



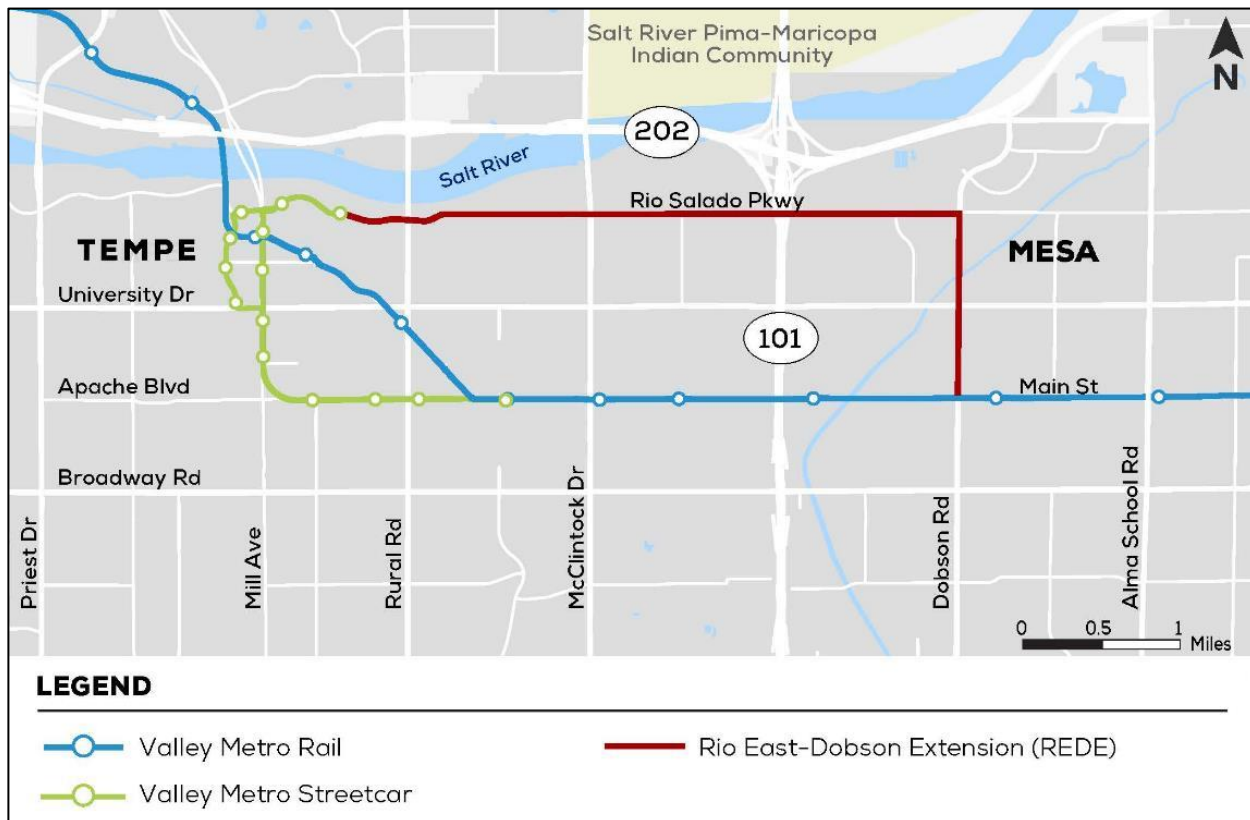
# Rio East-Dobson Extension Locally Preferred Alternative Report

## 1. Introduction

This report presents the Locally Preferred Alternative (LPA) for the Rio East-Dobson Extension (REDE). The selection of an LPA is a required milestone for projects that seek funding through the Federal Transit Administration’s Capital Investment Grant (CIG) program. The REDE LPA consists of the project’s preferred mode and preferred route.

The preferred transit mode is streetcar as it will be an extension of the existing streetcar system in Tempe. The preferred route is east on Rio Salado Parkway from the current streetcar terminus at Marina Heights to Dobson Road, south on Dobson Road and terminates at Main Street (Figure 1). The total distance is approximately 4.4 miles. The REDE project is identified in the Maricopa Association of Governments (MAG) Regional Transportation Plan (RTP) in Phase 2 (2031-2035) with an estimated construction cost of \$402,960,000.

**Figure 1:** Rio East-Dobson Extension Locally Preferred Route Alignment



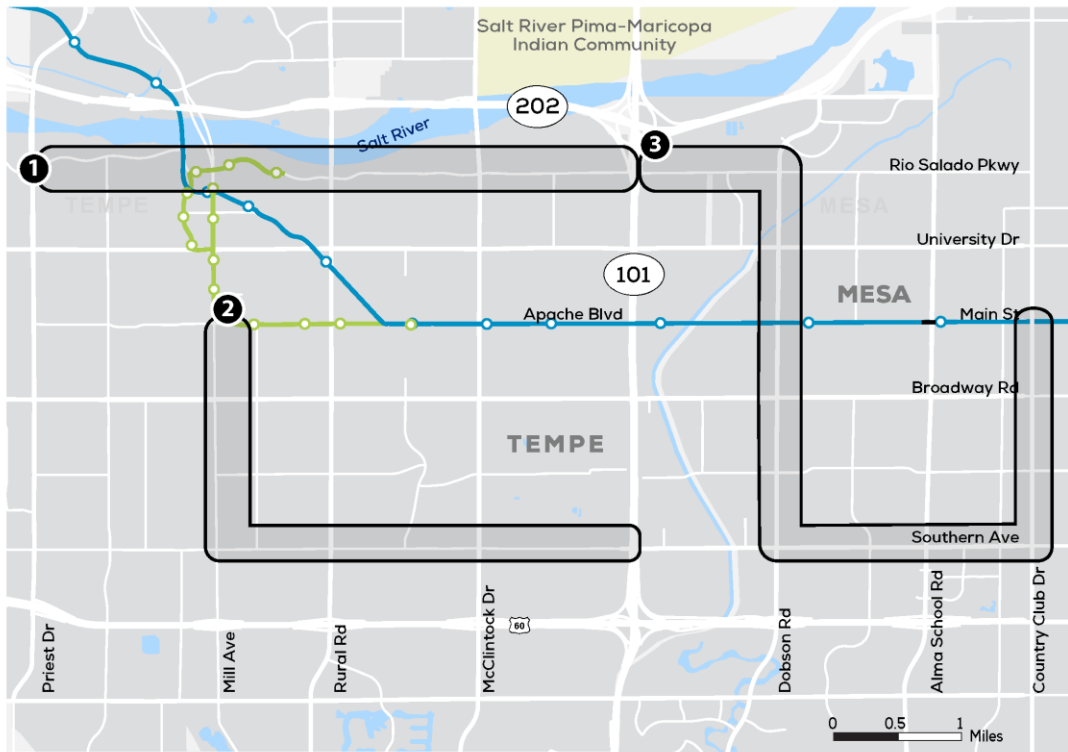
## **2. Background**

The REDE LPA originated from two separate but related studies: the Tempe/Mesa Streetcar Feasibility Study (TMSFS) and the Fiesta District Alternatives Analysis (FDAA). The TMSFS was completed in July 2020 by Valley Metro in collaboration with the cities of Tempe and Mesa. The study identified new potential streetcar corridors that could serve as extensions to the Valley Metro Streetcar in Tempe. The FDAA was completed in June 2020 by Valley Metro and the City of Mesa in coordination with MAG. The FDAA evaluated multiple corridors in West Mesa for potential high-capacity transit (HCT) improvements, including light rail, streetcar and enhanced bus service. The outcome of the TMSFS was the identification of five new potential streetcar corridors. The outcome of the FDAA was the identification of a single HCT corridor, whose preferred mode was left to be determined in another study. The preferred mode was later identified as streetcar in the Tempe/Mesa Streetcar Feasibility Study.



