the “Sprocket” route. It uses mostly local streets, such as 10th Place and 10th Street, to traverse between 52nd Street and Mill Avenue.

Existing conditions:

- The route avoids high-volume arterials and uses local streets.
- The route continues east along a low-stress route through the ASU campus.

Discussion:

- The route jogs significantly because of the lack of a direct local street connection. It makes 12 turns between 52nd Street and Mill Avenue.
- There is an awkward offset and crossing of Priest Drive for a distance of about 440 feet and no controlled street crossing at either intersection with Priest Drive.
- The lack of directness impairs travel time.
- The route serves exclusively single-family residential frontage, but it does reach the ASU campus at 10th Street and Mill Avenue and travels near Gililand Middle School and Mitchell Park.

High-comfort facility need: bicycle boulevard

KN3 - 5th Street Route

This route would use 5th Street, a collector, between Mill and Beck Avenues. It would then jog north to 3rd Street, a local street, and continue west to 52nd Street.

Existing conditions:

- The 5th Street portion of the route is a model for effective traffic calming that incorporates bicycle infrastructure. The bike lanes are concurrent but occasionally separated behind traffic calming islands. High-quality bike lanes exist on the entire 5th Street portion of the route.
- Beck Avenue and 3rd Street are local streets with low volume and speed. Much of 3rd Street may be wide enough to add bike lanes without widening the pavement.
- The route directly approaches downtown Tempe at Mill Avenue and serves a large residential community to the west, along with park and school uses. West of Priest Drive is mostly office use.
- Tempe plans to [extend the 5th Street improvements east of their current terminus at Farmer Avenue](#).

Discussion:

- The route does not have an effective treatment where it crosses Priest Drive, and the traffic signal at 5th Street is about 600 feet from the crossing, which would make adding a new traffic signal or PHB crossing challenging from a signal-spacing perspective.
- The jog in the route at Beck Avenue is necessitated by the discontinuity of 5th Street between Priest Drive and 52nd Street. The jog limits the utility and function of the route. If Priest Drive is designated the western corridor for the Tempe North Loop, then the route would extend west on 5th Street to Priest Drive.

High-comfort facility need:

- 5th Street east of Beck Ave: bike lanes
- Beck Avenue: bicycle boulevard
- 3rd Street from Priest Drive to Beck Avenue: bicycle boulevard
- 3rd Street west of Priest Drive: bike lanes

Other Routes Considered

Rio Salado Parkway is continuous, but it is outside the defined corridor. No other streets provide a direct connection across the northern corridor.

Western Corridor

The western corridor of the Tempe North Loop is roughly bounded by the 46th and 55th Street alignments. Three alternative routes were identified for the western corridor.

KW1 - 52nd Street Route

This route would use 52nd Street between 3rd Street and Broadway Road, then would use the frontage road on the north side of Broadway Road to transition to 55th Street, which continues south to Alameda Drive. 52nd Street is a collector, the frontage road and 55th Street are local streets.

Existing conditions:

- 52nd Street is relatively low volume and has marked bike lanes.
- Major street crossings are signalized, including the frontage road crossing of Broadway Road at the 55th Street alignment.
- 55th Street is traffic calmed with speed humps and a traffic circle at Fountainhead Parkway.

Discussion:

- An improved connection would be needed between 52nd Street and the frontage road north of Broadway Road. A pedestrian connection already exists, but this connection is not ideal for cyclists. Southbound cyclists are of particular concern because they will need to cross 52nd Street, and the existing southbound bike lane ends well before the intersection.
- 52nd Street serves mostly office and industrial uses, and 55th Street serves mostly residential uses. The corridor is not rife with trip-generating uses.
- Part of 55th Street is privately owned. An agreement would need to be reached with the street's owner to designate it as part of a route.
- The route does not extend as far south as Southern Avenue, but if Southern is used along the southern corridor, a connection could be made along Alameda to Priest Drive.

High-comfort facility need:

- 52nd Street: bike lanes, with improved frontage road connection
- Frontage road: shared roadway
- 55th Street: bike lanes

[KW2 - Priest Drive Route](#)

This route would use Priest Drive, an arterial, from roughly 3rd Street to Alameda Drive.

Existing conditions:

- Priest Drive is direct and continuous, and it has bike lanes for almost all its length.
- This route serves more retail and trip-attracting uses than 52nd Street, but it is not among the highest for that purpose in North Tempe.
- All major street crossings are traffic-signal controlled.

Discussion:

- Traffic volumes and speeds are very high. Priest Drive is one of the highest-volume north-south arterials in Tempe.
- Priest Drive is east of the defined western corridor. The street was included as a route because the curvature of I-10 in this area limits the north-south connectivity along the corridor, and because the street is considered as a route in the Tempe Central Loop (discussed later).
- Bike lanes are discontinuous through some intersections (such as Broadway Road and northbound at University Drive). Improvements would be needed to achieve continuity.

High-comfort facility need: SBLs

KW3 - 48th Street Route

This route would be used only if the southern corridor of the Tempe North Loop crosses I-10. In that case, 48th Street could be an alternative north-south connection and could connect to 52nd Street at Broadway Road to continue north. The route would use 48th Street, an arterial, between Broadway Road and Southern Avenue. 48th Street in this area is the boundary between Phoenix and Tempe, but the street is controlled by Tempe.

Existing conditions:

- The route provides connections to Tempe Diablo Stadium complex and significant office uses.
- Bicycle access on the west side of I-10 has utility because of connections to Western Canal Path (about ½ mile south of Southern Avenue) and the Pointe at South Mountain complex south of Baseline Road.

Discussion:

- The street has no bicycle infrastructure. The posted speed limit is 45 mph and traffic volumes are quite heavy.
- The use of 48th Street is relatively short (1 mile), so the complex turning movements to enter and exit the segment, particularly southbound, do not pay dividends for long trips.
- Using 48th Street requires the Tempe North Loop to cross I-10 twice, which is challenging for many cyclists on all candidate corridors.

High-comfort facility need: SBLs

Other Routes Considered

The I-10 and SR-143 freeways limit the available bicycling routes in this area. A route was considered on 48th Street north of Broadway Road (which serves as an east side frontage road to SR-143), but this route is relatively short, is somewhat indirect, has poor connections at the termini, and it does not effectively cross University Drive. No other streets were found to be viable routes.

Eastern Corridor

The eastern corridor of the Tempe North Loop is roughly bounded by the Roosevelt Street and McAllister Avenue alignments. Six alternative routes were identified for the eastern corridor, an unusually large number because of site conditions.

KE1 - Mill Avenue Route

This route would use Mill Avenue, an arterial, between Southern Avenue and 5th Street.

Existing conditions:

- Mill Avenue is Tempe's main street in downtown, and it also provides vital connections to ASU, Tempe St. Luke's Hospital, Tempe High School, and many other retail and trip-attracting uses along its length.
- A road diet was implemented on Mill Avenue downtown (north of University Drive) to reduce the travel lanes from two to one in each direction and provide on-street bike lanes. An option

to consider is converting the bike lanes to SBLs by moving the parking between the curb and bike lane.

- Bike lanes also exist on Mill Avenue between University Drive and Apache Boulevard. An edge stripe is sometimes present further south that defines a shoulder, which is sometimes wide enough for bicycle traffic and other times not.
- Bike lanes are also present in the southern portion of the route, between El Parque Drive and Geneva Drive. In this southern section, the bike lanes do not extend to and through signalized intersections.
- The route will connect to the future Tempe Streetcar and is a short distance from the existing LRT station at 3rd Street.

Discussion:

- The intersection of Mill Avenue and Apache Boulevard is awkward, particularly for northbound bicyclists, who need to make a left turn at a signalized intersection to remain on Northbound Mill Avenue.
- The width of the Mill Avenue underpass below the UPRR tracks near 16th Street is constrained.
- Mill Avenue is part of the route of the future Tempe Streetcar, which runs along Mill Avenue in both directions from Apache to University and for northbound only from University to Rio Salado Parkway. The streetcar tracks will introduce a flangeway into the street surface which is not desirable for bicyclists.

High-comfort facility need: SBLs

[KE2 - College Avenue Route \(Includes KE2a and KE2b\)](#)

This route would use College Avenue between Southern Avenue and Apache Boulevard, then would use Apache Boulevard as it turns into Mill Avenue, joining the Mill Avenue Route for its northern portion.

Existing conditions:

- College Avenue is designated by the City of Tempe as the BIKEiT “Pedal” Route. The route passes through the ASU campus on the College Avenue/Cady Mall alignment and emerges on the north side of campus.
- College Avenue has wide bike lanes along its entire length and traffic calming, including median islands and raised intersections.
- The route extends south over the US-60 freeway at a dedicated active transportation crossing. Using the crossing requires a slight jog, but no switchback ramps.
- The portion of Apache Boulevard on the route has bike lanes in the westbound/northbound direction, but not in the opposite direction.
- The Tempe Streetcar will run along this portion of Apache Boulevard, which may require additional design considerations.

Discussion:

- Northbound trips would use Apache Boulevard around the wide curve from Mill Avenue (KE2a). Southbound trips would use 13th Street as an alternative (KE2b). This would require a left-turn at the signalized intersection of Mill Avenue and 13th Street. An eastbound bike lane on 13th Street connects to an eastbound bike lane on Apache Boulevard.
- The route is somewhat indirect.
- Mill Avenue north of Apache Boulevard and Apache Boulevard east of Mill Avenue are proposed to house the Tempe streetcar, introducing a flangeway into the traffic lanes.

High-comfort facility need:

- College Avenue: bike lanes
- Apache Boulevard: SBLs
- Mill Avenue: Overlaps with the Mill Avenue route (SBL)

[KE3 - Roosevelt Street Route \(Includes KE3a and KE3b\)](#)

This route uses Roosevelt Street, a collector, between Southern Avenue and 13th Street. North of 13th Street, the route provides an option to continue north on the local street also called Roosevelt Street (KE3a), or to jog further east and use Ash Avenue (KE3b).

Existing conditions:

- The southern portion of Roosevelt Street has modest traffic volume and bike lanes its entire length.
- Two options are provided between 5th and 13th Streets because both have advantages. Local Roosevelt Street (KE3a) is most direct, and it is traffic calmed and suitable for shared bicycle and motor vehicle traffic. Ash Avenue (KE3b) carries higher volume but serves as an entry point to downtown Tempe. Ash Avenue also introduces both a connection to and potential conflicts with the future Tempe streetcar. It is also less direct, and the detour is probably not valuable if the Sprocket Route is used along the northern corridor.
- The connecting route, 13th Street, between Roosevelt and Ash Avenues has marked bike lanes and an at-grade railroad crossing.

Discussion:

- The southern section of Roosevelt Street does not connect to as many trip-attracting land uses as Mill or College Avenues. However, south of Broadway Road is one of Tempe's largest job clusters.
- The northern portion of Roosevelt Street is mostly single-family residential.
- No matter which route is used north of 13th Street, the route has a discontinuity.
- Ash Avenue comes somewhat close to the 3rd Street LRT station, but not Roosevelt Street.
- The portion of Ash Avenue north of University Drive is the route of the future Tempe streetcar (southbound only) which will introduce a flangeway into the street surface.

High-comfort facility need:

- South of 13th Street: bike lanes

- Roosevelt Street north of 13th Street: bicycle boulevard
- 13th Street: bike lanes
- Ash Avenue between 13th Street and University Drive: bicycle boulevard
- Ash Avenue north of University Drive: bike lanes

KE4 - Hardy Street Route

This route uses Hardy Street, a collector, for its entire length.

Existing conditions:

- Hardy Street is an impressive bicycling corridor with bike lanes for most of its length. South of the Tempe North Loop it crosses US-60 on a conventional non-interchange traffic bridge, and full-width bike lanes are maintained.
- Separated SBLs are provided between 16th and Howe Streets, one of the few examples of SBLs in the Phoenix metropolitan area. This treatment is high-quality, with effective buffers and clear designation of pavement use for cyclists and pedestrians.
- Traffic calming devices help control speeds and volume.
- The route is direct and continuous with signalized major street crossing.

Discussion:

- Hardy Street is west of the defined corridor for the eastern corridor. However, the route is included here because of its designation as a cyclist route and its connectivity to the south, where Hardy is recommended as a connection in the Tempe Central Loop.
- Bike lanes are discontinuous at the crossings of Southern Avenue, Broadway Road, and University Drive. The treatment should be improved, at least in the departing direction if not possible to improve the approach.
- The route does not serve downtown Tempe or ASU directly. It supports mostly office and residential uses with some retail at major cross streets.

