INTRODUCTION

The current federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), contains provisions for a “program of interrelated projects” within the Fixed Guideway Capital Investment Grants program. A program of interrelated projects is defined as the simultaneous development of any combination of two or more fixed guideway and/or core capacity capital projects. Core capacity is a newly defined category in MAP-21 for which final guidance is not yet available, but in which Dallas Area Rapid Transit (DART) is taking an active role with the Federal Transit Administration (FTA) and the American Public Transportation Association (APTA) to define.

DART proposes to advance a Program of Interrelated Projects with the FTA totaling between $500 million to $900 million to satisfy a number of system capacity and growth related issues in a coordinated and efficient manner. The program consists of two Core Capacity projects and one Small Starts project that are interconnected.

Additional projects may be defined in the future to supplement the above program. These could include bus system or lower-cost infrastructure improvements that improve capacity, travel time, reliability and operating efficiencies.

DFW adds 108,000 people, ranks 3rd in growth.

“Dallas-Fort Worth-Arlington added 108,000 people, the third-largest population increase in the nation behind Houston and New York, according to new estimates from the U.S. Census Bureau for the 12 months that ended July 1 (2013).”

– Fort Worth Star-Telegram, Thursday, Mar. 27, 2014
DART operates its four existing Light Rail Transit (LRT) lines (Red, Blue, Orange and Green) through one existing at-grade transit mall, all on 15-minute peak service. This results in an average 3.75-minute combined headway through the Dallas Central Business District (CBD). The current operations represent the practical operating capacity without compromising schedule reliability during the peak headway period.

Station platforms on the Red and Blue lines outside of the Dallas CBD can only accommodate 2-car trains (330 passengers), while the Green and Orange lines were built to accommodate 3-car trains (495 passengers). Platform extensions and Phase 1 of D2 can increase the core capacity of the system by relocating one or more lines to the second LRT alignment, thereby freeing up space for service on the existing mall.

The city of Dallas and DART entered into an interlocal agreement in 1991 to plan, design, and construct a second LRT alignment when specific thresholds in ridership and headways were met. It is anticipated that with continued high regional growth, regional rail expansion, and the introduction of the privately-funded high speed rail project that these thresholds could be reached within the next decade.

In addition to light rail transit, two separate streetcar systems operate in downtown Dallas: the McKinney Avenue Trolley (M-Line) to the north and the Dallas Streetcar, a modern streetcar line under construction, to the south. A central streetcar link connecting these two systems is needed to provide additional access, circulation and capacity between the numerous activity centers within and surrounding the Dallas CBD.
THE PROJECTS

The three projects proposed for the program will increase core capacity and maximize the overall capacity of the existing LRT system while completing the central link of the Dallas streetcar network within the CBD. Combined, they will support revitalization around Union Station, a multimodal passenger transportation hub serving LRT, bus, Amtrak and the Dallas-to-Fort Worth Trinity Railway Express (TRE) commuter rail, while enhancing local circulation and access.

Lastly, the projects will provide the needed capacity to meet future demands associated with an extensive regional rail plan, continued strong population and employment growth in the region and in downtown Dallas, and a privately-funded high speed rail line between Dallas and Houston, anticipated to open in 2021.

Each of the projects could be implemented on their own. By itself, Phase 1 of D2 increases capacity to downtown by 34 percent. This is accomplished by rerouting the Orange Line through downtown Dallas to the Phase 1 alignment, allowing for an additional line to operate on the existing mall. When combined with the Red and Blue line platform extensions (22% and 11% capacity increase respectively), core capacity increases by a total of 67 percent, providing critical additional capacity to sustain operations and accommodate future demand.

Advancing the projects under the concept of a program of interrelated projects provides for a greater benefit to the region by managing the capital outlay while providing the capacity needs in a phased but timely manner. Federal funding will be requested through FTA’s Capital Investment Program drawing on the Core Capacity and Small Starts funding categories.

Both D2 and the platform extensions are part of the DART long-range Transit System Plan, but are not currently funded in DART’s 20-year Financial Plan. D2 is also included in the North Central Texas Council of Governments Mobility 2035 Metropolitan Transportation Plan.
1 Platform Extensions

DART currently has 62 LRT stations in operation along the Red, Blue, Green and Orange lines, including the new DFW Airport Station which opens in August 2014. Two additional stations soon will be under construction. Of the stations in operation, 28 platforms on the Red and Blue lines cannot accommodate 3-car trains.

This project will extend each of the existing 28 platforms by approximately 100 feet, allowing for the addition of one car to the train set. This improvement will increase the carrying capacity of the system and enhance the core capacity of the network. Concurrent with the extensions, each platform will be raised to provide level boarding at all doors by the time the LRT vehicle fleet replacements begins in 2025.

