



mesa·az Transportation Advisory Board Report

Date: April 21, 2009
To: Downtown Development Committee
From: Mike James, Deputy Director
Transportation Planning and Transit
Subject: Central Mesa High Capacity Transit Alternatives Analysis Locally Preferred Alternative Recommendation

Purpose and Recommendation

The purpose of this report is to outline the project findings and seek a recommendation from the Transportation Advisory Board on the Central Mesa High Capacity Transit Alternatives Analysis Locally Preferred Alternative (LPA).

Staff recommends approval of the Locally Preferred Alternative that extends light rail transit on Main Street from Sycamore to the vicinity of Mesa Drive.

Background

METRO light rail officially began operating on December 27, 2008. This marks the culmination of 12 years of planning and construction activities on the Central Phoenix/East Valley (CP/EV) light rail transit starter line.

The initial line covers 20-miles stretching from 19th Avenue and Montebello in Phoenix through downtown Phoenix and the Arizona State University campus in Tempe to Sycamore and Main Street in Mesa. There are 28 platform stations located along the line. Mesa has approximately one mile of light rail and one station at the Sycamore Transit Center located at Sycamore and Main Street. In addition to the light rail station, the transit center has a park-and-ride lot with 802 spaces and provides connections to six bus routes.

In January 2009, ridership on the system was 911,883. In February, that number dipped slightly to 908,052. The station at the Sycamore Transit Center is averaging over 3,400 weekday boardings.

Other transit agencies have experienced high ridership numbers and demand for extensions of the light rail service, once they began operating. Anticipating a similar

need, Valley transit officials began planning for extensions of the light rail system before the system began operating. In November 2004 Maricopa County voters passed Proposition 400, the 1/2 cent transportation sales tax. The regional transit program of Prop 400 outlines several extensions for the light rail system including a 2.7 mile extension in Mesa.

Discussion

In May 2007, METRO and the city of Mesa began a study to analyze potential high capacity transit corridors in downtown Mesa and extending east to Power Road. The study area is bound by Dobson Road on the west, Power Road on the east, University Drive on the north and the US 60 Freeway on the south. Called the Central Mesa High Capacity Transit Study, this study follows a process to qualify for federal funding and is referred to as an Alternatives Analysis (AA).

The purpose of the AA is to identify a transit technology and alignment alternatives that:

- Increase efficient access to employment opportunities throughout the Central Phoenix/East Valley region for City of Mesa residents.
- Provide improved travel times in a congested environment over local bus.
- Connect the western and central segments of the City of Mesa with the METRO light rail transit system.
- Facilitate continued growth and development of a comprehensive and inter-connected regional transit network that is multi-modal, offers a range of effective mobility choices for current and future transit riders, and attracts new transit riders into the growing regional system.
- Support economic development and ensures enhanced connectivity among existing and planned regional and local activity centers and attractions.

A two-tiered alternatives development process was implemented to evaluate the Central Mesa corridor. The first phase (Tier 1) included a conceptual level evaluation that analyzed the advantages and disadvantages of the initial list of potential alternatives to address the transportation needs of the corridor. The most feasible alternatives were identified and retained for further analysis. The Tier 1 evaluation criteria were primarily qualitative in nature and intended to eliminate alignment and technology options that did not support project goals or were considered "fatally flawed."

The Tier 2 alternatives evaluation is a more rigorous screening process. The Tier 2 evaluation process results in the identification of a locally preferred alternative (LPA). Criteria used in the Tier 2 evaluation include traffic issues, land use compatibility, travel markets, environmental issues, historic properties, design and constructability, economic development potential, projected number of riders and costs. Additional criteria was used to evaluate the alternatives through the downtown area. This

included the number of travel lanes and left turns; maintaining pedestrian crosswalks, bicycle lanes, on-street parking, curbs and sidewalks, and landscape and streetscape elements; economic development potential and construction phasing.