High-comfort facility need: SBLs

KE5 - Farmer Avenue Route

This route uses Farmer Avenue, a local street, between its northern terminus near 1st Street and its southern terminus at Broadway Road. North of 1st Street, the route is shown on the Farmer Avenue alignment across Rio Salado Parkway as far north as the Rio Salado South Bank Path. South of Broadway Road, the route uses railroad right-of-way as far south as Alameda Drive.

Existing conditions:

- Farmer Avenue is traffic calmed and low-speed, serving residential land use. Land use north of University Drive remains mostly residential but increases in density.
- The street is direct and continuous, with a signalized crossing of University Drive.
- The route provides convenient access to the west side of the ASU main campus.
- The route would connect in the south to the Kyrene Avenue Route (LE2) on the Eastern Corridor of the Tempe Central Loop.

Discussion:

- A signalized or grade-separated crossing would be needed across Rio Salado Parkway to reach the Rio Salado South Bank Path. An at-grade crossing on the Farmer Avenue alignment would be problematic because of the sharp curvature just to the east on Rio Salado Parkway, which limits visibility at this location. The existing traffic signal at Lakeside Drive could be an alternative.
- Farmer Avenue is unsignalized at Broadway Road; an active transportation crossing would be needed.
- South of Broadway Road, the route would parallel an operational railroad track, which poses challenges to right-of-way acquisition and safety/operational issues.

High-comfort facility need:

- North of 1st Street: off-street shared use path
- 1st Street to Broadway Road: bicycle boulevard
- Broadway Road to Alameda Drive: off-street shared use path

KE6 – North/South Rail Spur Path Route

This route would use the Union Pacific Railroad (UPRR) corridor, which runs on a north-south alignment between Farmer and Ash Avenues. It would connect between University Drive and Southern Avenue.

Existing conditions:

- The route is currently occupied by railroad infrastructure and is not open to or suitable for cycling.

Discussion:

- The City of Tempe is in negotiations with UPRR to add a path along this corridor. Phase 1 of the project would provide a connection between University Drive and Baseline Road. The route is in the City's Capital Improvements Program and has been identified in the city's Transportation Master Plan as a low-stress north-south route.

High-comfort facility need: off-street shared use path

Other Routes Considered

Routes were considered through the ASU campus, but ultimately the campus was avoided because the campus paths can be dense with pedestrian traffic and not well suited for through cycling when school is in session.

No other streets offer through connectivity.

L. TEMPE CENTRAL LOOP

A corridor designated as the Tempe Central Loop is bounded roughly by I-10, Alameda Drive, Hardy Drive, and Guadalupe Road. Most of this loop is in the City of Tempe, but a portion crosses into the Town of Guadalupe.

Southern Corridor

The southern corridor of the Tempe Central Loop is roughly bounded by the Mineral and Cornell Road alignments. Only one alternative route was identified for the southern corridor.

LS1 - Guadalupe Road Route

This route uses Guadalupe Road between the Western Canal and Avenida del Yaqui. The Tempe portion of Guadalupe Road is classified as an arterial. The street is officially known as Calle Guadalupe in the Town of Guadalupe. The town does not maintain a street classification map, but the street functions as a collector in Guadalupe.

Existing conditions:

- The portion of the route in the Town of Guadalupe is traffic calmed, but it does not have bike lanes and the current lane configuration requires on-street cyclists to share the only through lane with motorists.
- However, a shared use path exists on the south side of Calle Guadalupe that can serve cyclists in both directions. The path has many driveway crossings that introduce potential conflicts, which indicate a need for safe crossing treatments.
- The Tempe portion of the route has marked bike lanes almost all its length. The bike lanes terminate in the west at the Highline Canal Path, providing a good connection to a high-quality detour for cyclists uncomfortable continuing on Calle Guadalupe.
- The route is direct and continuous, and it connects to excellent cycling facilities on both the Highline and Western Canal Paths.

Discussion:

- The Tempe portion of the route is a 5-lane undivided facility, with high volumes and speeds.
- In Tempe, the bike lanes do not always continue through intersections (such as eastbound through Kyrene Road and in both directions at Maple Avenue).
- The route serves Compadre High School, but otherwise few trip-attracting uses.

High-comfort facility need:

- Calle Guadalupe (west of the Highline Canal): off-street shared use sidepath
- Guadalupe Road (east of the Highline Canal): SBLs

Other Routes Considered

The area is very difficult for east-west connectivity, because no streets cross the Highline Canal within ½ mile of Guadalupe Road. Furthermore, a new bridge crossing of the canal would be difficult because the east (Tempe) side of the canal is fully developed with residential parcels. Furthermore,

there are significant socioeconomic differences between neighborhoods on the east and west sides of the canal.

For example, one potential street connection where no parcels block access between the street and the canal is Magdalena Drive in Tempe. However, access between this street and the canal is completely blocked by a block wall, illustrating that residents in this neighborhood value privacy and seclusion much more than canal access. Also, even though the shared use path is on the west side of the canal, access between the canal and adjoining streets on the west side is also fenced for its entire length.

The southern corridor is so short, at about 1 mile long, that no route is feasible if it does not cross the Highline Canal, and as such, no routes other than Guadalupe Road appear to be feasible.

Northern Corridor

The northern corridor of the Tempe Central Loop uses the same routes as the southern corridor of the Tempe North Loop (KS1, KS2, and KS3). No additional corridors were identified specifically associated with the Central Loop.

Western Corridor

The western corridor of the Tempe Central Loop is roughly bounded by alignments about 1/3 mile west of I-10 and 2/3 mile east of I-10. Two alternative routes were identified for the western corridor, though there is considerable overlap between the two.

[LW1 - Priest Drive Route](#)

This route uses Priest Drive, an arterial, in the Tempe portion of the route. Priest Drive changes names to Avenida del Yaqui in the Town of Guadalupe. As noted earlier, Guadalupe does not publish a street classification map, but the street functions as collector in Guadalupe.

Existing conditions:

- The Guadalupe portion of the route does not have conventional traffic calming devices, but it does have occasional all-way stop intersections, one travel lane in each direction, and a 25-mph speed limit. These features help keep speeds low.
- Avenida del Yaqui is Guadalupe's main thoroughfare, and the street connects most of the town's major destinations.
- In Tempe, Priest Drive has bike lanes north of Baseline Road, but the street's traffic activity makes bike lanes alone uncomfortable as an accommodation for some riders.
- Priest Drive serves Arizona Mills mall and many other retail destinations.

Discussion:

- While the interchange with US-60 provides a rare crossing opportunity, it introduces significant turning movement conflicts for cyclists.
- Bike lanes do not exist on the route south of Baseline Road in either Tempe or Guadalupe.
- In Guadalupe, the street may be too narrow to add bike lanes without widening.

High-comfort facility need: SBLs

LW2 - Highline Canal Route

This route uses the Highline Canal between Priest Drive and Guadalupe Road, a distance of about one mile, providing an alternative to the portion of the Priest Drive Route in the Town of Guadalupe.

Existing conditions:

- The route is a high-quality off-street paved shared use path equipped with amenities such as lighting, landscaping, and benches.
- The crossing of Guadalupe Road is equipped with a pushbutton activated RRFB. This crossing is where Guadalupe Road transitions from 25 mph (Guadalupe) to 40 mph (Tempe).
- Tempe is constructing a [project to provide a 10-foot-wide concrete shared use path along the Highline Canal](#), including street crossing treatments, lighting, landscaping, and public art.

Discussion:

- The route has no connections to any local land uses along its 1-mile length. It serves only through traffic. It may be possible to provide a connection using an alley on the east side of the path between Oxford Drive and Auburn Drive, but use of the alley is a disadvantage, and this connection would emerge on the opposite side of the canal as the paved shared use path. The City of Tempe shows a connection in the vicinity of this alley as part of its future “Spoke” BIKEiT route with the caveat that the route alignment has yet to be determined.
- While the route is attractive and pleasant to ride, some shared use path users may perceive security concerns because it is bounded on the west by a fence and the east by the canal. A user facing a security threat ahead can turn around but cannot leave the shared use path at any intermediate points between Priest Drive and Guadalupe Road.
- The route does not offer an alternative to Priest Drive in Tempe.

High-comfort facility need: paved off-street shared use path

Other Routes Considered

The western corridor is highly constrained by the I-10 and US-60 freeways. Routes on the west side of I-10 were investigated, because these routes would avoid a US-60 crossing, but they would require two crossings of I-10 to complete the loop. A crossing of I-10 at Guadalupe Road is possible, and in fact is shown as an alternative route (MN2) in the Tempe South Loop. Heading north from there on the west side of I-10 is problematic, because only two streets connect Baseline and Guadalupe Roads—48th Street and Pointe Parkway East—and both are private streets.

Routes on the east side of I-10 are limited to those that cross US-60, and Priest Drive is the only US-60 crossing in the defined corridor. (Hardy Drive, about ½ mile east of Priest Drive, is shown as Route LE1 on the eastern corridor.)

Eastern Corridor

The eastern corridor of the Tempe Central Loop is roughly bounded by the Cutler Drive and Kyrene Avenue alignments. Three alternative routes were identified for the eastern corridor, all within the City of Tempe.

LE1 - Hardy Drive Route

This route uses Hardy Drive, a collector, between Guadalupe Road and Alameda Drive.

Existing conditions:

- As discussed as part of the Tempe North Loop, Hardy Drive has one lane in each direction and bike lanes. It continues north toward downtown Tempe but does not connect as a through street south of Guadalupe Road.
- The route crosses the Western Canal and US-60 with the same cross section, the only street in the defined corridor to make these two crossings.
- The route is direct and continuous with signalized major-street crossings.
- North of the Western Canal, Hardy Drive is part of the Tempe BIKEiT “Handlebars” bicycle boulevard route.

Discussion:

- The bike lanes are discontinuous across Baseline Road and Southern Avenue.
- Most land use along Hardy Drive is residential, though commercial exists at some arterial crossings and north of Southern Avenue.

High-comfort facility need: SBLs

LE2 - Kyrene Road (Includes LE2a and LE2b)

Kyrene Road uses two different alignments, with a jog in the street at Baseline Road. This route uses the eastern alignment of Kyrene Road. The route uses Kyrene Road between Southern Avenue and Baseline Road but uses Union Pacific Railroad (UPRR) right-of-way on the same alignment to the north of Southern Avenue and south of Baseline Road (LE2a). An alternative connection (LE2b) is shown along local streets Malibu Drive, Wilson Street, and Laguna Drive that would provide access to the Roosevelt Street Route (KE3) of the Tempe North Loop.

Existing conditions:

- The City of Tempe is [constructing a paved shared use path along the North-South Rail Spur](#) that includes portions of Kyrene Road and other streets.
- The City’s project includes separated bike lanes, either one way on each side of the street or two-way on the west side of the street, to avoid the intersection of Southern Avenue, Kyrene Road, and the UPRR tracks.
- The segment of Kyrene Road between Southern Avenue and Baseline Road has bike lanes and one travel lane in each direction. Volume is low, partly because the segment is relatively short (1 mile). The crossing of US-60 occurs at a non-interchange location and bike lanes extend across the bridge.

- If a shared use path could be constructed along the railroad alignment, it would be a preferred accommodation for cyclists because of the absence of traffic. The route would require very little adverse-direction travel.

Discussion:

- New shared use path construction would be required along the UPRR alignment assumed for this route between Alameda Drive and Southern Avenue. The UPRR alignment is constrained north of Southern Avenue, a challenge for this route.
- The City of Tempe is in negotiations with UPRR on Phase 1 of a shared use path along this alignment, between University Drive and Baseline Road. The City has programmed funds for Phase 2, which would extend from Baseline Road to Knox Road. Both phases are in the city's Capital Improvements Program and are identified in the city's Transportation Master Plan as low-stress north/south routes.
- The crossing at Southern Avenue would require significant improvements because of conflicts with the Kyrene Road intersection and the UPRR tracks.
- A connection at Baseline Road may also be problematic. The route could use a shared use path within Kiwanis Park, but using this shared use path would require two crossings of the railroad tracks, once at Baseline Road and once at the Western Canal.
- The segment south of Guadalupe Road appears to be outside of the City of Tempe in a narrow Maricopa County island.

High-comfort facility need:

- Kyrene Road: bike lanes
- Elsewhere: paved shared use path
- Local streets in LE2b: bicycle boulevard

[LE3 - Western Canal Route](#)

This route uses the Western Canal Path between Hardy Drive and Guadalupe Road.

Existing conditions:

- The Western Canal is a high-quality paved shared use path popular with cyclists and other active transportation travelers.
- The route adjoins Kiwanis Park, where facilities and amenities are available for shared use path users.
- The Western Canal is part of the Tempe BIKEiT "Handlebars" bicycle boulevard route.