The recommendations of these two studies were used by the cities of Tempe and Mesa to respond to MAG's Call for Projects in 2020 to inform the new RTP and the extension of the Proposition 400 regional sales tax passed by Maricopa County voters in 2004. Figure 2 shows the three streetcar projects that were submitted. Two were submitted by the city of Tempe, and one was submitted by the city of Mesa. The first Tempe streetcar project went along Rio Salado Parkway from Priest Drive to the Loop 101. The second Tempe streetcar project went south on Mill Avenue from Apache Boulevard to Southern Avenue and then east on Southern Avenue to the Loop 101. The streetcar project submitted by the city of Mesa went east on Rio Salado Parkway from the Loop 101 to Dobson Road, south on Dobson Road to Southern Avenue, east on Southern Avenue to Country Club Drive and then north on Country Club Drive to Main Street.

MAG reviewed these three submittals and made adjustments to them based on funding constraints and regional needs. Consequently, two streetcar projects were added to the Momentum 2050 Regional Transportation Plan: the Rio East-Dobson Extension and the Fiesta Extension (Figure 3).

**Figure 2: Streetcar Projects Submitted to MAG in 2020**

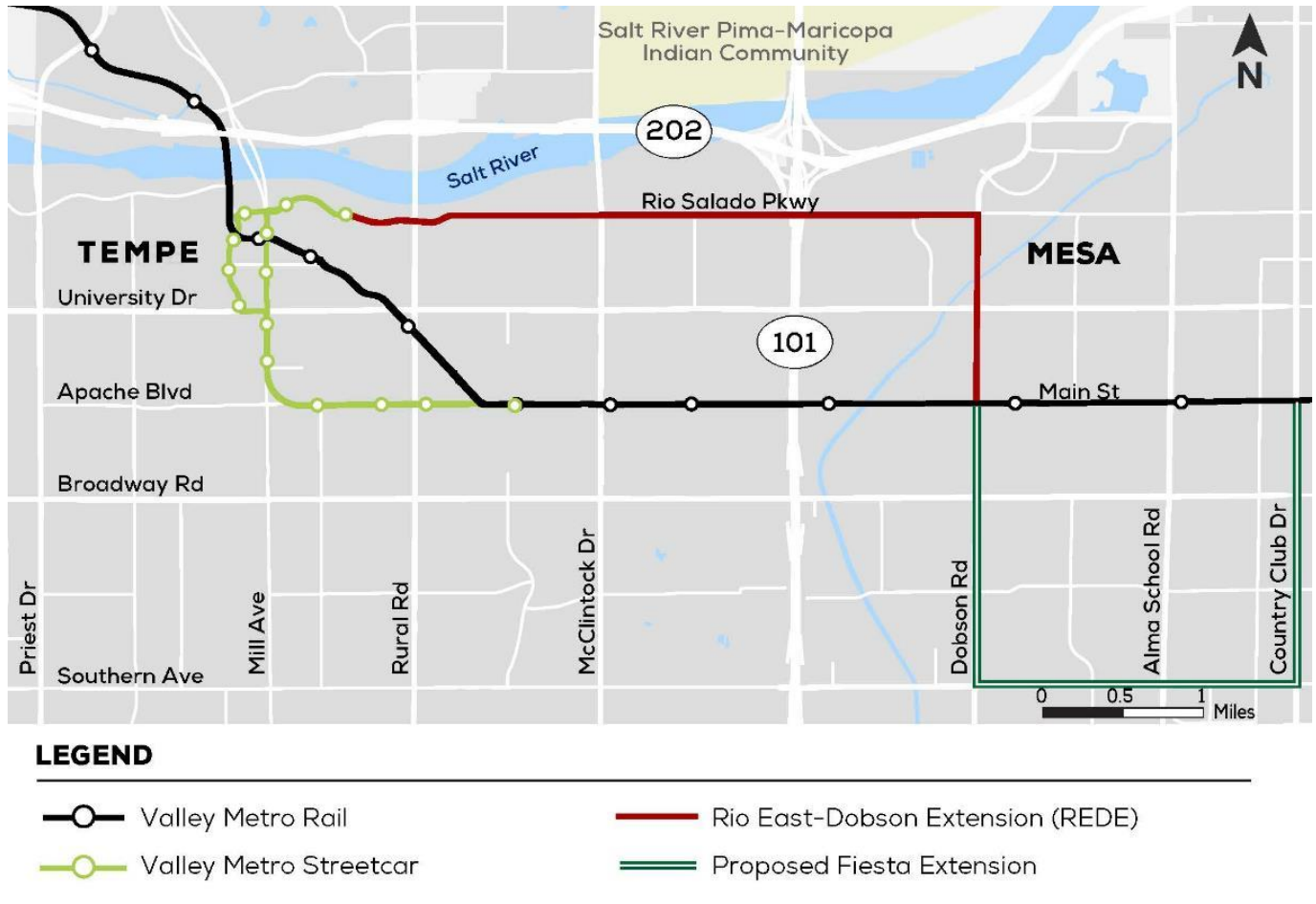


**LEGEND**

- |  |  |   |
|--|--|---|
|  Valley Metro Rail      | <b>1</b> Rio Salado Parkway East / Rio Salado Parkway West | <b>3</b> Rio Salado East/Dobson/Southern/Country Club |
|  Valley Metro Streetcar | <b>2</b> Mill Avenue/Southern Avenue                       |   |

Source: *Tempe/Mesa Streetcar Feasibility Study Final Report*

**Figure 3: Streetcar Projects in the MAG Momentum 2050 Plan**



In 2023, the cities of Mesa and Tempe entered into a cooperative funding agreement with Valley Metro to conduct an Alternatives Analysis (AA), to select the LPA and to do preliminary design. This study, which has been underway since August 2023, focuses on reviewing different operational configurations for the REDE streetcar (e.g., center-running vs. side-running, dedicated guideway vs. mixed traffic). The first step in conducting this AA is to identify existing conditions and future conditions in the corridor to reconfirm the findings from the TMSFS and FDAA studies that the REDE corridor is ideally suited for high-capacity transit investment such as streetcar.