Technology

Two transit technologies were evaluated as part of the study – bus rapid transit (BRT) and light rail transit (LRT). These technologies were identified early in the study because they were technologies that were already in operation so there would be no significant additional maintenance requirements or needs.

BRT is a bus that operates on exclusive lanes or roadways. One BRT vehicle typically carries a maximum of 60 to 80 passengers. Other features of BRT systems are the use traffic signal priority, stations are more substantial than traditional bus stops, more frequent service, low floor design and a special branding or identity to set the service apart from traditional bus service.

LRT is a train powered by electrified overhead wire in a dedicated right-of-way. A typical light rail train consists of up to three interlinked vehicles that can carry a maximum of 525 passengers.

Alternatives

Six alternatives were evaluated in the Tier 2 phase of the study.

BRT Main Street – 2 Lane

Description: This alternative begins at the Sycamore Transit Center at Sycamore and Main Street and has an eastern destination of Superstition Springs Center via Main Street and Power Road. Between Sycamore and Mesa Drive or Horne, this alternative uses a fixed guideway. East of Mesa Drive or Horne to Superstition Springs Center, BRT would operate in mixed traffic as a skip stop express service.

Preliminary ridership Forecasts: 2,500 boardings per day

Capital Cost Estimates: \$74 million

BRT Main Street – 4 Lane

Description: This alternative begins at the Sycamore Transit Center at Sycamore and Main Street and has an eastern destination of Superstition Springs Center via Main Street and Power Road. Between Sycamore and Country Club Drive, this alternative uses a fixed guideway. East of Country Club Drive to Superstition Springs Center, BRT would operate in mixed traffic as a skip stop express service.

Preliminary ridership Forecasts: 2,700 boardings per day
Capital Cost Estimates: \$66 million

LRT Main Street – 2 Lane

Description: This alternative includes a double-track guideway that would operate along Main Street from just east of Sycamore to just east of Mesa Drive or Horne. The existing traffic lane capacity along Main Street would be maintained between Sycamore and Country Club Drive. East of Country Club Drive to Horne, within downtown Mesa, the traffic lane capacity would be reduced from two lanes in each direction to one lane in each direction. Acquisition of additional right-of-way along the alignment would be minimal to accommodate the fixed guideway as a result of the reduction of travel lanes. Tail tracks would continue east of the station platform a distance of approximately 380 feet. BRT would connect the east of the terminus to the Superstition Springs Center, operating in mixed flow traffic as a skip-stop express service.

Preliminary ridership Forecasts: 4,300 boardings per day
Capital Cost Estimates: \$182 million

LRT Main Street – 4 Lane

Description: This alternative includes a double-track guideway that would operate along Main Street from just east of Sycamore to just east of Mesa Drive or Horne. The existing traffic lane capacity along Main Street through downtown Mesa will be maintained. Acquisition of additional right-of-way along the alignment would occur to accommodate the fixed guideway as a result of maintaining the number of travel lanes. Tail tracks would continue east of the station platform a distance of approximately 380 feet. BRT would connect the east of the terminus to the Superstition Springs Center, operating in mixed flow traffic as a skip-stop express service.

Preliminary ridership Forecasts: 4,300 boardings per day
Capital Cost Estimates: \$184 million

LRT First Street

Description: This alternative includes a double-track guideway that would operate along Main Street from just east of Sycamore to just west of Country Club Drive, then northbound on Morris to First Street, where it continues eastbound to Hibbert, then heads southbound to reconnect with Main Street and eastbound out to Mesa Drive or Horne. The existing traffic lane capacity along Main Street would be maintained between Sycamore and Horne, including downtown Mesa. Along First Street, the traffic capacity would be one travel lane in each direction. Acquisition of additional right-of-way along the alignment would be significant to accommodate the fixed guideway as a result of maintaining the number of travel lanes, as well as to accommodate diverting to First Street. Tail tracks would continue east of the station platform a distance of approximately 380 feet. BRT would connect the east of the terminus to the Superstition Springs Center, operating in mixed flow traffic as a skip-stop express service.