Discussion:

- The shared use path is not contained within the defined corridor. At the southern end, it intersects Guadalupe Road about ½ mile east of the defined corridor. However, the Western Canal Path is important to consider for this loop because of its clear choice as a route in the Tempe South Loop.
- Other than Kiwanis Park, the route does not connect with trip-attracting land uses.

- The City of Tempe is proposing a crossing of Baseline Road as part of its North-South Rail Spur Path project (discussed as part of Route LE2).
- The canal route serves only the southern portion of the eastern corridor. The northern portion would continue to be served by either the Priest Drive or Kyrene Road route.
- The shared use path has a marked crosswalk and median refuge where it crosses Guadalupe Road, but an active crossing is probably needed to encourage wider use.

High-comfort facility need: paved shared use path

Other Routes Considered

No other streets in the defined corridor cross US-60, and no other streets have significant advantages to offset the lack of a crossing. No new crossing points are planned in the area, and no crossings appear to be viable because of continuous residential land use on the north side of the freeway.

TIER 2 CORRIDORS

Tier 2 corridors connect activity centers having a level of demand/propensity for active transportation trips lower than Tier 1 corridors, but potentially higher than other parts of the MAG region. Thus, Tier 2 corridors might be a lower priority for investment in high-comfort active transportation facilities, but still worthwhile to consider for such investments.

M. TEMPE SOUTH LOOP

A corridor designated as the Tempe South Loop is bounded by the I-10, Ray Road, SR-101, and the Western Canal. This loop is also mostly in the City of Tempe, but parts of some routes enter the City of Phoenix, the City of Chandler, and the Town of Guadalupe.

Southern Corridor

The southern corridor of the Tempe South Loop is roughly bounded by the Knox Road and Galveston Street alignments. Two alternative routes were identified for the southern corridor.

MS1 - Ray Road Route

This route uses Ray Road for its entire length. In two segments of about ½ mile each, Ray Road forms the boundary between Tempe and Chandler, but mostly the street falls within, and is controlled by, Chandler. The route may extend west as far as 48th Street; the portion of Ray Road between I-10 and 48th Street is in the City of Phoenix. Both Chandler and Phoenix classify the street as an arterial.

Existing conditions:

- The street has bike lanes east of I-10, but bike lanes alone are not likely to attract new riders to the route.
- Ray Road serves major retail centers on both sides of I-10, and less prominent retail further east. It is direct and connects to adjacent neighborhoods.
- Ray Road is in the center of the defined corridor.

Discussion:

- Ray Road has very high speeds (45 mph east of I-10 and 40 mph west of I-10) and volumes. Chandler’s Transportation Master Plan indicates that the segment of the street between McClintock and Price Roads carries the second-highest volume of any street in the city, at over 41,000 vpd.
- The configuration with three lanes in each direction and a raised median, along with high speeds and volumes, will complicate left turns from the corridor.
- Through the I-10 interchange and west of I-10, Ray Road does not have bike lanes. In the interchange proper it appears that pavement exists to add them as part of a lane diet, but west of I-10 the pavement width does not appear sufficient to add bike lanes.

High-comfort facility need: SBLs

[MS2 - Knox Road Route \(Includes MS2a and MS2b\)](#)

This route uses a series of streets and connections between SR-101 and 48th Street north of Ray Road that avoids the use of arterial streets. From the SR-101 southbound frontage road, it travels west on Caroline Lane and La Vieve Lane, then jogs south to Knox Road on Juniper Street. At Kyrene Road, the route can continue west on Knox Road (MS2a) or can shift south to Ray Road on the Kyrene Branch Canal Path (MS2b). Several segments of the route use short shared use paths for connectivity. West of Priest Drive the route remains on roughly the Knox Road alignment, but streets mostly do not exist in this area.

The Kyrene Branch Canal Path is in Chandler and the segment west of I-10 is in Phoenix, but the remainder of this route is in Tempe. Tempe classifies parts of Knox Road as a collector street, but most of the route uses local streets, along with a few off-street connections.

Existing conditions:

- The low-volume nature of the streets is well suited to active transportation.
- This route is taken from the City of Tempe’s Transportation Master Plan. Tempe’s plan designates the portion of this route in Tempe as a bicycle boulevard known as the BIKEiT “Seat” Route. The Seat route terminates in the west at the Highline Canal, but the proposed MAG ATP route was extended to 48th Street on roughly the same alignment.
- The discontinuities in the route help maintain low traffic volumes and speeds. Most of these interruptions are well configured to allow active transportation users to pass through while motor vehicles cannot. This is an excellent configuration for a bicycle boulevard.
- The Kyrene Branch Canal Path provides an ideal corridor to access Ray Road for the western portion of the route if it is determined that the existing discontinuities in the western portion of this route cannot be overcome. A shared use path is maintained along the Kyrene Canal, but it should be paved if designated for greater use.
- Bike lanes are present between Rural Road and Kenneth Place (approximately ½ mile).

Discussion:

- The route does not have an effective crossing of the UPRR tracks 400 feet east of Hardy Drive. A paved shared use path approaches the crossing on both sides but improvements through the crossing are needed, along with approval from the UPRR.
- The route needs a bridge over I-10 to reach as far west as 48th Street. A bicycle/pedestrian bridge over I-10 at Knox Road was identified as a priority in the Spine Study to support the City of Tempe BIKEiT Seat Route in the City's Transportation Master Plan.
- The Knox bridge over I-10 would need considerable street or shared use path connectivity to be useful. On the east side of I-10, it may be possible to use an existing retention basin for a portion of the route. From there, a bridge over the Highline Canal would be needed to connect to the terminus of the exiting paved shared use path. On the west side of I-10, the bridge is near the north end of Mountain Vista Park, and further west it connects to a wide drainage channel; it may be possible to modify the area to accommodate a paved shared use path. It is unknown whether some of these needed improvements are on private property.
- Knox Road jogs where it crosses Kyrene Road, and an active crossing is not currently available at either intersection. Kyrene Road is about 70 feet wide, has 5 lanes and is posted at 45 mph. Improvements to this crossing and jog would be needed.
- The route serves Corona del Sol High School and a few elementary schools, but otherwise mostly residential uses.
- The route crosses McClintock Drive where it is about 68 feet wide, has 5 lanes and a posted speed limit of 45 mph. An active crossing of McClintock Drive at La Vieve Lane is needed.
- West of Rural Road, traffic-calming chokers were constructed that block the path of cyclists. Signs and markings direct cyclists to use the sidewalk to bypass the chokers, but this could create conflicts with pedestrians and is not an ideal treatment.
- The segment between Warner Ranch Drive and Dateland Drive is likely private property (possibly HOA common area) that would require an easement from the property owners for construction. A portion of the private-property impact could be avoided by moving the route to the local street Knox Road.
- Priest Drive is about 68 feet wide with 5 lanes and a speed limit of 45 mph, and it would need an active crossing. This crossing is located about 480 feet north of an existing traffic signal.

High-comfort facility need:

- SR-101 southbound frontage road to Kenneth Place: bicycle boulevard, interspersed occasionally with segments of off-street connecting shared use paths.
- Kenneth Place to Warner Ranch Drive: bike lanes, with modifications to traffic calming chokers as needed.
- Warner Ranch to Dateland Drives: off-street shared use path.
- Dateland Drive to Kyrene Road: bicycle boulevard.
- Kyrene Road: improved crossing, two-way SBL on west side.
- Kyrene Road to McKemy Street: bicycle boulevard.
- McKemy Street to Margo Drive: off-street shared use path plus a RR grade crossing.
- Margo to Priest Drives: bicycle boulevard.

- West of Priest Drive: off-street shared use path.

Other Routes Considered

No east-west streets have good connectivity and directness south of Ray Road. Although there is an active transportation crossing of SR-101 on the Galveston Street alignment, this street does not have connectivity to the west, and it does not cross either the UPRR tracks or I-10. The Knox Road Route is the least circuitous option available north of Ray Road; any other options would be less direct and would compete with Tempe's designated Seat route.

Northern Corridor

The northern corridor of the Tempe South Loop is roughly bounded by the Cornell Drive and Mineral Road alignments between I-10 and the Western Canal, then bounded by Guadalupe and Elliot Roads between the Western Canal and SR-101. Three routes were identified along the northern corridor.

MN1 - Western Canal Route (Includes MN1a and MN1b)

This route would use the paved Western Canal Path (also identified as the Sun Circle Path) from its intersection with Guadalupe Road (MN1a), then head south and then east as far as the SR-101 southbound frontage road. The route could also extend approximately 1.1 miles further west along the Mineral Road alignment (located halfway between Elliot and Guadalupe Roads) to the Highline Canal Path (MN1b).

Existing conditions:

- The Western Canal Path is a paved shared use path away from motor vehicle traffic.
- High-quality PHB crossings are provided at Rural Road and McClintock Drive.
- The northern corridor does not continue east of SR-101, but the shared use path crosses SR-101 on a grade-separated overpass and continues east many miles into Gilbert.
- The City of Tempe is [currently constructing a paved shared use path extension from the Western Canal](#) to Kyrene Road along route MN1b.

Discussion:

- The paved shared use path switches between the north and south sides of the canal twice along the route, requiring cyclists to slow significantly to traverse narrow bridges. It would be ideal to maintain the paved shared use path on the same side of the canal for its entire length, but if this is not possible, it would be preferred to widen the radii approaching and departing the canal crossings.
- The shared use path connects to nearby neighborhoods occasionally along its length, but connectivity to local land use is not among its strengths. For example, the shared use path directly adjoins Kyrene del Norte Elementary School, but there is a continuous fence between the school and the shared use path that does not allow access.
- This route does not extend west as far as Priest Drive or 48th Street.
- The MN1b crossing of Kyrene Road is about 78 feet wide, has 5 lanes and is posted at 45 mph. Tempe is proposing to signalize this crossing as part of its Western Canal Extension project; a signal would be ideal for high-comfort bicycle travel.

High-comfort facility need: paved off-street shared use path

MN2 - Guadalupe Road Route

This route would use Guadalupe Road between the Tempe Central Loop and SR-101. Guadalupe Road was identified as a route for the southern corridor of the Tempe Central Loop, and this corridor also uses that portion of Guadalupe Road. This corridor extends farther east to serve the entire northern corridor of the Tempe South Loop.

The conditions listed for the earlier Guadalupe Road Route also apply to the Tempe South Loop. The Tempe portion of Guadalupe Road has a largely consistent cross section between Hardy Drive and SR-101, so the discussion of the earlier segment also applies here. Several additional issues are related to this segment:

Additional existing conditions:

- The route passes Marcos de Niza High School, Kiwanis Park, and many retail and other trip-attracting land uses, mainly at arterial intersections.

Additional discussion:

- The westbound bike lane is discontinuous through the McClintock Drive intersection
- At SR-101, there is a conflict with the high-volume eastbound and southbound right-turn movements, which will complicate connections to the westbound bike lane.

High-comfort facility need: SBLs

MN3 - Elliot Road Route

This route would use Elliot Road, an arterial, between I-10 and SR-101.

Existing conditions:

- Elliot Road is direct and avoids issues within the Town of Guadalupe.
- The street serves considerable commercial uses west of Kyrene Road. It also connects the ASU Technology Park and other trip-attracting uses west of SR-101.

Discussion:

- Elliot Road is very busy with a 45-mph speed limit, three lanes in each direction, and no bicycle accommodations anywhere along its length (unlike Guadalupe Road).
- Freeway interchanges at both I-10 and SR-101 increase conflicts with active travelers.
- Elliot Road is on the southern edge of the defined corridor, but it does not serve the jog north along the western portion of the Northern Corridor (including South Mountain Community College).

High-comfort facility need: SBLs

Other Routes Considered

Through-street connectivity and some high-quality crossings exist on Bell de Mar Drive/Vaughn Street, but this route is indirect, serves only residential communities, and does not connect well west of Rural Road. No other through streets exist in the vicinity.

Western Corridor

The western corridor of the Tempe South Loop is roughly bounded by 48th Street and Priest Drive. Four routes were identified along the western corridor, but none of the four are fully within the defined corridor.

MW1 - Hardy Drive Route (Includes MW1a and MW1b)

This route uses Hardy Drive, a collector street, between the Knox Road alignment and Grove Parkway. South of Knox Road, the route uses a paved off-street path to reach Ray Road. North of Grove Parkway, the route jogs to use the Highline Canal Path north to Guadalupe Road.