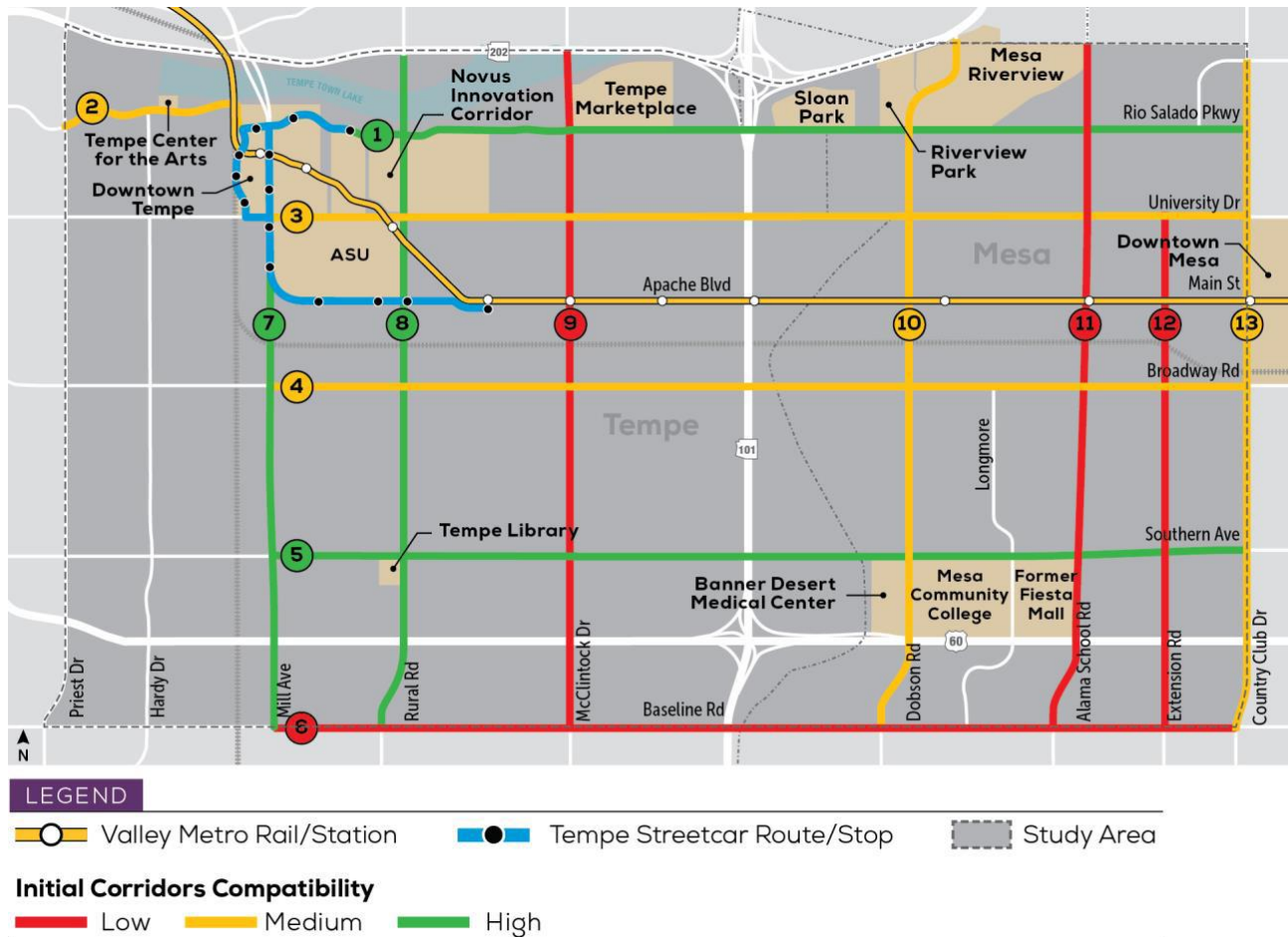
### 3. Alternatives Considered

#### *Tempe/Mesa Streetcar Feasibility Study (TMSFS)*

The TMSFS assessed 13 potential streetcar corridors in a two-tiered process. These 13 corridors and the study area are shown in Figure 4. The study area was bound by the Loop 202

Red Mountain Freeway on the north, Baseline Road on the south, Priest Drive on the west and Country Club Drive on the east. Tier 1 was a high-level qualitative analysis, and Tier 2 was an in-depth quantitative analysis.

**Figure 4: Tempe/Mesa Streetcar Feasibility Study Area and Corridors Evaluated**



Source: *Tempe/Mesa Streetcar Feasibility Study Final Report*

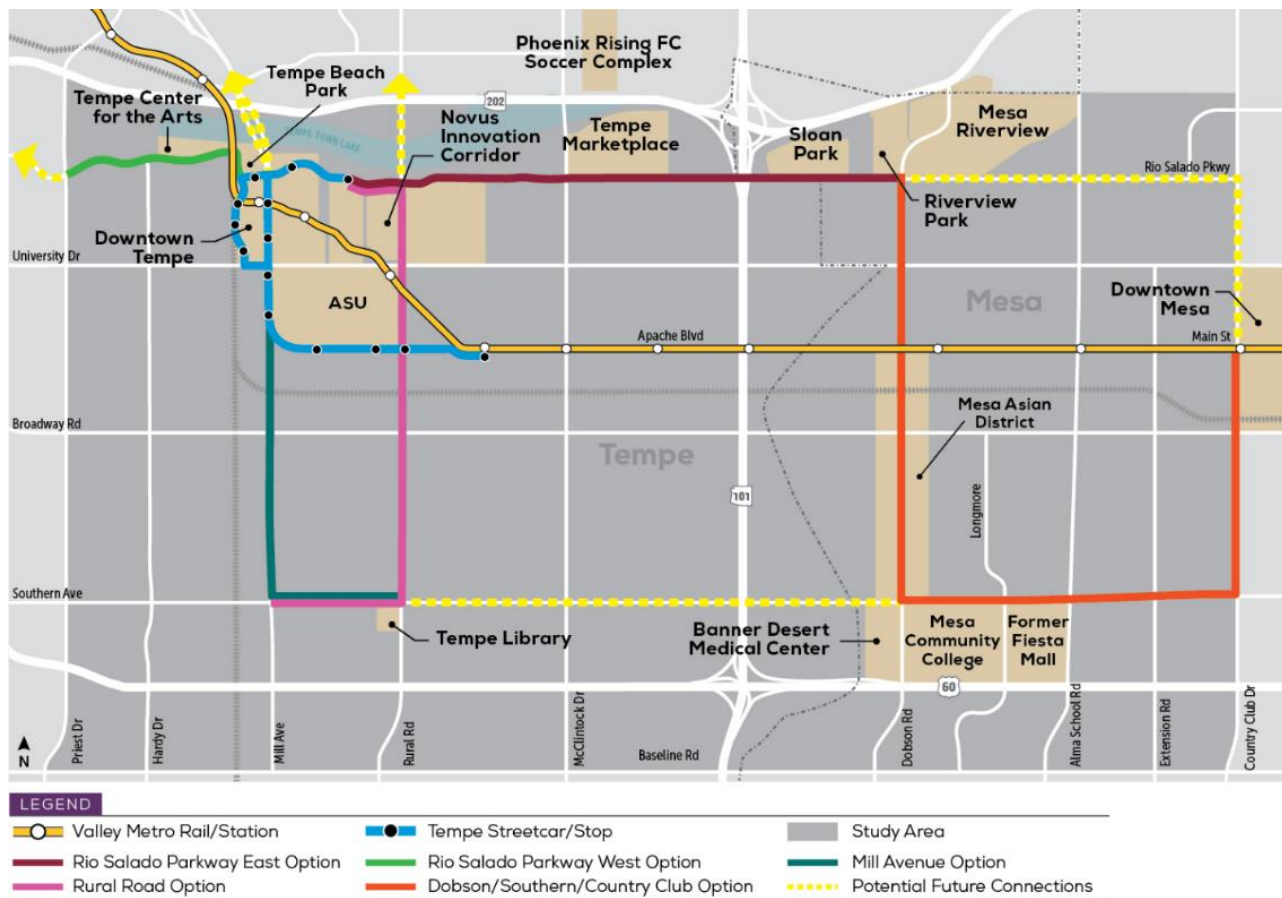
The Tier 1 evaluation assessed at a high level the potential impacts of a streetcar to the physical environment, existing transit riders, future population and employment and land use along each corridor option.

The 13 corridors in Tier 1 were further divided into segments. The best performing segments were then assembled into five corridors that were advanced to Tier 2. These five corridors are shown in Figure 5 and are labeled as:

- Rio Salado Parkway East

- Rio Salado Parkway West
- Rural Road
- Dobson/Southern/Country Club
- Mill Avenue

**Figure 5: Tempe/Mesa Streetcar Feasibility Tier 2 Corridors**



Source: *Tempe/Mesa Streetcar Feasibility Study Tier 2 Evaluation Report*

The five Tier 2 corridors were scored and ranked according to six criteria: Mobility Improvements; Access Opportunities; Potential Impacts; Land Use and Economic Development Potential; Cost; and Efficiencies. Table 1 shows the rankings. Rio Salado Parkway East and Dobson/Southern/Country Club were ranked 1st and 3rd respectively. These two corridors would later be used by MAG to create the REDE corridor as identified in the Momentum 2050 Plan.



