Valley Metro, in coordination with the City of Tempe, City of Mesa and Maricopa Association of Governments (MAG), conducted the Tempe/Mesa Streetcar Feasibility Study (TMSFS) to evaluate the potential of a future streetcar system to connect points of interest, planned developments and emerging transit corridors in the East Valley.

The study identified potential corridors for a future streetcar system to serve Tempe and Mesa. These corridors are proposed as potential extensions to the Tempe Streetcar project, a 3-mile modern streetcar line that is scheduled to open in 2021. The results of the study will help both cities plan and prioritize future transit investments.

This report summarizes the study’s methodology, recommended corridors and next steps to realize future streetcar corridors in the East Valley.
Background

The study area for TMSFS is defined as the area bounded by Loop 202 to the north, Country Club Drive to the east, Baseline Road to the south and Priest Drive to the west.

What is the purpose of a streetcar system extension?

• To enhance high-capacity transit (HCT) connectivity to the existing light rail, Tempe Streetcar and potential future projects in the Fiesta District in Mesa and along the Arizona Avenue corridor in Chandler
• To support growing population and employment in the study area
• To assist with travel demand within the study area and between downtown Tempe and downtown Mesa
• To further the momentum of economic and transit-oriented development in the study area
• To support regional efforts for congestion mitigation and air quality improvement
• To aid mobility of transit-dependent populations

Based on data from the MAG Regional Travel Forecasting Model by 2040 the study area is predicted to have:

- 58% increase in zero or one-car households
- 50% increase in residents
- 34% increase in workers

Source: MAG 2017 Regional Travel Forecasting Model
Analysis Process

The TMSFS used a two-tiered evaluation process to assess potential streetcar corridors.

2018
- Initial Screening
  Identify corridors that meet project’s Purpose and Need and have high propensity for transit improvements.

2019
- Tier 1 Evaluation
  Qualitative, high-level analysis.

2020
- Tier 2 Evaluation
  Quantitative, in-depth analysis.
- Recommend Corridors
  Recommendation for future regional transit funding.
Initial Screening

An initial screening of major roadways in the study area was first conducted based on findings from the MAG Regional Transit Framework Study (RTFS) provided in February 2018, the Valley Metro Transit Standards and Performance Measures (TSPM) Transit Propensity Tool and compatibility to local transportation or transit master plans.

The four corridors with the lowest compatibility to the project’s goals and objectives were removed from consideration for the next step of the analysis. These corridors were: Baseline Road (6), McClintock Drive (9), Alma School Road (11) and Extension Road (12).
Tier 1 Evaluation

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

Five corridor options were identified by segments and advanced to the Tier 2, final evaluation:

- **Rio Salado Parkway East (Segment 1A)**
  Connects to area with future development

- **Rural Road (Segments 8A, 8B and 5A)**
  Has high transit ridership and connects to activity centers

- **Dobson/Southern/Country Club (Segments 10A, 10B, 5C and 13B)**
  Connects to activity centers and area with future development

- **Mill Avenue (Segments 7A and 5A)**
  Connects to Tempe High School, Library and Museum

- **Rio Salado Parkway West (Segment 2A)**
  Connects to area with future development and employment
The results of the Tier 2 final evaluation led the project team to rank the five corridors as follows:

1. Rio Salado Parkway East
2. Rural Road
3. Dobson/Southern/Country Club
4. Mill Avenue
5. Rio Salado Parkway West

In coordination with the cities of Tempe and Mesa, the project team identified three categories to receive greater weight in the evaluation:

- Mobility Improvements
- Access Opportunities
- Land Use and Economic Development Potential
Prioritized Corridors

Each corridor option has unique opportunities and challenges to be feasible for streetcar.

**Rio Salado Parkway East:**
- High potential for future ridership given the planned mixed-use and multi-family developments along Rio Salado Parkway
- Tempe is requiring 14-foot easements on both north and south sides of the road, from Priest Drive east to the Tempe-Mesa boundaries, which could lessen the potential right of way impact to build streetcar
- No existing transit service or transit market along the entire route of this corridor

**Rural Road:**
- Existing land use and transit market supportive additional HCT investment
- Regionally identified (in MAG 2019 RTFS Update and 2020 Regional BRT Study) as a target for HCT investment due to the corridor’s existing transit market and large population and employment densities
- Fewer opportunities for redevelopment

**Dobson/Southern/Country Club:**
- Identified as the recommended alternative in the Fiesta District Alternatives Analysis (FDAA), serving large activity centers such as Mesa Riverview, Mesa Asian District, Mesa Community College and downtown Mesa
- Multiple opportunities for phasing to connect large activity centers
- Longest and most expensive corridor option

