5.0 Investment Solutions

Potential investment solutions for the broad range of transportation needs outlined in Section 4.0 were identified through a number of different means during RTP development. These potential solutions comprised the pool of projects analyzed and considered for funding in the RTP. Various project sources are outlined in the following sections, and include input from communities; input from stakeholders and the public; projects identified in previous studies; and needs from the need analysis in Section 4.0 that were not met by projects in any of the other sources. Section 8.0 provides the fiscally constrained, prioritized lists of projects that resulted from these investment solutions.

5.1 Direction 2040 RTP and Call for Projects

The project list from the Direction 2040 RTP, as well as the latest FY 2014-2017 TIP, were used as a starting point for a "call for projects" discussion with the counties, municipalities, transit agency, port authority, economic development agency, and airport in the Memphis MPO region. Attendees for each one-on-one meeting identified updates, edits, deletions, and additions. Key changes included:

- Projects that were already being programmed or constructed (moved to E+C list);
- Projects that were no longer priorities;
- Projects that were still priorities, and how that changed from Direction 2040 (e.g., the year or decade that the project was likely to be a priority need);
- Changes to definitions of projects, such as extents; and
- New local priority projects not previously identified in Direction 2040.

Both TDOT and MDOT supplied their lists of priority projects as well to incorporate into the project lists.

5.2 Public and Stakeholder Input

Public and stakeholder outreach activities performed in the early months of the study were mined for an understanding of the types of projects and issues of most concern to the region. While these were not project specific, they did help support the projects that were selected from other sources. These overarching themes included:

- Improve the condition, quality, and efficiency of the transportation network and surrounding communities; and
- Strategies varied, with a range of regional mobility or local livability investments discussed, including roadway, transit, bicycle, and pedestrian recommendations.

Further, results from the Community Remarks tool described in Section 2.0 provided more location-specific issues and concerns. These were incorporated into the assessment of needs and cross referenced against projects emanating from other sources. For example, numerous comments related to transit needs in south Memphis; these comments are consistent with transit needs identified through the needs analysis.

5.3 Congestion Analysis

Along with the Congestion Management Process, the 2010 AM peak and PM peak period congestion maps were used to identify corridors in need of capacity improvements through roadway widening projects. More information about the Congestion Management Process can be found in Chapter 10.1. Road widening projects were considered for roadway segments that exceeded a volume to capacity ratio of 1.0 and did not have already have a project to address that congestion. Since the previous RTP and call for projects process already provided many widening projects for consideration, only three additional projects were added to the list from this analysis:

- #311, Stage Rd. – Western Segment, Alfaree St. to Bartlett Blvd.;
- #312, Stage Rd. –Eastern Segment, I-40 to Berryhill Rd.; and
- #313, Democrat Rd., Plough Blvd. to Lamar Ave.

5.4 Transit Gap Analysis for Environmental Justice Communities

The transit gap analysis identifies potential new transit routes and extensions that can improve transit access for environmental justice (EJ) communities. For many individuals located in EJ communities, identified in Section 4.5, transit is vital for accessing work, school, and shopping. This analysis concentrated on areas in the current transit network where transit travel times far exceed travel time in a personal automobile. As discussed in MATA's Short Range Transit Plan, there are limited opportunities to travel north and south, with riders often needing to travel west into downtown Memphis in order to transfer to a different route to reach their destination. This additional length and need to transfer increases the overall transit travel time.

Using travel times derived from the travel demand model, the origin and destination pairs with the highest difference in travel time between transit and automobile were selected. This only included areas that currently have access to transit. In addition the focus of this selection was on transit gaps where service could connect EJ communities to employment opportunities. Only origins, or starting points of a trip, that were within an EJ community were selected. Destinations were limited to major employment areas such as the Memphis International Airport or midtown.

The analysis identified several key gaps that would not be met by projects identified in Sections 5.1 or 5.2:

- The resulting origins were primarily along Highway 64 / Stage Road with the destinations clustered around the BNSF Railway / Memphis Intermodal Facility and other industrial employment destinations in the Lamar Avenue corridor. For better transit access between these two locations, an express route traveling along I-240 with select stops around the intermodal facility could fulfill this need.

- In addition, because there are dozens of companies and distribution centers located in the fairly large area, a circulator shuttle could also satisfy this mobility and accessibilty need, allowing a more direct connection to these places of employment.

- Additional north-south connections would strengthen transit access between EJ communities and major employment centers, improving travel time as well as expanding employment opportunities.

5.5 Mobility/Livability Corridor Assessment

The Mobility/Livability Corridor Assessment described in Section 4.7 was used as a basis to estimate the cost of general complete streets upgrades for a lump sum line item in the RTP. Three livability corridors (Raleigh-Millington, Bartlett-Braden, and Olive Branch-Walls) were identified as good candidates for complete streets upgrades based on three criteria:

- Limited congestion (i.e., not a commute-oriented corridor);

- Town Center connections; and

- Redundant (parallel) capacity (to address any overflow traffic that may be shifted off of livability corridor).

The mileage of these three corridors were multiplied by unit costs of complete street upgrade items, such as sidewalks, bike lanes, mixed-use paths, and road diets. This calculation was used to estimate a reasonable amount of money to set-aside for complete streets upgrades on various corridors in the future. About $22 million was set aside on the Tennessee side of the MPO and about $14 million was set aside on the Mississippi side of the MPO.