**Table 1: Tempe/Mesa Streetcar Feasibility Tier 2 Rankings**

| Rank | Corridor Option              | Mobility Improvements | Access Opportunities | Potential Impacts | Land Use/ Development | Costs | Efficiencies |
|------|------------------------------|-----------------------|----------------------|-------------------|-----------------------|-------|--------------|
| 1    | Rio Salado Parkway East      | ▲                     | ▲                    | ●                 | ●                     | ▲     | ●            |
| 2    | Rural Road                   | ●                     | ●                    | ●                 | ◆                     | ▲     | ◆            |
| 3    | Dobson/Southern/Country Club | ▲                     | ◆                    | ◆                 | ●                     | ◆     | ●            |
| 4    | Mill Avenue                  | ▲                     | ◆                    | ▲                 | ◆                     | ●     | ●            |
| 5    | Rio Salado Parkway West      | ◆                     | ◆                    | ●                 | ◆                     | ●     | ◆            |

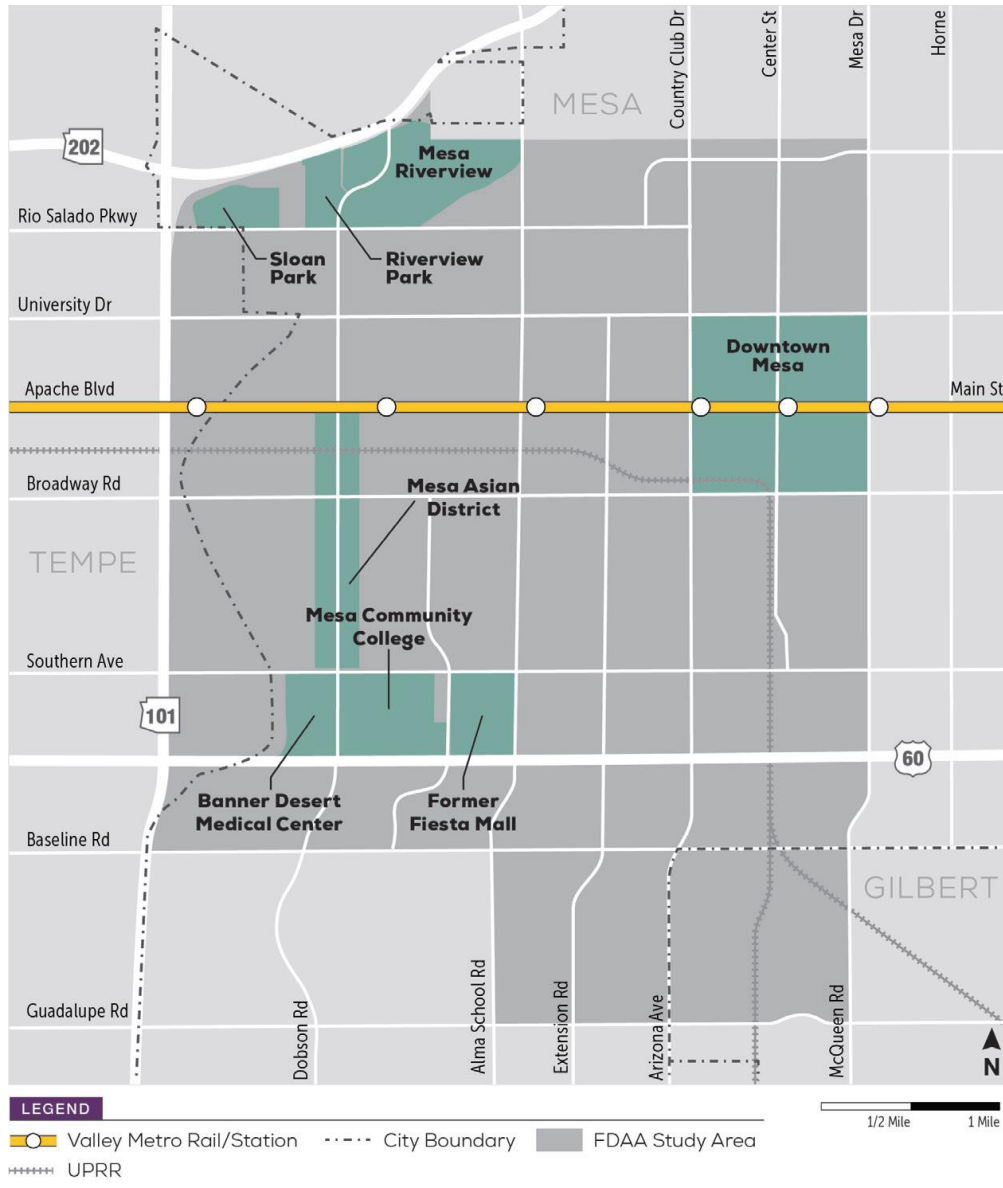
● High Performance; ▲ Medium Performance; ◆ Low Performance

Source: Tempe/Mesa Streetcar Feasibility Study Tier 2 Evaluation Report

*Fiesta District Alternatives Analysis (FDAA)*

The Fiesta District Alternatives Analysis (FDAA) looked at 11 potential corridors for high-capacity transit (HCT) investment in a two-tiered process similar to the Tempe/Mesa Streetcar Feasibility Study (TMSFS). The study area for the FDAA is shown in Figure 6 and generally follows Loop 101 to the west, Loop 202 to the north, Mesa Drive to the east and Baseline Road to the south. The FDAA study area overlapped with the TMSFS study area. The 11 Tier 1 corridors are shown in Figures 7a and 7b.

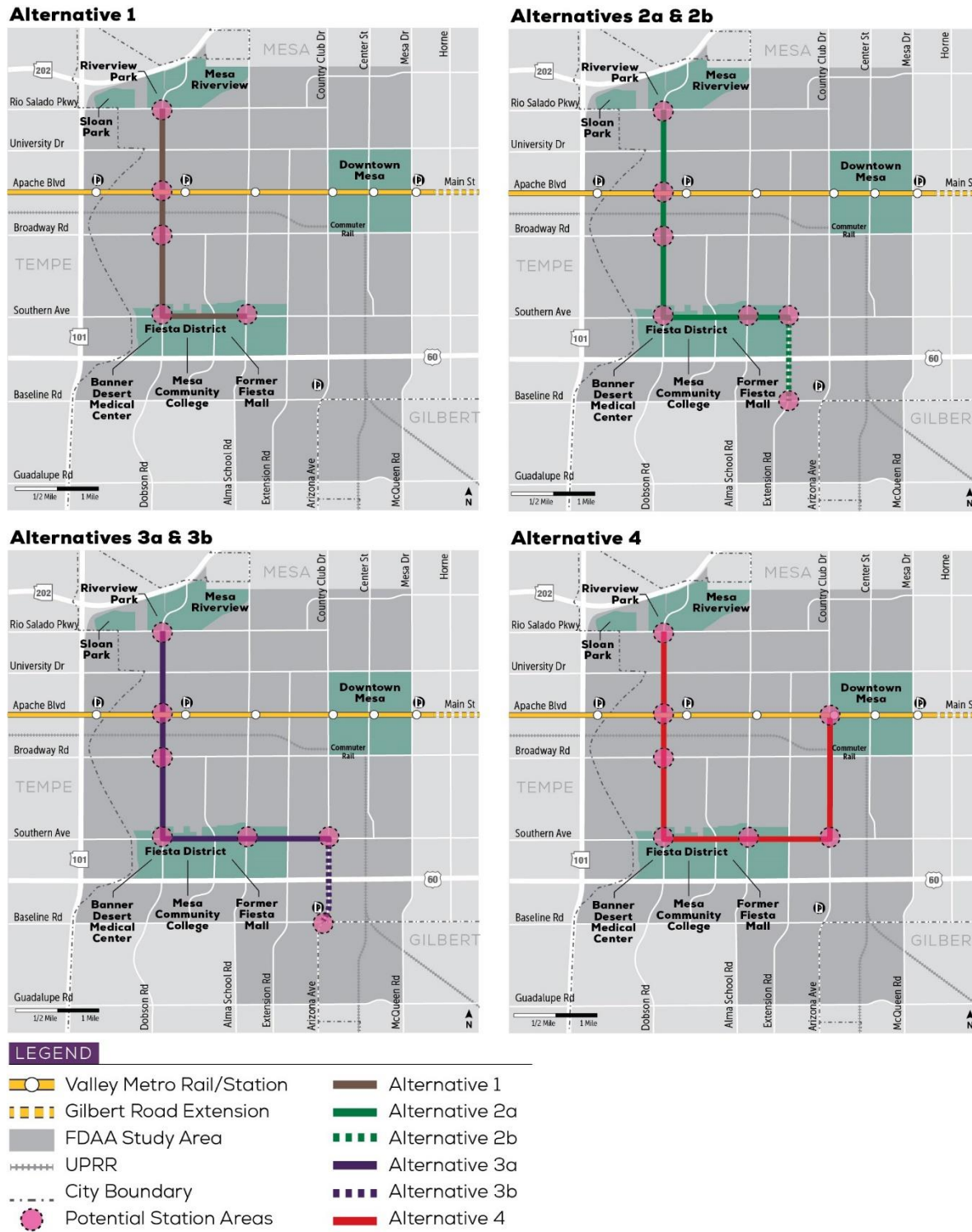
**Figure 6: Fiesta District Alternatives Analysis Study Area**