The additional platform length has been contemplated since the starter system was designed to provide for additional cars when demand warranted longer train sets. With regional growth and the pending high speed rail project, additional capacity will be required. Increasing the train sets from 2 to 3 cars will increase peak hour passenger capacity from 330 to 495 passengers per train.

This project can be implemented in phases based on need. For example, since the Orange Line operates partially within the Red Line corridor, extending the platforms of Red Line stations located north of downtown would provide an immediate benefit by enabling the Orange Line to operate with 3-car trains.

Federal Funding Category: Core Capacity

2 Concept of Young Street with LRT and Streetcar Improvements

Platform Extension Example – Ledbetter Station

3 Dallas Streetcar Vehicle

OFFICE/RESIDENTIAL
RETAIL
PEDESTRIAN CONCOURSE
LIGHT RAIL TRANSIT

Concept of Young Street with LRT and Streetcar Improvements

Platform Extension Example – Ledbetter Station

Dallas Streetcar Vehicle

Federal Funding Category: Core Capacity
DART is currently conducting an Alternatives Analysis for the Downtown Dallas 2nd LRT Alignment (D2) with the financial support of an FTA grant. While the draft environmental document was published in 2010, changed conditions warranted additional analysis of new alternatives. Selection of a Locally Preferred Alternative (LPA) is anticipated in late 2014.

Based on the DART 20-year Financial Plan, the full D2 project is not affordable before year 2030. Thus, this element of the proposed program of interrelated projects consists of early construction of the northern segment of D2, Phase 1, from Victory Station to a terminus at a new station serving the Union Station/Convention Center area. Two additional stations would be provided to serve new developments and interface with the existing West End Station and bus transfer center. Under Phase 1, the Orange Line would be rerouted to this alignment rather than continuing on the current transit mall. This new routing would allow for connections with the TRE, Green, Red and Blue LRT Lines, Amtrak, Dallas Streetcar, and future high speed rail, while providing a direct link to DFW International Airport. Phase 2, to extend the remaining segment of D2 to the east, would be implemented by DART in the future, freeing up even more capacity on the existing transit mall.

Another benefit of Phase 1 is that it links the American Airlines Center and the Kay Bailey Hutchison Convention Center. Currently, DART must provide supplemental bus shuttle service between these two venues during special events to provide additional capacity and a direct connection.

DART, as technical representative to the city of Dallas, is constructing the Dallas Streetcar Project from the Oak Cliff area of Dallas to Union Station. Two short extensions, one further into Oak Cliff to the Bishop Arts District, and the other two blocks further east into the CBD are funded and in the planning phase.

DART also is constructing the Olive-St. Paul Streetcar Loop, which will enhance operations of the McKinney Avenue Trolley while extending it further south into Dallas to interface with LRT.

As part of the program of interrelated projects, the Central Dallas Streetcar Link project will connect the Dallas Streetcar Project to McKinney Avenue Trolley at the Olive-St. Paul Streetcar Loop on the east.

This central link will provide enhanced local access, circulation and capacity within downtown, extending the reach of the LRT network. Completion of this missing segment will connect the Dallas Uptown District to the Bishop Arts District while linking key activity centers in the CBD. Additionally, until Phase 2 of D2 is completed, the streetcar alignment will serve as a second east-west rail transit connection within the CBD.

DART is currently assisting the city of Dallas in the development and review of alternatives for this central link. Selection of an LPA is anticipated in 2014.
CONCLUSION

The proposed DART Program of Interrelated Projects consists of two Core Capacity projects and one Small Starts project that are interconnected. All projects are at a point where the required documentation and environmental clearance can be completed within the two-year project development period. Local funding is in place to complete the Project Development efforts.

During project development, DART will work closely with the FTA to evaluate the program and advance all projects into the engineering phase based on a construction phasing schedule that most efficiently targets capacity enhancements. This would be accomplished through a program of early action elements and longer range investments, all within a reasonable time frame as outlined in MAP-21. ■

For more information please contact

**Steve Salin**
Vice President
Rail Planning
214.749.2828

**Michael Miles**
Vice President
Government Relations
214.749.2853

---

**Small Starts Project Development Process:**
Central Dallas Streetcar Link

**MAP-21 Core Capacity Process:**
Phase 1 of D2 and Platform Extensions

---

**Proposed Schedule**

<table>
<thead>
<tr>
<th>Program Element</th>
<th>2015-2020</th>
<th>2020-2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program of Interrelated Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Project Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: Phased Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3: Service Begins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Speed Rail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase 2 of DART Second LRT Alignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional/DART System Expansion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: ▲ = FTA approval  ▼ = FTA evaluation, rating, and approval