Existing conditions:

- Hardy Drive is a strong route alternative in both the Tempe North and Central Loops, and extending Hardy to the south would be a mostly direct extension.
- Hardy Drive has bike lanes between Warner Road and Grove Parkway, and lower speed limit (35 mph) and volume than nearby arterials.
- The paved shared use path north of Ray Road provides excellent connectivity off-street.
- The route provides direct access to the Tempe Sports Complex, including the Cardinals Training facility, as well as number of retail and commercial/office properties and small colleges.

Discussion:

- The jog between Hardy Drive and the Highline Canal Path is not ideal. Two options are possible
 - Using Grove Parkway (MW1a), which has existing buffered bike lanes. Neither Hardy Drive nor the Highline Canal Path has a controlled crossing of Grove Parkway, which complicates the crossing and jog movements.
 - Making a connection in the residential neighborhood south of Grove Parkway (MW1b). This connection would pass through private land and through an existing community.

Either crossing of Grove Parkway would require a crossing improvement since Grove Pkwy is a wide, 40 mph 5-lane higher-volume collector, which is curved between Hardy Drive and the Highline Canal.

- It is not possible to transition directly from the Highline Canal Path to Hardy Drive north of Grove Parkway. This transition is blocked by residential development south of Guadalupe Road, which may mean that the transition must happen on Guadalupe Road itself. Adding a short segment of Guadalupe Road to connect further north on Hardy Drive is not ideal because of the difficulty in making the crossing comfortable.
- Hardy Drive is considerably west of the defined corridor.

High-comfort facility need:

- Ray Road to Knox Road alignment: off-street shared use path.
- Knox to Warner Roads: shared roadway.
- Warner Road to Grove Parkway: SBLs.
- Highline Canal: off-street shared use path.

MW2 - Priest Drive Route (Includes MW2a and MW2b)

This route uses Priest Drive, an arterial, from Ray Road north. This route enters the Town of Guadalupe between Calle Carmen and the Highline Canal (approximately 1 mile), where Priest Drive is named Avenida del Yaqui and functions as a collector street.

Existing conditions:

- As with Hardy Drive, Priest Drive is also a possible route for the Tempe Central and North routes, offering a potential long-distance corridor.
- As discussed earlier, the Town of Guadalupe portion of the route is narrower with multiple all-way-stop-controlled intersections and a lower speed (25 mph) than the Tempe portion, but does not have bicycle facilities.
- The route connects considerable trip-attracting uses, particularly at major street intersections.

Discussion:

- A short segment of Priest Drive north of Grove Parkway is equipped with buffered bike lanes. A southbound bike lane is in place between Warner and Knox Roads, but other sections do not have bicycling accommodations.
- Connecting through the Grove Parkway intersection will require northbound bicyclists to turn left to remain on the route.
- The route has high speeds (40/45 mph) outside the Town of Guadalupe.

High-comfort facility need:

- Town of Guadalupe: bike lanes
- Guadalupe/Tempe city limits to Grove Parkway: SBLs
- South of Grove Parkway: SBLs

MW3 - 48th Street Route

This route uses 48th Street in Phoenix, an arterial street, between Ray and Guadalupe Roads.

Existing conditions:

- While it is an arterial, 48th Street does not carry as much traffic as many similar streets because of its discontinuity and its proximity to I-10.
- The street has bike lanes south of approximately Piedmont Road.
- The route connects retail uses at Ray, Warner, and Elliot Roads with mostly residential uses elsewhere.

Discussion:

- Using this route requires two crossings of I-10. None of the proposed crossings of I-10 are ideal in existing conditions. However, a bicycle/pedestrian crossing of Guadalupe Road is in the Spine Study recommendations and is an ADOT I-10 Near-Term Improvement strategy.
- The route has some shallow curvature that slightly limits its directness.
- 48th Street north of Piedmont Road is too narrow to add bike lanes without removing the raised median or widening the road. This area is currently has shared lane markings and a 35 mph posted speed.
- Higher speeds (40/35 mph) exist along this corridor.

High-comfort facility need: SBLs

[MW4 - Railroad Route](#)

This route uses railroad right-of-way between the Western Canal/Mineral Road alignment and the Knox Road alignment. The route does not currently accommodate active transportation.

Existing conditions:

- A shared use path along this alignment would be ideal for comfort because of its separation from existing traffic.
- The route would connect to the Kyrene Road segment to the north, which is also constrained by lack of existing shared use path on railroad right-of-way.

Discussion:

- The route runs along an operational railroad corridor, and designating a safe active transportation shared use path so near the tracks is likely to prompt jurisdictional and safety challenges.
- An active transportation crossing would be needed across Warner Road.
- A particular challenge would be accommodating the shared use path along a severe skew directly across the intersection of Kyrene and Elliot Roads. A shared use path would likely need to take advantage of the existing signalization but modify the intersection to accommodate high-comfort shared use path crossing.
- The route would be somewhat isolated from adjacent parcels.
- An operational rail spur exists on the east side of the corridor between the Western Canal and Elliot Road. The spur would likely indicate a preference for the shared use path on the west side of the tracks. (However, another spur on the west side is about ¼ mile north.)
- The route is well outside the boundary of the Western Corridor.

High-comfort facility need: Off-street shared use path

[Other Routes Considered](#)

I-10 is the dominant transportation feature in this corridor, and the interstate limits the availability of active transportation routes nearby. West of I-10, a route was explored that would use local streets

in Phoenix to avoid some portions of 48th Street, but this route was rejected because of its indirectness. East of I-10, no other streets provide acceptable north-south connectivity.

Eastern Corridor

The eastern corridor of the Tempe South Loop is shown on the AT Grid roughly along SR-101. Two alternative routes were identified along the eastern corridor.

ME1 - Price Road Route

This route would use the ADOT-maintained SR-101 west frontage road between Ray and Guadalupe Roads.

Existing conditions:

- The SR-101 west frontage road carries only one-way southbound traffic, which helps limit conflicts with turning movements.
- Southbound bike lanes are provided along much of the segment, but typically the bike lanes do not extend through interchanges.
- A wide sidewalk is provided along the west curb that could be repurposed as a two-way SBL. This facility would, however, experience conflicts at the driveway crossings and intersections along its length, and separate accommodations would be needed for pedestrians outside the SBL.
- The route is direct and has signalized major-street crossings.
- There are two convenient non-interchange crossings of SR-101: the Western Canal (½ mile south of Guadalupe Road, for active transportation users only), and Conference Drive (½ mile south of Elliot Road).

Discussion:

- Traversing interchanges is a particular challenge for many cyclists because of conflicts with heavy turning movements, often with southbound dual right-turn lanes off the frontage road.
- The land use adjacent to the route is not overly active. The freeway limits access to the east. While offices and academic uses are present north of Warner Road along the west frontage road, they are often not well connected to the frontage road.
- The speed limit along the frontage road is 45 mph.

High-comfort facility need: two-way SBL on the west side

ME2 - Country Club Way Route

This route uses sections of several streets and shared use paths to traverse between Guadalupe Road and Caroline Lane without using arterial streets. Between Guadalupe and Elliot Roads it uses Country Club Way, a collector street. Country Club Way does not cross the Western Canal, but a paved off-street shared use path connects to and across the canal from both the north and south, providing active transportation connectivity. Between Elliot and Warner Roads the route uses an off-street shared use path on the western boundary of the ASU Research Park, a portion of which is unimproved. South of Warner Road, the route uses Fairfield Drive, a local street, to reach Caroline Lane.

Existing conditions:

- A preliminary design project for a shared use path along this route (funded by MAG) was completed in 2017. [The City of Tempe has received funding for design and construction.](#)
- Country Club Way has bike lanes and is low volume because of its discontinuity.
- The off-street shared use path between Warner and Elliot Roads is only partially paved, but a corridor appears to exist for a continuous route. This route connects to the active uses along River Parkway.
- Fairfield Drive is a low-volume local street that is traffic calmed. It does not have front-facing homes.
- The entirety of this route, including the Research Park Path, is designated by the City of Tempe as part of a future BIKEiT bicycle boulevard, the “Reflector” route. This facility is proposed to extend across US-60 into North Tempe as well, eventually extending as far as Tempe Town Lake.

Discussion:

- The route does not extend as far south as Ray Road. No streets between McClintock Drive and Price Road connect to Ray.
- The route involves a jog along Warner Road, a poor location for a jog because of the lack of an active crossing. Warner Road does have bike lanes, however.
- Active crossing improvements are needed across Warner and Elliot Roads, both 45-mph arterials.

High-comfort facility need:

- Country Club Way: bike lanes
- Western Canal Crossing: off-street shared use path
- Research Park Path: off-street shared use path
- Fairfield Drive: bicycle boulevard

[Other Routes Considered](#)

No direct route exists on the east side of SR-101. A connection could be made using a convoluted network of local streets, but this would be highly indirect, offer poor land-use service, and would require two crossings of SR-101 to access the remainder of the Tempe South Loop. River Parkway was considered as a component of route west of SR-101, but this route does not connect either north of Elliot Road or south of Warner Road. Lack of crossings of the Western Canal and the Tempe-Chandler boundary discourage additional viable routes.

N. MESA LOOP

A corridor designated as the Mesa Loop is bounded roughly by Dobson Road, Brown Road, Center Street, and Baseline Road. This loop is almost completely within the City of Mesa, but it crosses into Gilbert in its southeast corner.

Southern Corridor

The southern corridor of the Mesa Loop is roughly bounded by Guadalupe Road and US-60. Three alternative routes were identified for the southern corridor, but they do not all provide a continuous route along the entire corridor.

NS1 - Baseline Road Route

This route uses Baseline Road, an arterial, for its entire length.

Existing conditions:

- Baseline Road is direct and continuous, one of the few east-west streets in the area with these characteristics.
- Trip-attracting land uses are situated along the corridor, concentrated more heavily in the east.
- The street would connect to the Gilbert Loop, discussed later, to form a long continuous facility.

Discussion:

- Baseline Road has no bicycle accommodations, and the City of Mesa 2012 Bicycle Master Plan does not identify any bicycling accommodations for this street.
- The six-lane divided arterial carries very high volumes and speeds (45 mph); left-turns are notably difficult.

High-comfort facility need: SBLs

NS2 - Isabella Avenue Route (Includes NS2a and NS2b)

This route would use Isabella Avenue, a local street, between Extension Road and Longmore.

Existing conditions:

- The street does not have marked bike lanes, but is narrow and carries low volume.
- The route crosses Alma School Road at a signalized intersection.

Discussion:

- It is necessary to make two 90-degree turns between Alma School and Extension Roads to remain on Isabella Avenue, which impedes directness.
- The route only connects between Extension Road and Longmore. Traveling further east would require jogging south to Baseline Road. Two options are possible for this jog:
 - Emerson (NS2b), a local street that connects to Baseline Road. (A bicyclist can also travel further south to Extension Road, via Laguna Azul Avenue, on this street.) Emerson is a traffic-calmed local street.
 - Extension Road (NE3), a collector street. Extension Road is a five-lane collector street with a 40 mph speed limit, but it does have bike lanes. An active crossing would be needed where Isabella Avenue intersects Extension Road.
- The route is mostly residential (front-facing homes) but adjoins some commercial uses at Alma School Road.

High-comfort facility need: bicycle boulevard

NS3 - Medina Avenue Route

This route would use Medina Avenue and Lindner Avenue/Patterson to connect Extension Road and Longmore. Both Medina Avenue and Lindner Avenue/Patterson are local streets.

Existing conditions:

- Local streets on this route have pavement markings and other characteristics of collectors.
- Both streets have an unusual combined bike-parking lane that may not be MUTCD compliant and may encourage cyclists to ride too close to parked vehicles. (Longmore has this same treatment south of Baseline Road.)
- The streets are relatively low volume.

Discussion:

- As with the Isabella Avenue Route, this route only exists between Extension Road and Longmore. Traveling further east would require using Baseline Road.
- The route serves mostly residential uses, except for two elementary schools and a large church.
- If a traveler's ultimate destination is further east, this route introduces considerable redundant travel distance because of the need to return to Baseline Road.

High-comfort facility need: bike lanes

Other Routes Considered

It would have been ideal to identify another route that traversed the full length of the southern corridor, but street connectivity is sorely lacking in the area. Constraints include the railroad tracks along the Center Street alignment. Southern Avenue would have been a possible route that would avoid crossing US 60 while providing a direction connection to DeVry University, but it is ½ mile north of the defined corridor and there would be no direct connection to the Gilbert Loop.

Northern Corridor

The northern corridor of the Mesa Loop roughly parallels the Tempe Canal and Brown Road alignments. Two alternative routes were identified for the northern corridor, but they do not both provide a continuous route along the entire corridor.