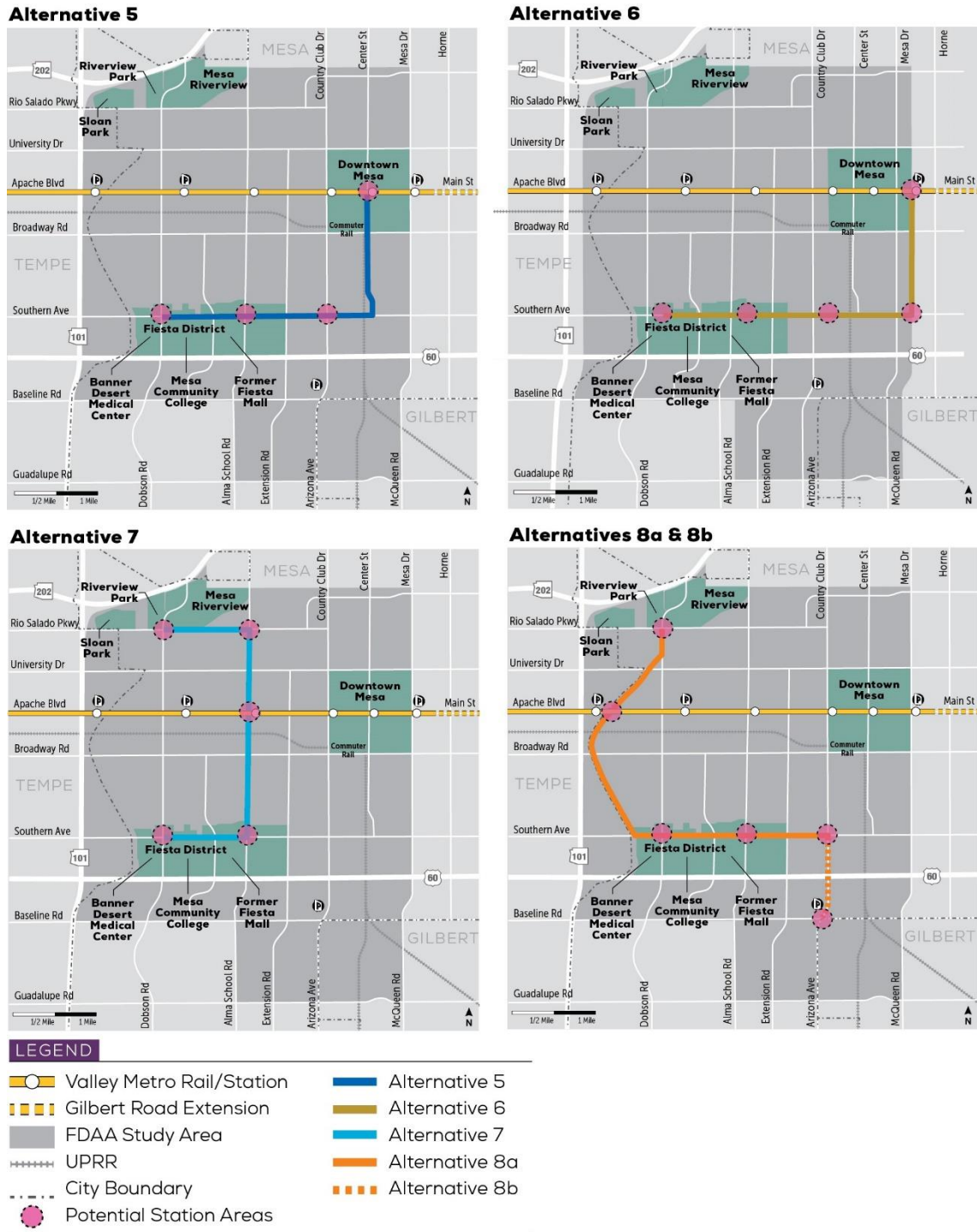
Source: *Fiesta District Alternatives Analysis Final Report*



**Figure 7a: Fiesta District Alternatives Analysis Tier 1 Corridors**

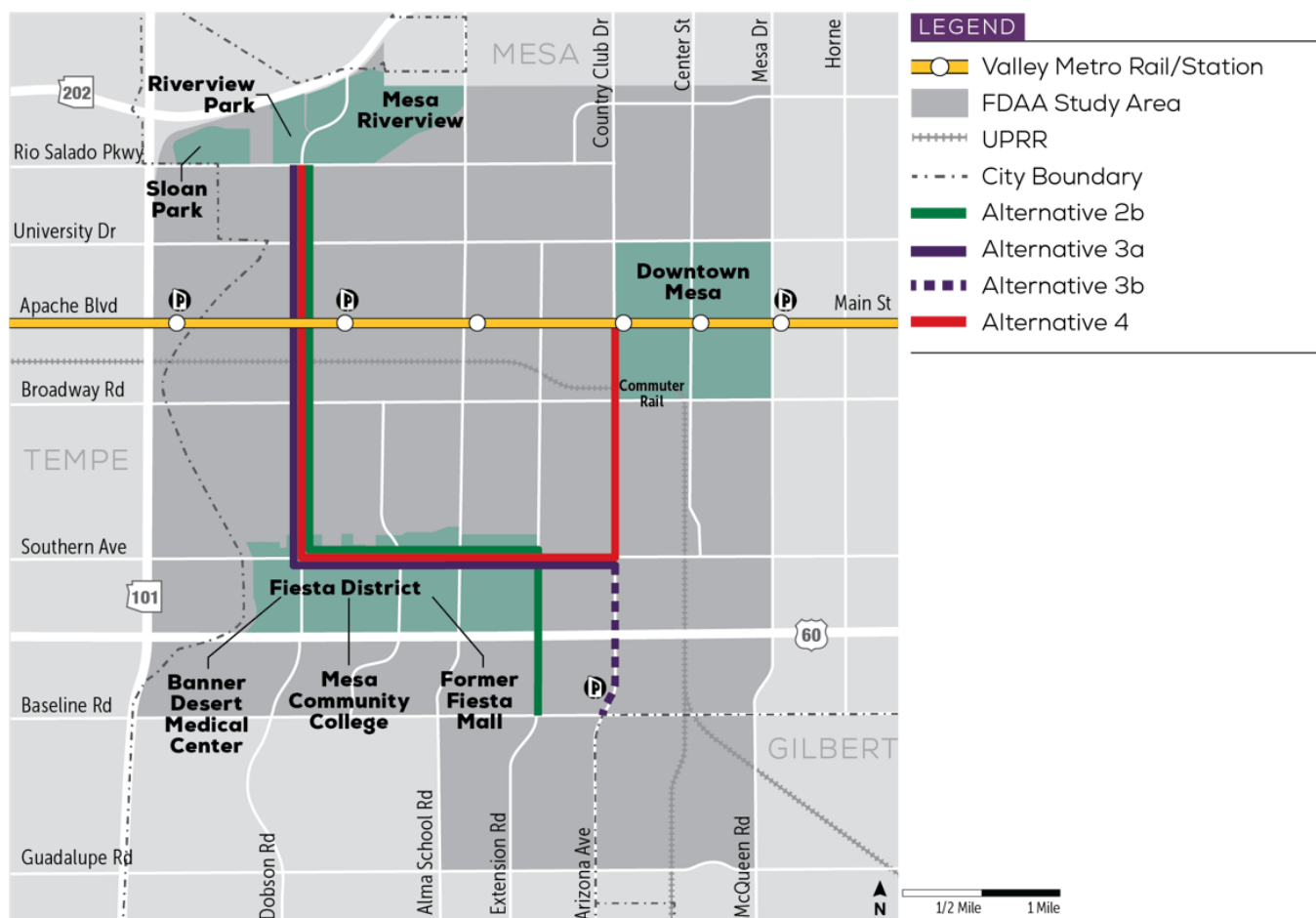


**Figure 7b: Fiesta District Alternatives Analysis Tier 1 Corridors**



The Tier 1 evaluation criteria consisted of five broad categories that were further divided into multiple sub-criteria. The five broad categories included: Ridership Potential; Transit-Oriented Development Land Use and Economic Development Potential; Physical and Engineering Constraints; Transportation Network Integrity and Functionality; and Cost. Within these five categories, five of the sub-criteria were given greater weight: Low-Income Population; Zero-Car Households; Major Areas Served; Existing Transit Ridership; and Redevelopment Opportunities. With this weighted structure applied, the top four ranking alternatives that were advanced to the Tier 2 evaluation were Alternatives 2b, 3a, 3b and 4 (Figure 8).