Preliminary ridership Forecasts: 4,100 boardings per day

Capital Cost Estimates: \$199 million

LRT First Avenue

Description: This alternative includes a double-track guideway that would operate along Main Street from just east of Sycamore to just west of Country Club Drive, then southbound on Morris to First Avenue, where it continues eastbound to Hibbert, then heads northbound to reconnect with Main Street and eastbound out to Mesa Drive or Horne. The existing traffic lane capacity along Main Street would be maintained between Sycamore and Horne, including downtown Mesa. Along First Avenue, the traffic capacity would be one travel lane in each direction. Acquisition of additional right-of-way along the alignment would be relatively insignificant to accommodate the fixed guideway as a result of maintaining the number of travel lanes, as well as to accommodate diverting to First Avenue. Tail tracks would continue east of the station platform a distance of approximately 380 feet. BRT would connect the east of the terminus to the Superstition Springs Center, operating in mixed flow traffic as a skip-stop express service.

Preliminary ridership Forecasts: 4,100 boardings per day

Capital Cost Estimates: \$203 million

Public Outreach

METRO prepared a Public Involvement Plan to support the study efforts. The overall goal of the public involvement plan was to inform the public, special interest groups and involved agencies about the proposed project and to present the proposed actions, alternatives and issues for public and agency review. The Public Involvement Plan also included a mechanism for the public and others to provide input on the proposed project which was incorporated into the LPA recommendation.

During the course of the study, the public involvement team conducted:

- Four public meetings with 460 people attending
- One business forum with 127 people attending
- Thirty-eight meetings with property and business owners
- Approximately 30 presentations to advisory committees, neighborhood associations and civic organizations
- Continuous updates via Web site, e-mails, newsletters and fact sheets

Through the public outreach program, a general theme started to emerge in the feedback from the community. It centered on a few main points.

- Better serve the East Valley with an extension east to Gilbert Road
- Improve LINK service to match light rail frequencies
- Improve and expand bus service to connect with light rail
- Enhance transit service to ASU Polytechnic Campus and the Mesa Gateway Area
- Promote economic development by connecting residents and employment to other regional centers
- Promote integration of light rail and land use planning to support sustainability and livable community initiatives

Recommendation

The preliminary recommendation for the locally preferred alternative (LPA) is to extend light rail on Main Street to an interim end of the line near Mesa Drive with an eventual goal to extend light rail to Gilbert Road and Main Street to provide better regional connections. This locally preferred alternative would be constructed in two phases. Phase one is to construct light rail on Main Street between the Sycamore Transit Center and Mesa Drive. The projected completion date of this project is 2015. The second phase is to construct light rail on Main Street between Mesa Drive and Gilbert Road. Gilbert Road was ultimately determined to be the best terminus for light rail because of availability of land for a park-and-ride and good north/south access to transit and the freeway system.

This recommendation provides the closest proximity to major downtown Mesa activity centers, reduces property requirements, minimizes travel times and provides the greatest economic development opportunities.

The recommendation of a 2-lane or 4-lane alternative and other urban design concerns will be addressed in the subsequent environment phase.

Alternatives

City staff is recommending a locally preferred alternative that includes light rail transit to the vicinity of Mesa Drive. The recommendation of the Transportation Advisory Board, along with those of other city boards and commissions will be forwarded to the City Council for their consideration.

It is the discretion of the Transportation Advisory Board to accept staff's recommendation or suggest an alternative or modified recommendation.

Fiscal Impact

This is a regionally funded project with funding from Proposition 400. The adoption of a locally preferred alternative is the first milestone in applying for federal matching funds for the project. At this time, no capital costs are required by the City of Mesa. Mesa is responsible for the operation and maintenance costs of the light rail extension.



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