NN1 - Tempe Canal Route

This route uses the Tempe Canal west of Alma School Road and the Crosscut Canal east of Country Club Drive. Between Alma School Road and Country Club Drive, the canal path is discontinuous, but the route uses a very high-quality alternative constructed by the City of Mesa along 10th Street, Date, and Brown Road.

Existing conditions:

- The Tempe Canal itself is a high-quality facility with a paved shared use path on the north bank and an unpaved shared use path on the south bank.
- The canal path detour uses a network of SBLs and local streets, an outstanding example of how to create a comfortable cycling accommodation in a challenging street network. The detour uses the following segments:
 - A two-way SBL on the east side of Alma School Road, an arterial, between the canal path and 10th Street
 - Shared-lane markings on 10th Street, a local residential street with front-facing homes, between Alma School Road and Date.
 - A two-way SBL on the west/north side of Date and Brown Road, collector streets, between 10th Street and Country Club Drive
 - A two-way SBL on the west side of Country Club Drive, an arterial, between Brown Road and the Crosscut Canal.
- The shared use path traverses the intersection of Brown Road and Country Club Drive without any motor vehicle turning movement conflicts, an excellent configuration.
- The Crosscut Canal crosses Country Club Drive at a full signal with a green-painted crosswalk, allowing access to either bank of the shared use path. The shared use path also crosses Center Street at a traffic signal and Mesa Drive at a Rectangular Rapid-Flashing Beacon (RRFB) crossing.
- Both banks of the Crosscut Canal have a paved shared use path between Country Club Drive and Center Street; east of there, only the north bank is paved, but the south bank remains open as an unpaved shared use path.
- The segment between Alma School Road and Horne will be part of the revised USBR 90 route. USBR 90 is being realigned to this route (from Rio Salado Pkwy) due to the bike facility improvements.

Discussion:

- An active crossing is not currently provided where the Tempe Canal Path crosses Alma School Road (6-lane arterial posted at 45 mph), Rio Salado Parkway (5 lanes posted at 35 mph), or Dobson Road (7-lane arterial posted at 40 mph). On Alma School Road, a signalized crossing does exist at Bass Pro Drive, about 500 feet north of the canal.
- Unfortunately, the paved north bank shared use path along the Tempe Canal is fenced just west of Alma School Road. Thus, for continuous access between Rio Salado Parkway and Alma School Road, shared use path users must use the unpaved shared use path on the south bank of the canal. The fence should be removed or the south bank shared use path paved if this route is selected.
- The route is somewhat isolated from adjacent land use and serves limited trip-attracting land uses.

High-comfort facility need:

- Tempe Canal: paved off-street shared use path
- Alma School Road: two-way SBL on the east side

- 10th Street: shared roadway
- Date/Brown Road and Country Club Drive: two-way SBL on the north/west side
- Crosscut Canal: paved off-street shared use path

NN2 - Riverview Route

This route uses a paved off-street shared use path north of the Riverview retail center between Dobson and Alma School Roads. This section is also a part of the future revision to the USBR 90 route alignment west of Alma School Road.

Existing conditions:

- The paved shared use path is separated from traffic, but it is short.
- The route serves the Riverview Shopping Center more fully than the Tempe Canal Route, but even so, the paved shared use path does not provide connections to the retail center as frequently as desirable. Some access points are gated, which can require a detour for shared use path users to reach a particular business.
- The route also indirectly serves Sloan Field (Chicago Cubs Spring Training facility) and environs.
- Directly north of SR-202, shared use path users can access the Rio Salado Path, which extends west many miles into Tempe.
- The two-way SBL on Alma School Road extends north to the traffic signal at Bass Pro Drive, allowing a high-quality connection from the Riverview Path to 10th Street and the Tempe Canal Path east of Alma School Road.

Discussion:

- Since the route does not connect further east than Alma School Road, it is assumed that the Tempe Canal Route would be used to connect further east.
- The route requires use of Dobson Road, a six-lane median-divided high-volume arterial (posted at 35 mph), between the Tempe Canal and SR-202. The paved shared use path intersects Dobson Road at the SR-202 interchange, which requires cyclists (notably those westbound to southbound) to contend with heavy turning movements.
- The route is less direct than the Tempe Canal Route but has better existing arterial street crossings.

High-comfort facility need: paved off-street shared use path

Other Routes Considered

Few routes offer the convenience and quality of the Tempe Canal Path route, and few streets offer convenient direct routes along this diagonal portion of the Mesa Loop. Rio Salado Parkway was considered, and while it has bike lanes and is continuous, it does not extend farther east than Country Club Drive, and a route here would require several awkward jogs to and along local streets. (This is the current USBR 90 route alignment that is being moved to the Tempe Canal Path west to the Riverview Path because it is a superior alignment and facility.) University Drive was also considered, but this street is well south of the defined corridor at and east of Country Club Drive.

Western Corridor

The western corridor of the Mesa Loop is roughly bounded by the Evergreen Road alignment and Longmore. Two alternative routes were identified for the western corridor.

NW1 - Dobson Road Route

This route would use Dobson Road, an arterial, from 8th Avenue to the Riverview Path (south of SR-202). To avoid the Dobson Road interchange with US-60, the route would jog east along Pueblo Avenue to Longmore, which crosses US-60 at a non-interchange. (Alternatively, the route could jog to Longmore along Southern Avenue.)

Existing conditions:

- The City of Mesa identified bike lanes along Dobson Road as a top-40 project in its 2012 Bicycle Master Plan.
- The route serves trip-attracting land uses, including Mesa Community College and the Fiesta District, as well as the Riverview Shopping Center and Sloan Field.
- Pueblo Avenue is a local street with front-facing homes, but it is on the ½-mile grid alignment and has pavement markings typical of a collector street. It does not have bike lanes but has low speeds and an all-way stop at Sycamore.
- Longmore is a five-lane collector street, but its volumes are not as high as a typical arterial, it has marked on-street bike lanes, and the posted speed limit is only 30 mph (35 mph from Southern Avenue to the US 60 overpass).

Discussion:

- Dobson Road has high volume, high speeds (35/40 mph), and no bicycle accommodations.
- The route is somewhat indirect in crossing US 60.

High-comfort facility need:

- Dobson Road: SBLs
- Pueblo Avenue: shared roadway
- Longmore: SBLs

NW2 - Tempe Canal Path Route (Includes NW2a and NW2b)

This route uses the Tempe Canal Path between Dobson Road and Southern Avenue (and can be an extension of the Tempe Canal Route east of Dobson Road). Like the Dobson Road route, it too jogs east to use Longmore to cross over US-60. Portions of the Tempe Canal form the boundary between Mesa and Tempe, and since the paved shared use path is on the west bank of the canal, it is in the City of Tempe south of University Drive.

Existing conditions:

- The Tempe Canal portion of the route is a paved, off-street shared use path.
- When paired with the Tempe Canal Route along the northern corridor, this route provides a continuous off-street shared use path for several miles and avoids using Dobson Road.

Discussion:

- The Tempe Canal Path does not cross US-60, which requires a jog to Longmore. Two options are suggested for this jog:
 - 8th Avenue/Pueblo Avenue (NW2a) is a local street with some collector characteristics, as discussed earlier.
 - Southern Avenue (NW2b) is an arterial street that passes through the heart of Mesa's Fiesta District. The street was recently dieted to two lanes in each direction with wide sidewalks on both sides intended to accommodate both bicycle and pedestrian traffic. It maximizes the route's exposure to relevant land use. A jog on Southern Avenue is also slightly shorter than on 8th Avenue/Pueblo Avenue.
- The route overlaps the Dobson Road route because it does not provide connectivity along the full length of the western corridor.
- Active crossings are needed where the Tempe Canal crosses Dobson Road (7 lanes and 40 mph), University Drive (5 lanes and 40 mph), and Broadway Road (6 lanes and 45 mph). Full signalized crossings are already provided at Main Street (LRT crossing) and Southern Avenue.

High-comfort facility need:

- Tempe Canal Path: paved off-street shared use path
- 8th Avenue/Pueblo Avenue: shared roadway
- Southern Avenue: shared use path

Other Routes Considered:

No other streets connect nearby; the railroad crossing between Main Street and Broadway Road is a key constraint.

Eastern Corridor

The eastern corridor of the Mesa Loop is roughly bounded by Country Club and Mesa Drives. Four alternative routes were identified for the eastern corridor: two within the defined corridor that have significant weaknesses, and two outside the defined corridor, one to the west and one to the east.

NE1 - Center Street Route

This route would use Center Street between Brown Road and 10th Avenue, then new construction of a shared use path along a railroad right-of-way along the same alignment south of 10th Avenue. Further south the shared use path would extend under US-60 along the railroad right-of-way, and ultimately reach Baseline Road at Lewis. Center Street is an arterial north of 8th Street and a collector street south of there.

Existing conditions:

- Center Street passes through downtown Mesa and serves many desirable uses, including Fitch Park, Hohokam Stadium, and the Mesa Arts Center.
- Most of Center Street has bike lanes, but north of downtown Mesa it is a five-lane street.
- The route provides direct access to the LRT station at Main and Center Streets.

- A grade-separated crossing already exists where the railroad crosses US-60; a separate shared use path bridge should not be needed. There is no conflicting turning/ramp traffic at this underpass.

Discussion:

- This route would require construction of a new shared use path adjacent to an active railroad. The new paved shared use path (with fencing to separate the shared use path from the tracks) would require approval from the railroad that owns the space.
- The route would jog from the railroad alignment to Lewis Street along the southern edge of a retention basin south of US-60.
- The route meets Baseline Road at an unsignalized intersection without logical accommodations in either direction.
- Between 1st Avenue and Broadway Road, Center Street features front-in angle parking on both sides of the street and would require conversion to back-in angle parking.
- There is expected to be little to no access to the adjacent land uses along the railroad ROW south of 10th Street (approximately 1.2 miles).

High-comfort facility need:

- North of 10th Avenue: SBLs
- 10th Avenue to Lewis: new construction of off-street shared use path
- Lewis: bicycle boulevard

NE2 - MacDonald Drive Route

This route would use MacDonald Drive through downtown Mesa, from 7th Street to Emerald Avenue. North of 7th Street the route shifts one block west to Grand, and south of Emerald Avenue the route shifts west to Country Club Drive.

Existing conditions:

- MacDonald Drive provides convenient access to downtown Mesa on a lower-volume street than Center Street. Downtown Mesa destinations are highly accessible from MacDonald Drive, and the street provides better access than Center Street to some uses, such as the Arizona Museum of Natural History.
- Some local streets on this route are traffic calmed and have front-facing homes.
- A signalized crossing of Main Street and the LRT is provided.
- This route does provide a connection to the new alignment proposed for USBR 90 at Country Club Drive and Brown Road, but will not use as much of USBR 90 as other options.

Discussion:

- The crossing of University Drive would need to be improved. It jogs slightly and does not have an active crossing. University Drive is a 5-lane street that is posted at 40 mph, and MacDonald Drive is only 400 feet east of an existing traffic signal (for Grand).
- This route could not use the Crosscut Canal, because the canal does not connect to Grand. Rather, it would use Brown Road to connect to the intersection of Country Club Drive. Brown

Road has bike lanes, but not the high-quality SBLs that exist west of Country Club. A transition is needed from conventional bike lanes to the SBLs. In addition, the bike lanes on Brown Road terminate a few hundred feet east of Country Club Drive.

- The connection at Brown Road would require improvements (5 lanes and posted at 40 mph).
- As with Center Street, parts of MacDonald Drive in downtown Mesa have front-in angle parking that would have to be converted to back-in angle parking.
- No portions of the route have bike lanes.
- Neither MacDonald Drive nor any comparable alternative routes cross US-60. The route uses Country Club Drive across US-60, but this street has high volumes, speeds, and turning movement conflicts. However, Country Club Drive adjoins trip-attracting land uses.

High-comfort facility need:

- Brown Road: SBLs
- Grand, 7th Street, MacDonald Drive north of 1st Street: bicycle boulevard
- MacDonald Drive between 1st Street and Broadway Road: bike lanes, with front-in angle parking removed or reconfigured as back-in
- MacDonald Drive south of Broadway Road, 10th Avenue: bicycle boulevard
- Country Club Drive: SBLs

NE3 - Extension Road Route (Includes NE3a and NE3b)

This route would use Extension Road in south Mesa and would transition to Westwood in north Mesa because of Extension Road's discontinuity. Extension Road is a collector street between Baseline Road and University Drive. Westwood and other streets on this route are local streets.