**Figure 8: Fiesta District Alternatives Analysis Tier 2 Corridors**



Source: *Source: Fiesta District Alternatives Analysis Final Report*

Each Tier 2 corridor was evaluated for three high-capacity transit (HCT) modes (streetcar, enhanced bus, and light rail) according to seven criteria: Mobility Improvements; Access;

Potential Impacts; Land Use and Economic Development; Cost; Efficiencies; and Public Support. The Tier 2 rankings are shown in Table 2.

**Table 2: Fiesta District Alternatives Analysis Tier 2 Rankings**

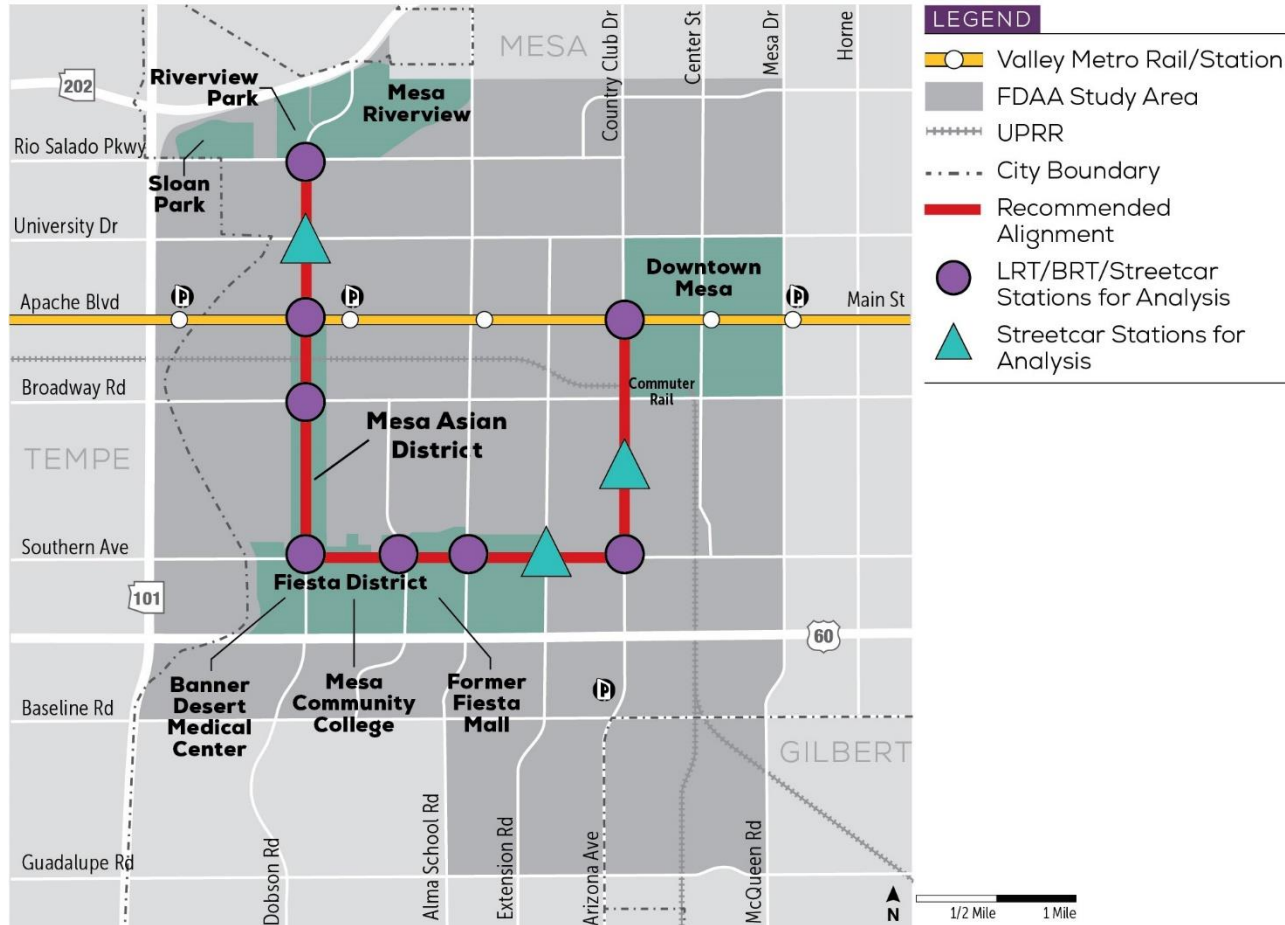
| Alternative    | Mode         | Rank |
|----------------|--------------|------|
| Alternative 2B | Streetcar    | 11   |
|                | Enhanced Bus | 8    |
|                | Light Rail   | 11   |
| Alternative 3A | Streetcar    | 7    |
|                | Enhanced Bus | 8    |
|                | Light Rail   | 10   |
| Alternative 3B | Streetcar    | 5    |
|                | Enhanced Bus | 4    |
|                | Light Rail   | 5    |
| Alternative 4  | Streetcar    | 2    |
|                | Enhanced Bus | 1    |
|                | Light Rail   | 3    |

Alternative 4 was identified as the highest performing corridor and selected as the preferred alignment. It had the greatest potential to attract riders, the densest population and employment areas, a slight advantage for potential future economic development, the strongest community support, and it connected to existing light rail at two locations. Additionally, Alternative 4 connects to several major activity centers in west Mesa including:

- Sloan Park
- Mesa Riverview
- Mesa Asian District
- Fiesta District
- Banner Desert Medical Center
- Mesa Community College
- Downtown Mesa

For these reasons, Alternative 4 was selected as the preferred alignment in the final report of the Fiesta District Alternatives Analysis (Figure 9).

**Figure 9: Fiesta District Alternatives Analysis Preferred Alignment (Alternative 4)**



Source: *Fiesta District Alternatives Analysis Final Report*

The Fiesta District Alternatives Analysis did not select a preferred transit mode for Alternative 4 but instead stated the mode would be identified in a future analysis. That future analysis was the Tempe/Mesa Streetcar Feasibility Study (TMSFS). Alternative 4 matches the Dobson/Southern/Country Club corridor in the identified in the TMSFS.

#### 4. Stakeholder and Community Outreach

##### *Tempe/Mesa Streetcar Feasibility Study (TMSFS)*

The Tier 1 community outreach occurred from late 2018 through early 2019. The Tier 2 outreach occurred in early 2020. The project team provided updates at local board and commission meetings and partnered with other project/study teams to present information on the TMSFS.



The Tier 1 community outreach events are listed in Table 3, and the Tier 2 events are listed in Table 4.