**Mill Avenue:**
- Large residential population with option to avoid significant right of way impacts and provide service to Arizona State University and Tempe High School
- Designated as a streetcar focus area since initially considered as an option for the Tempe Streetcar project
- Fewer opportunities for redevelopment

**Rio Salado Parkway West:**
- Prime for redevelopment, as multiple multi-family and destination projects have recently been constructed or planned, including the I.D.E.A. Tempe campus
- Features a 14-foot transit easement along both sides of the road which could lessen the potential right of way impact to build streetcar
- Major utility lines generally along Rio Salado Parkway and potential encroachment on Tempe Beach Park
Streetcar Conceptual Designs

Conceptual designs were developed for a preliminary understanding of potential impacts to roadway configurations. Several different configurations could be used in these corridor options, including:

**Semi-exclusive guideway** where the streetcar travels in the median or on the side of the road without other vehicles. Requires repurposing automobile lanes or widening the right of way.

**Mixed-flow guideway** where automobiles and streetcar share lanes together either in the median or curb lanes. Uses the existing lanes or right of way of the road.
Community Outreach

Targeted community outreach was conducted for this early-stage technical evaluation. Broader community outreach will be a part of future studies.

In the city of Tempe, outreach efforts were paired with Tempe Urban Core Master Plan, Tempe Streetcar and a series of meetings were held with community commissions:

- Commission on Disability Concerns
- Neighborhood Advisory Commission
- Development Review Commission
- Sustainability Commission
- Historic Preservation Commission
- City Manager’s Update to City Council
- Arts and Culture Commission
- Parks, Recreation, Golf and Double Butte Cemetery Advisory Board
- Transportation Commission

In the city of Mesa, outreach efforts were paired with the concurrent Fiesta District Alternatives Analysis (FDAA) study since there was overlap with the TMSFS. Outreach for the FDAA study included:

- Twelve meetings with key business stakeholders
- Two public meetings
- Two online surveys
- Meetings with Mesa Economic Development Advisory Board and Transportation Advisory Board

Community outreach included:

- Key Stakeholder Meetings
- Online Presence
- Public Meetings
Next Steps: Transit-Supportive Decisions

Each option has unique actions that are recommended to further prioritize the corridor for future streetcar extension.

**Rio Salado Parkway East:**
- Extend Route 48 along Rio Salado Parkway from Tempe Marketplace to Mesa Riverview.
- Continue coordination with developers to seek opportunities to integrate streetcar into developments such as Novus Innovation Corridor, Tempe Marketplace and Mesa Riverview.
- Continue requiring the 14-foot transit easement for all new development or redevelopment along the corridor in Tempe.
- Promote land use changes complementary to the Tempe Urban Core Master Plan.

**Rural Road:**
- Continue evaluating corridor for regional HCT investments, as identified in MAG RTFS and Regional BRT Study.
- Continue coordination with developers to seek opportunities to integrate streetcar into developments such as Novus Innovation Corridor and Arizona State University.
- Promote development and land use changes complementary to the Tempe Urban Core Master Plan.

**Dobson/Southern/Country Club:**
- Implement a uniquely branded local circulator route to further develop a transit market along this corridor.
- Expand the transit priority corridor designation in the city of Mesa's General Plan update beyond Southern Avenue to include Dobson Road and Country Club Drive.
- Encourage developers along the corridor to implement transit-oriented development elements, such as higher-density mixed uses and street-oriented building designs.

**Mill Avenue:**
- Continue improving existing transit services in the corridor by increasing frequency and improving travel speed and reliability.
- Continue making investments in safe multi-modal transportation infrastructure along the corridor.
- Promote development and land use changes complementary to the Tempe Urban Core Master Plan.

**Rio Salado Parkway West:**
- Promote more transit-supportive land use changes along the corridor (e.g. decrease industrial uses).
- Coordinate with developers along the corridor to seek opportunities for integrating streetcar into developments.
- Integrate 14-foot transit easement along both sides of Rio Salado Parkway.
- Promote development and land use changes complementary to the Tempe Urban Core Master Plan.
Next Steps: Regional Planning

In early 2020, MAG announced a call for projects to inform their effort in developing a new regional transportation plan (RTP) and extending Maricopa County’s dedicated transportation sales tax (Proposition 400).

To advance the advance TMSFS results, city of Tempe submitted two projects to MAG from this study:

1. Rio Salado Parkway (combination of Rio Salado Parkway East to Price Road and Rio Salado Parkway West to Priest Drive)
2. Mill and Southern avenues (Mill Avenue option with the Southern Avenue portion extended east to Price Road)

City of Mesa submitted:

3. Combination of Dobson/Southern/Country Club and the Mesa portion of Rio Salado Parkway East. This corridor is consistent with the FDAA recommended alternative for HCT investment.