Existing conditions:

- Westwood serves Westwood High School and conveniently intersects 10th Street along the canal detour discussed as part of the Northern Corridor, which is the future USBR 90 route alignment. Westwood is signalized where it crosses Rio Salado Parkway and University Drive.
- Two options are provided to connect Westwood and Extension Road:
 - One option (NE3a) uses Extension Road to University Drive, then University Drive itself to Westwood. Both streets are signalized at University Drive, but making the jog on an arterial could be complicated than on a lower-volume street.
 - A second option (NE3b) uses 1st Avenue, Beverly, and 2nd Street to reach Westwood. This route is more indirect and requires more turns, but it avoids any travel on arterials. The Beverly route crosses Main Street and the LRT line at a traffic signal that only allows active users to cross and provides direct access to the LRT station at Alma School Road.
- Traffic signals are in place where Extension Road crosses major streets.
- Extension Road crosses US 60 at a non-interchange location.

Discussion:

- Most of Extension Road is a 4-lane arterial with bike lanes. A road diet to upgrade to SBLs should be considered.
- The route is well west of the defined corridor area. Extension Road is about 1 mile west of Center Street and Westwood is even farther west.
- Extension Road crosses a railroad track at close to a 45 degree angle (south of 2nd Avenue), which is not ideal.

High-comfort facility need:

- Westwood, 2nd Street, Beverly, 1st Avenue: bicycle boulevard
- Extension Road: SBLs

NE4 - Horne Route

This route uses Horne, a collector street, between Brown and Baseline Roads. South of Baseline Road, the route continues along Horne and uses Merrill Avenue and Dodge Lane to reach Houston Avenue. East of Cooper Road, these are local residential streets.

Existing conditions:

- Horne is a low-volume two-lane street with existing bike lanes along its entire length. It is designated by the City of Mesa to carry several numbered bike routes along different portions of its length.
- Horne crosses US-60 at a non-interchange location.
- The route is direct and continuous with signalized major-street crossings.
- Horne serves retail uses at major street crossings and Kino Junior High School.
- Horne connects to the Consolidated Canal Path just north of Brown Road, but a bridge immediately east of there takes users to the Crosscut Canal. An active crossing is not provided where the shared use path crosses Horne, but it is probably not needed because of street and traffic characteristics. A median refuge island is provided.
- This route alternative allows the longest use of USBR 90 that runs along the north side of the Tempe Canal of the eastern Mesa Loop corridor options.
- West of Cooper Road, Merrill Avenue has bike lanes that connect directly to those on Horne. Merrill Avenue crosses Cooper Road at a traffic signal.

Discussion:

- Horne is ¼ mile east of the defined corridor, but it is an important route to consider because of its existing bicycle accommodations.
- Some parts of Horne feature the combined bike/parking lane used on other Mesa streets that was mentioned earlier. This type of accommodation should be reassessed.

High-comfort facility need:

- Horne Street and Merrill Avenue west of Cooper Road: bike lanes or SBLs
- Merrill Avenue east of Cooper Road and Dodge Lane: bicycle boulevard

Other Routes Considered

The Extension Road and Horne routes were included because of a lack of suitable alternatives within the defined corridor. Crossings of US-60, railroad tracks, and major streets are all bottlenecks that limit available options. Another potential option is Mesa Drive, which is continuous from the Consolidated Canal to Baseline Road, but it is a busy, 5-lane and high speed (40 mph) arterial that crosses US-60 at a busy interchange. There are narrow striped shoulders on the northern segment (north of Main Street) and bike lanes from 10th Avenue to the south, and it would tie into USBR 90 at the northern end of the corridor.

D. GILBERT LOOP

A corridor designated as the Gilbert Loop is bounded roughly by Baseline Road, the Hamilton Place alignment, the Western Canal, and Gilbert Road. This loop is almost completely within the Town of Gilbert, but it crosses briefly into both Mesa and Chandler. Some overlap exists between the northwest corner of the Gilbert Loop and the southeast corner of the Mesa Loop, but in general the corridors are discussed individually in both loops.

Southern Corridor

The Southern Corridor of the Gilbert Loop is roughly bounded by Guadalupe and Elliot Roads. Two full-length alternative routes were identified for the southern corridor.

OS1 - Western Canal Route

This route uses the paved Western Canal Path between Country Club Drive and Burk Street.

Existing conditions:

- The Western Canal was used for routes in two Tempe loops, and in Gilbert it remains a high-quality active transportation corridor. It provides direct access to the north end of downtown Gilbert.
- The route has signalized crossings of McQueen, Cooper, and Gilbert Roads, all the arterials it crosses along the corridor.
- The shared use path connects both east and west of the Gilbert Loop, providing a continuous shared use path across most of the southeast valley.

Discussion:

- The route does not have a suitable crossing of the railroad tracks west of Gilbert Road, and a short segment of shared use path east of the crossing needs to be paved.
- The railroad tracks cross the Western Canal diagonally, which is not desirable. However, it is expected that if this portion of the shared use path could be built that it will be designed to cross the tracks at an angle closer to 90 degrees.
- The Western Canal Path limits access to adjacent property, but it does provide outstanding access to McQueen Park, and it intersects Gilbert Road just north of the heart of downtown Gilbert, a major activity center.

High-comfort facility need: paved off-street shared use path

[OS2 - Guadalupe Road Route](#)

This route uses Guadalupe Road, classified by the Town of Gilbert as a minor arterial.

Existing conditions:

- Like the Western Canal Path, Guadalupe Road was also considered as a route in two Tempe loops. If adopted in other loops the continuity is an advantage.
- Guadalupe Road has bike lanes for its entire length.
- The street serves some trip-attracting land use, particularly where it crosses Gilbert Road.
- Traffic signals are provided at arterial crossings.

Discussion:

- The majority of the route has 5 lanes and the posted speed limit is 45 mph.
- A westbound lane drop approaching Oak Street requires cyclists to merge across a right-turn lane, a complex maneuver.
- There is a diagonal railroad track crossing about 350 feet west of Cooper Road, which is not desirable.

High-comfort facility need: SBLs

[Other Routes Considered](#)

Few viable routes exist in this area, in part because of the need to cross two sets of railroad tracks. The only other potential option is Elliot Road, which is continuous along the western border and runs immediately south of downtown Gilbert. This street has similar conditions (5-lanes and 45 mph speed limit) as the Guadalupe Road corridor.

Northern Corridor

The northern corridor of the Gilbert Loop is roughly bounded by Guadalupe Road and US-60. Two alternative routes were identified for the northern corridor.

[ON1 - Baseline Road Route](#)

This route uses Baseline Road for its entire length. This segment of Baseline Road forms the boundary between Gilbert and Mesa. Mesa classifies the street as an arterial and Gilbert classifies it as a major arterial.

Existing conditions:

- Baseline Road is direct and continuous, and it connects to the southern corridor of the Mesa Loop.
- The route serves numerous trip-attracting land uses.

Discussion:

- Baseline Road has 6 lanes and a raised median and is posted at 45 mph. West of Horne it has no bike lanes; east of Horne it does have bike lanes.
- Attempting to make a left turn off a corridor with three lanes in each direction and dual turn lanes can be challenging for many cyclists.

High-comfort facility need: SBLs

[ON2 - Houston Avenue Route](#)

From the east, this route uses Houston Avenue, which makes a sweeping curve north and turns into Hobson Street. Houston Avenue is a collector street, but Hobson Street, despite having the same cross-section, is not identified as a collector on Gilbert's Functional Classification Map.

Existing conditions:

- Both Houston Avenue and Hobson Street are posted at 30 mph and have bike lanes.
- The streets carry only one through lane in each direction, which helps maintain modest traffic speed and volume.
- Pavement width may be available in some segments to upgrade to buffered or separated bike lanes using a lane diet.
- Crossings of arterial streets (Cooper and Gilbert Roads) are traffic-signal controlled.
- Houston Avenue and Hobson Street do not cross the railroad tracks (but Baseline Road crosses two sets of railroad tracks, at or nearly at 90 degrees).

Discussion:

- The route does not traverse the entire northern corridor. A portion of Baseline Road must be used to complete the Gilbert Loop, unless the Horne Route is selected along the western corridor
- The route is mostly residential but adjoins some commercial land use at Gilbert Road. It also connects two elementary schools and comes within a block of Gilbert Junior High School. Hobson Street serves office/light industrial uses.

High-comfort facility need: bike lanes

[Other Routes Considered](#)

Baseline Road is the only street in the defined corridor that traverses the entire northern corridor of the Gilbert Loop, and no logical routes could be identified that cobble together indirect segments. Development patterns in this area have not allowed for east-west connectivity other than the arterial grid network. The diagonal railroad tracks through this area cause part of the east/west discontinuity.

Western Corridor

The western corridor of the Gilbert Loop is roughly bounded by McQueen Road and Country Club Drive. Four alternative routes were identified for the western corridor, but only two extend as far south as the Western Canal Path.

OW1 - Extension Road Route

This route would use Extension Road between Baseline and Guadalupe Roads. This route is in Mesa, where this part of Extension Road is classified as a local street.

Existing conditions:

- This portion of Extension Road has only one lane in each direction, front facing homes in some areas, and traffic calming devices.
- Bike facilities extend to the north and south on Extension Road beyond the Gilbert Loop, and Extension Road connects to a route option on the eastern corridor of the Mesa Loop.

Discussion:

- Extension Road uses the combined bike/parking lane previously discussed.
- The route serves one elementary school but otherwise exclusively single-family residential parcels.
- Extension Road is not continuous as far south as the Western Canal. If the Western Canal is chosen for the southern corridor of the Gilbert Loop, a jog or another route on the western corridor will be needed. Fully-developed residential parcels block access to the canal on the Extension Road alignment.
- This route is ½ mile west of the defined corridor.

High-comfort facility need: bike lanes

OW2 - Country Club Drive Route

This route uses Country Club Drive, an arterial, which in this segment forms the boundary between Mesa and Gilbert.

Existing conditions:

- The route is direct and continuous, and it connects to the Western Canal Path and beyond.
- The street serves commercial land use at Baseline Road and, to a lesser degree, at Guadalupe Road.

Discussion:

- Speeds and volumes are high (7 lanes and 45 mph), and the street has no bicycle accommodations.

High-comfort facility need: SBLs

OW3 - Fiesta Boulevard Route

This route, wholly within Gilbert, uses Fiesta Boulevard, a collector street.

Existing conditions:

- Fiesta Boulevard has existing marked bike lanes and is posted at 30 mph.

- The route does not abut residential parcels, but serves only retail, light industrial, and office uses.

Discussion:

- The street has some shallow curvature that impairs its directness, but the effect is minor.
- The route does not connect to the Western Canal Path because of a lack of street connectivity and development patterns. No connection would be available without diverting ½ mile to the east or to the west along Guadalupe Road.
- The route does not continue north or south, but it does connect directly to a Walmart shopping center north of Baseline Road. This route is only 1 mile long.

High-comfort facility need: bike lanes

OW4 - McQueen Road Route (Includes OW4a and OW4b)

This route uses McQueen Road, a major arterial in Gilbert, for its entire length

Existing conditions:

- McQueen Road has bike lanes for most of its length, but the lanes end about 700 feet south of Baseline Road. An improved transition is needed.
- The route serves mostly non-residential uses, including office and retail.
- An alternative connection along Juniper Avenue/Horne Street (OW4b) is suggested to reach the Western Canal Path. This alternative would eliminate about 0.3 mile on McQueen Road and instead use Juniper Avenue/Horne Street, a collector corridor marked with bike lanes. This route is slightly longer than using McQueen Road to the shared use path directly, but it does pass Playa del Rey Elementary School.

Discussion:

- Speeds and volumes are too high for bike lanes alone to be sufficient accommodations along McQueen Road (6-lane median-divided with a 45 mph speed limit).
- McQueen road crosses railroad tracks at an about 45 degrees about 1500 feet south of Baseline Road.

High-comfort facility need:

- McQueen Road: SBLs
- Juniper Avenue/Horne Street: bike lanes

Other Routes Considered

It would be ideal to find an alternative connection to the Western Canal Path that avoids the use of a high-volume arterial, but no such route was found because of street connectivity limitations.

Eastern Corridor

The eastern corridor of the Gilbert Loop is roughly bounded by Neely Road and Burk Street. Three alternative routes were identified for the eastern corridor

OE1 - Neely Road Route (Includes OE1a and OE1b)

This route uses Neely Road, a collector, from the Western Canal Path to Houston Avenue.

Existing conditions:

- The route serves two elementary schools and light industrial uses south of Guadalupe Road in addition to residential property.
- Neely has a bike lanes its full length. Parts are also traffic-calmed.