**Table 3: Tier 1 Community Outreach Events**

| Venue  | Meeting Date       |
|--|--------------------|
| Public Meeting: Tempe Streetcar Final Design Open House  | June 20, 2018      |
| Public Meeting: Tempe Urban Core Master Plan             | September 20, 2018 |
| Public Meeting: Tempe Urban Core Master Plan             | September 20, 2018 |
| Public Meeting: Tempe Urban Core Master Plan             | September 22, 2018 |
| Public Meeting: Tempe Streetcar Construction Open House  | November 8, 2018   |
| City of Mesa: Transportation Advisory Board              | November 20, 2018  |
| City of Mesa: Economic Development Advisory Board        | December 4, 2018   |
| City of Tempe: Transportation Commission                 | December 11, 2018  |
| City of Tempe: Development Review Commission             | December 11, 2018  |
| City of Tempe: Neighborhood Advisory Commission          | December 12, 2018  |
| City of Tempe: Parks, Recreation and Golf Advisory Board | December 19, 2018  |
| City of Tempe: Historic Preservation Commission          | January 9, 2019    |
| City of Tempe: Sustainability Commission                 | January 14, 2019   |
| Stakeholder Meeting: ASU Novus Corridor                  | January 14, 2019   |
| City of Tempe: Commission on Disability Concerns         | February 4, 2019   |
| City of Tempe: Arts and Culture Commission               | February 13, 2019  |

**Table 4: Tier 2 Community Outreach Events**

| Venue   | Meeting Date      |
|---|-------------------|
| Public Meeting: Tempe Urban Core Master Plan                                    | January 23, 2020  |
| Public Meeting: Tempe Urban Core Master Plan                                    | January 23, 2020  |
| City of Tempe: Commission on Disability Concerns                                | February 3, 2020  |
| City of Tempe: Neighborhood Advisory Commission                                 | February 5, 2020  |
| City of Tempe: Development Review Commission                                    | February 11, 2020 |
| City of Tempe: Sustainability Commission  | February 12, 2020 |
| City of Tempe: Historic Preservation Commission                                 | February 12, 2020 |
| City of Tempe: City Manager’s Update to City Council                            | February 13, 2020 |
| City of Tempe: Arts and Culture Commission                                      | February 18, 2020 |
| City of Tempe: Parks, Recreation, Golf and Double Butte Cemetery Advisory Board | February 19, 2020 |
| City of Tempe: Transportation Commission  | May 12, 2020      |



The Final Report of the Tempe/Mesa Streetcar Feasibility Study was presented to the Tempe City Council on May 14, 2020. Mesa City Council received a combined presentation of TMSFS and FDAA (described below) on November 12, 2020. The Tempe City Council supported moving forward with the two Tempe streetcar corridors recommended by city staff, as shown in Figure 2. No action was taken by the Mesa City Council as the presentation was an information item only.

*Fiesta District Alternatives Analysis (FDAA)*

Community outreach for the FDAA began in fall 2018 and continued through early 2019. It included targeted individual meetings with businesses and commercial property owners, two public meetings and two online surveys.

**Table 5: Stakeholder Outreach**

| Stakeholder                              | Meeting Date       |
|--|--------------------|
| Santander                                | September 27, 2018 |
| Mesa Community College                   | October 1, 2018    |
| Union Office Space                       | October 9, 2018    |
| Mekong Plaza Business Area               | October 18, 2018   |
| DexCom                                   | October 22, 2018   |
| National General Lender Services         | October 22, 2018   |
| Former Fiesta Mall (property owners)     | October 29, 2018   |
| Former Sears (property owners)           | October 29, 2018   |
| Banner Desert Medical Center             | November 14, 2018  |
| Mesa Transportation Advisory Board       | November 20, 2018  |
| Mesa Economic Development Advisory Board | December 4, 2018   |
| IntouchCX                                | February 25, 2019  |

The two public meetings were held at the Mesa Police Department Fiesta Division at 1010 W. Grove Avenue in Mesa.

- October 26, 2017: introduced the study to the community and received input on the study goals.
- November 14, 2018: presented results of the evaluation and received input on the selected routes.

The two online surveys were held in conjunction with the public meetings. Survey 1 inquired about the communities’ goals for the study, and Survey 2 inquired about tradeoffs in the selected routes. A total of 153 responses from both surveys were received.

A combined presentation on the final reports of the Fiesta District Alternatives Analysis and the Tempe/Mesa Streetcar Feasibility Study was presented to the Mesa City Council on November 12, 2020.

### 5. Compatibility with Land Use and Economic Development

The TMSFS included a Current and Future Conditions report that highlighted the land use and economic development characteristics of the study area as well as key demographics. This report was updated in July 2024 as part of the REDE Alternatives Analysis. The July 2024 report reconfirmed that the REDE corridor is ideally suited for streetcar.

According to socioeconomic data obtained from the Maricopa Association of Governments, population within the REDE study area is projected to grow 55% by 2050, and employment is projected to grow 45% by 2050. The projected population growth is higher than what is projected for the region and for Mesa and Tempe as a whole, and the projected employment growth is in line with what is projected for the region and the two cities.

**Table 6:** Projected Population Growth within REDE Study Area

| Location        | Total Population |           | Population Density (persons/sq. mi.) |        | % Change 2020-2050 |
|-----------------|------------------|-----------|--------------------------------------|--------|--------------------|
|                 | 2020             | 2050      | 2020                                 | 2050   |                    |
| Study Area      | 81,601           | 126,392   | 6,962                                | 10,784 | + 55               |
| Mesa            | 552,281          | 655,213   | 3,254                                | 3,860  | + 19               |
| Tempe           | 189,716          | 240,899   | 4,696                                | 5,963  | + 27               |
| Maricopa County | 4,436,908        | 6,196,023 | 481                                  | 672    | + 40               |

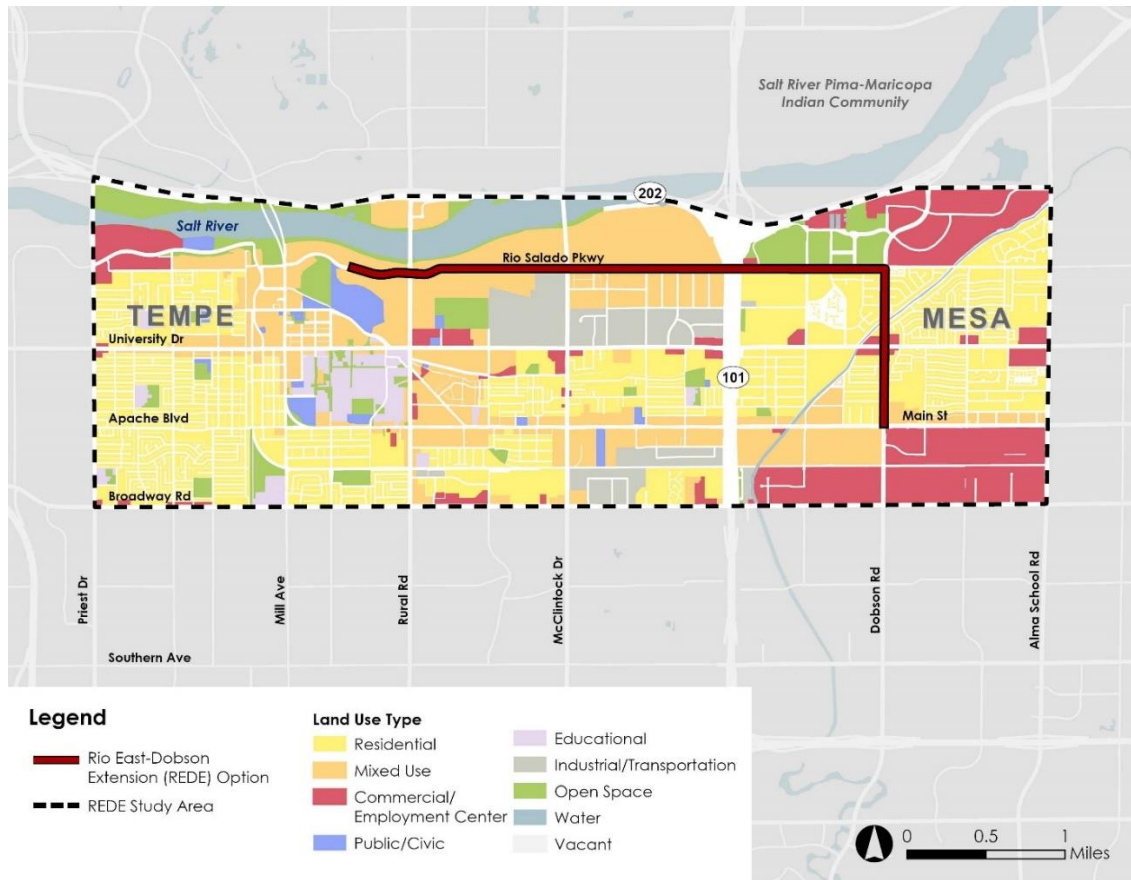
**Table 7:** Projected Employment Growth within REDE Study Area

| Location        | Total Employment |           | Employment Density (jobs/sq. mi.) |       | % Change 2020-2050 |
|-----------------|------------------|-----------|-----------------------------------|-------|--------------------|
|                 | 2020             | 2050      | 2020                              | 2050  |                    |
| Study Area      | 64,049           | 93,138    | 5,465                             | 7,946 | + 45               |
| Mesa            | 204,860          | 309,212   | 1,207                             | 1,822 | + 51               |
| Tempe           | 199,648          | 265,229   | 4,942                             | 6,565 | + 33               |
| Maricopa County | 2,236,347        | 3,307,883 | 242                               | 359   | + 48               |

Mixed used development within the REDE study area is projected to increase from 17% in 2020 to 25% in 2050. Much of the mixed-use development, both existing and future, is or will be

located on Rio Salado Parkway between Rural Road and Dobson Road. This is indicated by the orange shaded areas in Figure 10 below.