Discussion:

- Neely Road does not cross the railroad tracks just north of the Western Canal. A new crossing would be required to make this route direct and convenient, and since the railroad crossing will be approximately 45 degrees, a special design would be needed to get the crossing closer to 90 degrees. However, an alternative connection (OE1b) is suggested along Ash Street and Juniper Avenue in case the railroad connection cannot be constructed. These are classified as local streets, but they function as collectors and are striped with bike lanes except along a short segment with front-facing homes. Even this alternative connection would require the railroad crossing to be improved along the Western Canal Path.
- The route does not connect directly to Baseline Road due to street discontinuity. To reach Baseline would require using an alternative such as Houston Avenue, Cooper Road, or a circuitous route through the neighborhood that would connect Baseline Road at Monterey Street or Stonehenge Drive.

High-comfort facility need:

- South of Houston Avenue: bike lanes
- If extended north of Houston Avenue: bicycle boulevard

OE2 - Gilbert Road Route

This route would use Gilbert Road, a major arterial and Route of Regional Significance (RRS).

Existing conditions:

- Gilbert Road best serves the dense commercial development and other uses in downtown Gilbert, as well as many other trip-attracting uses elsewhere along the route.
- The route is direct and continuous, and it is centered within the defined corridor.

Discussion:

- The street already drops from three lanes to two in downtown Gilbert, and traffic demands likely limit further capacity reduction. The street has few bike accommodations, and development is so close to the curb. Bike lanes exist from 500 feet north of Juniper Avenue to north of Guadalupe Road.
- North of downtown Gilbert, the street has no bike lanes and is a 6-lane divided arterial.
- While the speed limit is reduced to 35 mph approaching downtown and 25 mph downtown (south of the Western Canal), it is posted at 45 mph north of Guadalupe Road.

High-comfort facility need: SBLs

[OE3 - Burk Street Route](#)

This route uses Burk Street, a collector, between the Western Canal Path and Baseline Road.

Existing conditions:

- The route is posted 30 mph, has one lane in each direction with bike lanes, and crossings of Baseline and Guadalupe Roads are signalized.
- The route serves three schools and some retail and other commercial uses at Baseline Road in addition to residential use.
- Unlike Neely Road, the route serves the full length of the eastern corridor.
- North of Baseline Road, Burk Street enters the City of Mesa as 24th Street, and the street crosses US-60 at a non-interchange.

Discussion:

- Burk Street is near the eastern edge of the defined corridor.

High-comfort facility need: bike lanes

[Other Routes Considered](#)

No other streets in this area offer connectivity along the eastern corridor. Ash Street could provide an alternative connection between Gilbert and Baseline Roads, but it is very short, avoids some trip-attracting uses, does not have bike accommodations, and would require an extra turning movement for bicyclists. Juniper Avenue could be used further east of Ash Street, as far as Burk Street, as an alternative to the Western Canal Path, but this street is mostly residential and does not surpass the Western Canal Path in comfort or directness.

P. SOUTH CENTRAL AVENUE CORRIDOR

A corridor identified as South Central Avenue connects downtown Phoenix with South Mountain Park, roughly bounded by 7th Street and 7th Avenue. This corridor is entirely in Phoenix. In this corridor, routes north and south of Buckeye Road were considered separately because of their different configurations.

Routes South of Buckeye Road

The southern terminus of the South Central Avenue Corridor is assumed to be at the entrance station to South Mountain Park.

[PS1 - Central Avenue Route](#)

This route uses Central Avenue, an arterial, between Buckeye Road and South Mountain Park.

Existing conditions:

- Valley Metro is planning to [extend an LRT line along South Central Avenue](#), a project that is currently proposed to remove a travel lane in each direction to make space for a dedicated

transit guideway as far south as Baseline Road (approximately 0.9 mile north of the park entrance). This project would also retain on-street bike lanes. The LRT line would probably make the street more bike-friendly than today. Community opposition exists to the road diet associated with the LRT project.

- Central Avenue hosts most of the trip-attracting uses in this part of Phoenix, but commercial uses are not overly dense.
- The route crosses I-17 at a non-interchange location, but the presence of frontage roads makes it operate much like an interchange. Bike lanes are not striped across I-17 but the curb lanes are likely wide enough to accommodate future bike lanes.
- The route connects to the Rio Salado Path system.
- The LRT design will limit left turns to ¼-mile streets (which will all be traffic signal-controlled), reducing the number of conflict points for bicyclists crossing driveways and most side streets along the corridor.

Discussion:

- The route crosses the Salt River on a bridge that creates a gap in adjacent development for about ½ mile. (This is consistent with most other Salt River crossings).
- LRT construction over multiple years will limit the appeal of Central Avenue for bicycling in the near term. Construction is tentatively scheduled from 2019 to 2023.
- Bike lanes currently terminate at Mineral Road, and extending them into the park would require pavement widening, which would improve bicycle access into the park.
- Valley Metro is analyzing a 4-lane-plus-LRT design within the environmental footprint as directed by the Phoenix City Council in June 2018. This option may eliminate the bike lane along the Central Avenue corridor.

High-comfort facility need: SBLs

[PS2 - 7th Street Route](#)

This route would use 7th Street, a major arterial, between Watkins Street and Monte Way. In the south, the route would use Monte Way to connect to Central Avenue (¾ mile north of the park entrance) to access South Mountain Park. In the north, the route would use an abandoned rail right-of-way north of Watkins Street to access an existing but unused bridge under I-17 along the 3rd Street alignment (currently fenced off). The route would then return to Central Avenue on Pima Street.

Existing conditions:

- 7th Street has bike lanes for most of its length, except a short section near Jesse Owens Parkway. A narrow bridge over the Highline Canal precludes bike lanes in existing conditions.
- The route proposes to cross I-17 on an exclusive active transportation alignment as part of a rail-to-trail conversion. This would require construction of a shared use path from Durango Street to 7th Street. The route would still need to cross at grade the I-17 frontage roads on either side of the mainline (40 mph), but it would avoid the turning movement conflicts at Central Avenue.

- The route serves some commercial and other trip-attracting land use (such as South Mountain High School), but not as much as the Central Avenue Route.

Discussion:

- The route is less direct than the Central Avenue Route, but it avoids conflicts with LRT and LRT construction.
- Traffic volumes may increase on 7th Street due to the LRT and lane reduction on Central Avenue. The cross section has 5 lanes and the posted speed limit is 40 mph.
- North of I-17, the route passes through a low-density residential development.
- In the south, Monte Way is also a local residential street with front-facing homes.

High-comfort facility need:

- Pima Street, 3rd Street north of Durango Street: bicycle boulevard
- 3rd Street south of Durango to 7th Street: new construction of off-street shared use path
- 7th Street: SBLs
- Monte Way: bicycle boulevard

[Other Routes Considered](#)

7th Avenue is the only other logical route that connects along the corridor, but it is less direct than 7th Street, does not connect to Central Avenue as well at either end, cannot take advantage of the 3rd Street underpass at I-17, and does not have bike facilities as complete as 7th Street. Furthermore, there is less commercial and other active destinations along 7th Avenue.

Routes north of Buckeye Road

The northern terminus of this corridor is assumed to be Jefferson Street, from which connections could be made to other points in downtown Phoenix. In the south, all routes are assumed to use Central Avenue between Pima and Tonto Streets (¼ mile south to 400 feet north of Buckeye Road).

[PN1 - Central Avenue Route](#)

This route would use Central Avenue its entire length, but because of the one-way (northbound) street configuration, this route may only be acceptable for northbound bicycle traffic.

Existing conditions:

- Central Avenue is the most direct route into downtown, and it has a grade-separated crossing of the railroad tracks between Buchanan and Jackson Streets.
- The street has a northbound bike lane on the right side that connects from the segment further south.

Discussion:

- The underpass below the railroad tracks and Jackson Street is somewhat confined. However, the LRT project may make Central Avenue feel more like a collector street.

High-comfort facility need: SBL

PN2 - 3rd Avenue Route

This route would begin from Jefferson Street on 1st Avenue and jog to 3rd Avenue along the pedestrian walkway along Madison Street. It would use 3rd Avenue south to Grant Street before rejoining 1st Avenue. This route is intended for southbound traffic because it uses one-way southbound portions of 1st Avenue

Existing conditions:

- Bike lanes accented with green paint are present on 3rd Avenue.
- First Avenue also has bike lanes, both north of Madison Street and south of Grant Street.
- Grant Street is unmarked, although it is in an area with mostly vacant and utility parcels that do not provide a sense of place.
- North of the railroad tracks, the route serves several Maricopa County facilities and many trip-attracting uses.

Discussion:

- Unlike Central Avenue, 3rd Avenue crosses the railroad tracks at grade. However, it avoids the grades and confinement of an underpass.
- The Madison Street portion of the route is closed to motor vehicles and is controlled by Maricopa County. An agreement with the County would be required to use this portion. If this portion is not usable, Jackson Street is a possible alternative.

High-comfort facility need:

- 1st Avenue: SBL
- 3rd Avenue: bike lane
- Madison Street: off-street pedestrian walkway
- Grant Street: bicycle boulevard

PN3 - 1st Street Route

This route uses Tonto and 1st Streets, both local streets. This route is suitable for cyclists in either direction, but it is preferred for northbound cyclists because southbound would require a left turn from Tonto Street to Central Avenue.

Existing conditions:

- This route has residential uses south of Grant Street and more typical downtown uses north of there.
- The route abuts Talking Stick Resort Arena and other downtown uses.
- First Street is traffic-calmed south of Grant Street; the entire route has low speeds.

Discussion:

- First Street has head-in angle parking in downtown, not ideal for mixing with on-street bicyclists, and would need to be changed to back-in angled parking.
- The route crosses railroad tracks at grade.

- The route crosses Lincoln Street at a two-way stop-controlled intersection. An active crossing would be ideal, but the crossing is near an existing signal at Central Avenue, one block west.
- The route is stop-controlled at several minor streets (Jackson, Buchanan, Lincoln and Hadley Streets), which impedes cyclists' momentum and increases travel delay.
- Bicyclists may not be permitted to cross the South Central Avenue LRT at Tonto Street. The design plans do not provide sufficient detail to confirm whether a crossing here will be available for bicyclists.

High-comfort facility need:

- South of Grant Street: bicycle boulevard
- North of Grant Street: bike lanes

PN4 - 3rd Street Route

This route uses Tonto and 3rd Streets. Tonto Street is a local street and 3rd Street is a collector north of Lincoln Street and a local street south of there. This route is intended for southbound cyclists because 3rd Street is one-way southbound north of Lincoln Street.

Existing conditions:

- The route provides direct access to the LRT station at 3rd Street and Jefferson Avenue.
- The route abuts Talking Stick Resort Arena and serves the Convention Center and Chase Field better than other routes.
- The route is signalized where it crosses Lincoln Street.

Discussion:

- Local streets south of Lincoln Street are traffic calmed.
- The route would require a left turn from Tonto Street to Central Avenue at an unsignalized location. As noted earlier, this left-turn may not be permitted. Third Street north of Lincoln Street does not have bike lanes but likely has room to add them by reconfiguring the lanes within the existing pavement.
- The route has an at-grade railroad crossing.

High-comfort facility need:

- South of Grant Street: bicycle boulevard
- North of Grant Street: southbound bike lane

Other Routes Considered

First Avenue is the only other street within the defined corridor that directly connects downtown with Buckeye Road. First Avenue currently carries three traffic lanes under Jackson Street and the adjacent railroad tracks. While three traffic lanes may not be necessary to serve traffic demand, one of the lanes is planned to be converted to exclusive LRT use. As such, creating space for a bike lane would require dropping to a single through lane or widening the street.

Seventh Street north of I-17 would connect to Chase Field at Jefferson Street as well as the UofA Medical School and Biomedical Center north of Washington Street, but this is a very congested area, and that coupled with the grades over the railroad tracks are disadvantages of this street.

No other street provides through connectivity in the defined corridor. Other connections are possible that require jogs to use several north-south streets, but these were rejected on directness grounds.

Q. UNIVERSITY DRIVE CORRIDOR

A corridor identified as University Drive connects the Tempe North Loop with the Mesa Loop, roughly along the University Drive alignment. One route was identified for the University Drive Corridor.

Q1 - University Drive Route

This route uses University Drive between Mill Avenue and the Tempe Canal. The route is almost exclusively in Tempe, although the portion of University Drive between Evergreen Road and the Tempe Canal serves as the city limits, so the north side of the street is in Mesa and the south side is in Tempe. Further east of the Tempe Canal the street fully enters Mesa.

University Drive is an arterial street in both Tempe and Mesa.

Existing conditions:

- The street has bike lanes for most of its length, though bike lanes are not provided across the SR-101 interchange.
- The City of Tempe upgraded a portion of the existing bike lanes to include green pavement and stamped buffers, as discussed as part of Route KN1.
- The route connects seamlessly to both the Tempe North Loop and the Mesa Loop.
- Land use connectivity is very good, particularly in the west, where the street serves as the backbone of the ASU Main Campus. This section has more frequent traffic signals and generally slower speeds than the rest of the corridor.

Discussion:

- Even in the lower-speed western portion of the route, volumes are high enough (at about 36,500 vehicles per day) that conventional bike lanes are unlikely to provide sufficient comfort for many cyclists.
- Speeds increase considerably further east on the corridor as traffic signal density drops.
- Nearby development limits the ability to widen for SBLs, and it is unlikely that a lane reduction would be feasible
- The westbound bike lane is discontinuous on the approach to and departure from McClintock Drive.
- An active transportation crossing is needed where the Tempe Canal crosses University Drive to provide an appropriate eastern terminus of the route.

High-comfort facility need: SBLs

R. SOUTHERN AVENUE CORRIDOR

A corridor designated as Southern Avenue connects the Tempe North Loop and the Mesa Loop along roughly the Southern Avenue alignment. Two routes were identified along the Southern Avenue Corridor.

R1 - Southern Avenue Route

This route uses Southern Avenue, an arterial, between College Avenue and the Tempe Canal. The route is entirely within Tempe, although immediately across the Tempe Canal, Southern Avenue enters Mesa.

Existing conditions:

- The route serves considerable commercial land use, mostly at arterial crossings. The eastern end of the route connects to Mesa's Fiesta District, Desert Samaritan Hospital, and Mesa Community College.
- The route is direct and continuous and connects to other route options in both the east and west.

Discussion:

- Southern Avenue is a five-lane street, with three lanes westbound and two lanes eastbound. (A third eastbound lane appears when crossing some arterials.) In Mesa, the street carries only four lanes. The third westbound lane begins at the city limits (Tempe Canal).
- The street does not have existing bicycle accommodations.
- Traffic volume reaches as high as 30,000 vehicles per day, enough traffic to indicate SBLs.
- However, widening to provide SBLs would be challenging, particularly at the SR-101 interchange.

High-comfort facility need: SBLs

R2 - Alameda Drive Route

This route uses the Alameda Drive corridor between College Avenue and the Tempe Canal. Alameda Drive is discontinuous at Dorsey Lane, where the route jogs around Meyer Park to remain on Alameda Drive. The eastern terminus of Alameda Drive is at River Road. Further east the route jogs south to Balboa Drive, which carries the same name on both sides of SR-101.

Existing conditions:

- Portions of Alameda Drive and Balboa Drive are traffic calmed; the street serves almost entirely front-facing residential lots.
- The short connection on Dorsey Lane (about 800 feet) is marked with on-street bike lanes between a parking lane and through traffic. Dorsey Lane also is traffic-calmed.
- Alameda Drive has a raised median between Rural Road and Dorsey Lane.

- Alameda continues to the west as a route option (KS1) in the southern corridor of the Tempe North Loop.
- There is a very good crossing of the Tempe Canal.
- Across the Tempe Canal the route enters Mesa, where Balboa Drive changes names to 8th Avenue and continues as a route option (NW2a) in the Western Corridor of the Mesa Loop.

Discussion:

- No bridge exists where the route crosses SR-101; a new grade-separated crossing is needed.
- The crossing of SR-101 would need to accommodate the existing northbound and southbound frontage roads. A grade-separated crossing would ideally need to span both frontage roads, or if this is not possible, high-quality at-grade crossings would be needed.

High-comfort facility need: Bicycle boulevard, active transportation grade separated crossing of SR-101.

S. OTHER ROUTES

The following two routes are not strongly associated with any designated corridors.

S1 - McClintock Drive Route

This route uses McClintock Drive, an arterial in Tempe, between University and Del Rio Drives. In 2015, Tempe modified the lane configuration on a portion of McClintock Drive by removing a southbound travel lane and adding bike lanes in both directions. Buffered bike lanes were used for most of the corridor. However, in 2017 the Tempe City Council agreed to restore the southbound travel lane. The restoration will generally involve removing the buffers and will also include some roadway widening and some conversion of sidewalks to shared use sidepaths.

Existing conditions:

- In its current configuration, the buffered bike lanes provide among the most comfortable arterial bicycle accommodations in the MAG region.
- While the revised configuration is not yet constructed, it is expected to be somewhat less comfortable for cyclists.
- McClintock Drive provides good access to diverse land uses, including commercial and high-density residential.
- The route directly serves the LRT station at McClintock Drive and Apache Boulevard.

Discussion:

- Tempe has committed to some widening along the corridor to preserve bicycle accommodations (bike lanes), but additional widening to create SBLs would be challenging due to constrained development.
- Speeds are relatively high, posted 40 mph.
- The route is not along a designated corridor.

High-comfort facility need: SBLs

S2 - Scottsdale Road Route

This route uses Scottsdale Road between McDowell Road and Rio Salado Parkway, adjoining Route S3 at its southern terminus. Scottsdale Road is in the City of Scottsdale north of Roosevelt Street/Continental Drive. The corridor is within the City of Tempe south of McKellips Road. Between Roosevelt Street/Continental Drive and McKellips Road the city limits run along Scottsdale Road, so the east side of the street is in Tempe and the west side is in Scottsdale. The name change from Scottsdale Road in the north to Rural Road in the south does not occur at the city limits; instead, the name changes roughly at the Salt River.

Scottsdale Road is a major arterial in Scottsdale, and the corridor is designated as an arterial in Tempe.

Existing conditions:

- The route is direct and continuous.
- Scottsdale Road connects to the Scottsdale Road Route (JW2) of the Scottsdale North Loop.
- The route serves dense commercial land uses along with development along Tempe Town Lake.
- The route has a bridge over the Salt River/Tempe Town Lake, and crosses under SR-202.
- The speed limit is posted 40 mph.
- The City of Tempe has received funding for design and construction and is scheduled to start design of the Scottsdale Road project by 2020.

Discussion:

- The street is among the heaviest-traveled in both Scottsdale and Tempe, carrying 36,000 vehicles per day in Scottsdale (as of 2016) and over 44,000 vehicles per day in Tempe (as of 2018).
- The street is largely devoid of existing bicycle accommodations, though sidewalks exist along its length, including across Tempe Town Lake on both east and west sides of the street.
- The City of Tempe is exploring ways to modify the cross-section of the street to add high-comfort bicycle accommodations.
- The interchange at SR-202 is a complication.
- The route is not in a designated corridor.

High-comfort facility need: SBLs

S3 - Rural Road Route

This route uses Rural Road in Tempe between Rio Salado Parkway and US-60, adjoining Route S2 at the north terminus. Rural Road is an arterial in Tempe.

Existing conditions:

- The route is direct and continuous.
- The route serves dense commercial land uses and the east side of ASU's Main Campus.

- The speed limit is posted 35 mph near ASU and 40 mph elsewhere.

Discussion:

- The street is among the heaviest-traveled in Tempe, carrying over 44,000 vehicles per day (as of 2018).
- The street is largely devoid of existing bicycle accommodations, though sidewalks exist along its length.
- Significant impacts to adjacent development would likely be required to provide bicycle accommodations, since traffic volumes are not conducive to a lane reduction.
- The interchange at US-60 is a challenge.
- The route is not in a designated corridor.

High-comfort facility need: SBLs

[S4 – Roosevelt Street Route](#)

This route uses Roosevelt Street between 16th and 35th Streets in Phoenix, linking the 12th Street Corridor and the Grand Canal Path Connection. Roosevelt Street is a collector between 24th and 32nd Streets and a minor collector elsewhere. East of 32nd Street, the street has the characteristics of a local street.

Existing conditions:

- The route is direct and continuous.
- Roosevelt Street is marked with bike lanes from 16th to 32nd Streets and has signalized crossings of arterials.
- The speed limit west of 32nd Street is 35 mph and is 25 mph east of 32nd Street.
- The Roosevelt Street bridge over I-10 provides good accessibility because it is a non-interchange crossing and can be ridden at normal speeds.
- Roosevelt Street provides access to retail and residential uses, and a large hospital complex between 24th and 28th Streets.
- The route connects seamlessly to the south bank of the Grand Canal for travel to the south and east.

Discussion:

- The eastern end of the route is not ideal for cyclists continuing to the north. While it is possible to ride on the south bank of the Grand Canal Path under SR-202, this involves redundant travel distance and 32nd Street is not an ideal cycling corridor.
- The route is not in a designated corridor.

High-comfort facility need: SBLs

S5 – 3rd Street Route

This route uses 3rd Street from downtown Phoenix south to the Salt River, an extension of Route F2. In this extension, 3rd Street is a major collector north of Lincoln Street and a local street where it exists south of there.

Existing conditions:

- The route provides direct access to the LRT stations at 3rd Street and Jefferson Avenue and Washington Street.
- The route abuts Talking Stick Resort Arena and serves the Convention Center and Chase Field better than other routes.
- 3rd Street is one-way (southbound only) between Jefferson Street and Lincoln Street (0.29 miles)

Discussion:

- Between Yuma and Pima Streets (about 700 feet), 3rd Street is discontinuous. Land in this area is privately owned.
- An active transportation crossing would be needed at Buckeye Road.
- South of Durango Street, the route would be off existing public rights-of-way. The bridge under I-17 is discussed in Route PN4, but the segments south of there are on private property with no immediately apparent way to connect to the Salt River Path.
- The route is not an ideal match to any designated corridor.

High-comfort facility need:

- Jefferson Street to Buckeye Road: SBLs
- Buckeye Road to Yuma Street: bicycle boulevard
- Yuma to Pima Streets: new connection across private property (approximately 680 feet)
- Pima to Durango Streets: bicycle boulevard
- Durango Street to Salt River: new connection across private property (0.54 mile)

S6 – Oak Street Route

This route uses Oak Street to connect from the Grand Canal Path in Phoenix to the Crosscut Canal in Scottsdale. Oak Street is classified as a minor collector in both Phoenix and Scottsdale.

Existing conditions:

- Oak Street carries one lane in each direction, resulting in modest traffic speeds and volume. Volumes range from 5,000 vpd near 40th Street to 8,000 vpd near the Grand Canal.
- The street has existing bike lanes for much of its length. Oak Street is a popular cycling route.
- The pavement narrows between 52nd and 64th Street as the route crosses just to the north side of Papago Park. This section retains paved shoulders, but the shoulders are likely not wide enough to be designated as bike lanes. (Shared lane markings exist in the through vehicle lanes.) This portion of the route has rolling terrain, contrasted with level conditions elsewhere.

- The street provides excellent connectivity to other bicycle facilities, including the Grand Path and Crosscut Canal, the Old Crosscut Canal (adjacent to 48th Street) as well as bike lanes on 36th Street, 40th Street, and 52nd Street. The portion between 48th Street and the Crosscut Canal is designated as USBR 90.

Discussion:

- The route is mostly residential in nature with some commercial and schools along its length.
- In some cases bike lanes are not provided, likely to preserve on-street parking for adjacent front-facing residences. However, these areas generally do not feature a reduction in street width.
- Oak Street does not permit vehicular access across 48th Street. A shared use path is provided for pedestrians and cyclists, but it is awkward because of the switchback ramps and circuitousness. An improved connection would be desirable.
- Oak Street is also discontinuous at the Crosscut Canal. However, at this terminus bicyclist access to the paved canal shared use path is excellent.
- The route is not in a designated corridor.

High-comfort facility need: bike lanes or SBLs

S7 – Curry Road Route

This route uses Curry Road corridor between Mill Avenue and McClintock Drive. The corridor changes names at Mill Avenue; Washington Street is to the west and Curry Road to the east. The route is in Tempe and is classified as an arterial. To the west the route adjoins the Washington/Jefferson Streets Connection.

Existing conditions:

- The corridor is marked with bike lanes west of Miller Road, but bike lanes do not exist on the eastern ½ mile segment between Miller Road and McClintock Drive.
- The route connects to a logical terminus in the west, but its eastern terminus is challenging because of a lack of bicycle accommodations on McClintock Drive north of SR-202.

Discussion:

- Between Mill and College Avenues, the route does not serve adjacent land uses; it passes through the Tempe portion of Papago Park, but Curry Road does not provide access to the park or services. To the east the route serves residential and commercial uses.
- The route carries volume and speed (35/40 mph) typical of an arterial roadway, such that marked bike lanes alone are not likely to provide a desirable comfort level for most cyclists.

High-comfort facility need: SBLs