**Figure 10:** Future 2050 Land Use



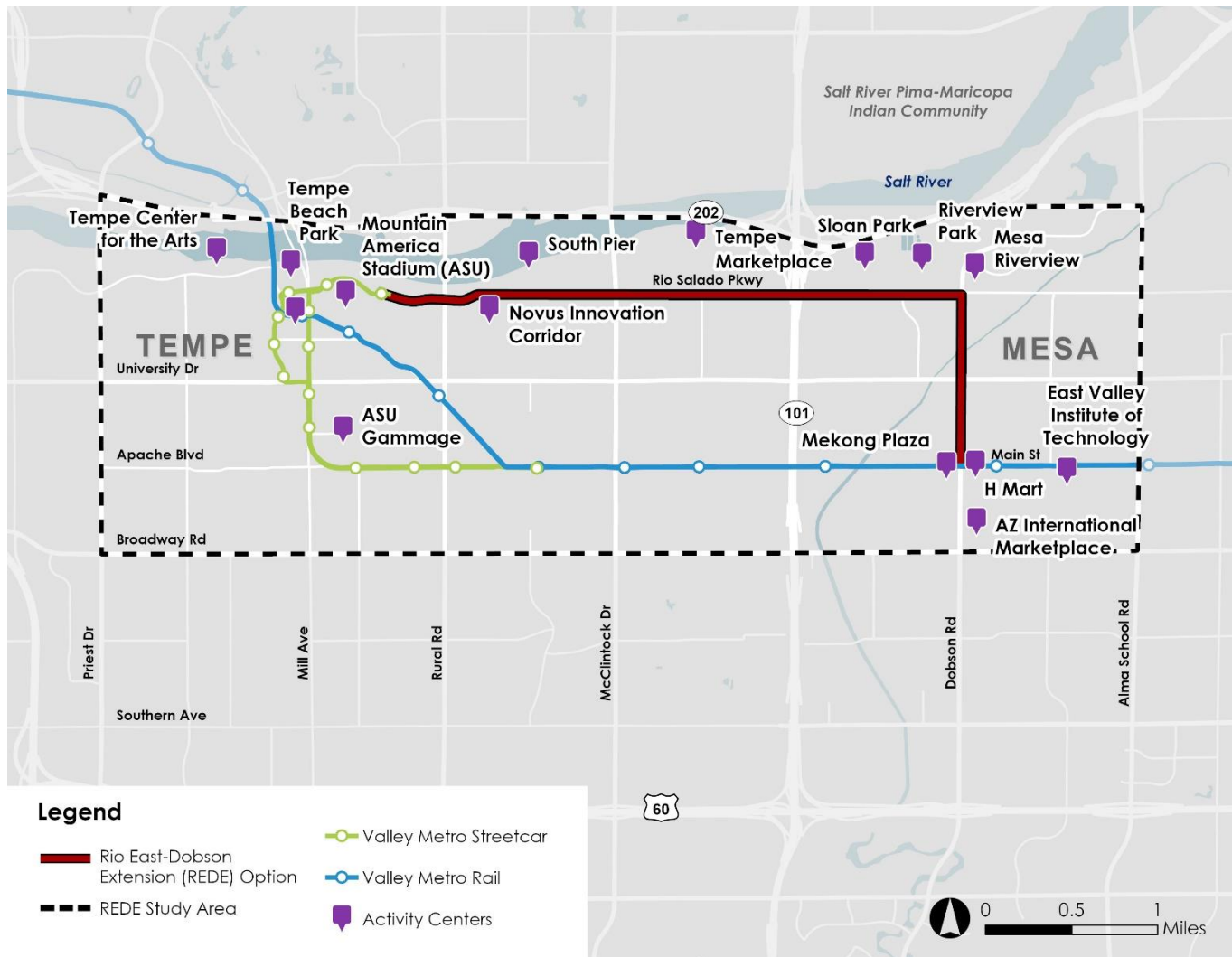
Source: *Rio East-Dobson Extension Existing and Future Conditions Report*

Figure 11 shows the major activity centers within the REDE study area. The ones closest to the REDE LPA corridor include:

- Mountain America Stadium (Arizona State University)
- South Pier (future development)
- Novus Innovation Corridor (future development)
- Tempe Marketplace
- Sloan Park
- Riverview Park

- Mesa Riverview
- Mekong Plaza (gateway to Asian District)
- H Mart (gateway to Asian District)

**Figure 11: Major Activity Centers**



Source: Rio East-Dobson Extension Existing and Future Conditions Report

The REDE study area includes a large percentage of various transit-dependent population groups that would benefit from quality high-capacity transit such as streetcar. According to U.S. Census data, 58% of the households within the study area consist of 0-1 car households. This is higher than the metro Phoenix region, as well as the cities of Mesa and Tempe as a whole.

**Table 8: Transit Dependent Populations**

| Transit-Dependent Characteristic                  | Study Area |    | Tempe  |    | Mesa    |    | Maricopa County |    |
|---|------------|----|--------|----|---------|----|-----------------|----|
|   | Total      | %  | Total  | %  | Total   | %  | Total           | %  |
| <b>Commuters that Bike, Walk, or take Transit</b> | 6,724      | 15 | 10,113 | 10 | 7,318   | 3  | 71,299          | 3  |
| <b>Low-Income Households (&lt;\$35,000)</b>       | 9,975      | 32 | 16,418 | 22 | 38,443  | 20 | 319,710         | 19 |
| <b>Population Age 0-19</b>                        | 17,391     | 23 | 36,211 | 20 | 126,302 | 25 | 1,156,526       | 26 |
| <b>Population Age 65+</b>                         | 4,232      | 6  | 19,112 | 11 | 84,811  | 17 | 707,832         | 16 |
| <b>Households with 0 or 1 Cars</b>                | 17,883     | 58 | 35,600 | 48 | 80,736  | 42 | 664,781         | 39 |
| <b>Minority Population</b>                        | 40,621     | 53 | 83,722 | 47 | 197,567 | 40 | 2,095,439       | 47 |

**6. RAISE Grant**

In June 2024, Valley Metro was awarded a \$15.9 Million Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant by the United States Department of Transportation. The grant is 100% federally funded with no required local match. The funding from the RAISE grant will be used to further advance the project by completing the preliminary engineering and environmental analysis of the REDE project. As the project continues, the operating scenario (center-running vs. side-running, mixed traffic vs. dedicated guideway) and the stop locations will continue to be refined.

**7. Conclusion**

The Rio East-Dobson Extension (REDE) Locally Preferred Alternative (LPA) recommends a 4.4-mile extension of the existing Valley Metro Streetcar line. This project was identified through extensive research, community engagement and coordination with the cities of Mesa and Tempe and the Maricopa Association of Governments going back to 2018.

The selection of a LPA is a required milestone for transit projects that seek funding through the Federal Transit Administration’s Capital Investment Grant program. The LPA consists of the project’s preferred mode and preferred route.

The recommended mode for the REDE project is streetcar. The recommended route is east on Rio Salado Parkway from the current streetcar terminus at Marina Heights to Dobson Road, south on Dobson Road and terminates at Main Street, as shown in Figure 1 at the beginning of this report.