Northwest/Southeast LRT MOS

Dallas, Texas

(November 2005)

Dallas Area Rapid Transit (DART) is proposing to construct a 21-mile, two-segment extension of its light rail transit (LRT) system. The Southeast (SE) segment extends 10.1 miles from the Dallas central business district (CBD) to Buckner Boulevard. The Northwest (NW) segment extends 10.9 miles from the existing Victory Station to the city of Farmers Branch. A locally-funded extension of the NW line to Frankford Road in Carrollton is also being advanced by DART. The NW and SE LRT alignments would be connected through the existing four-station CBD Transitway Mall. Each segment would operate in an exclusive right-of-way, with no mixed traffic operations. A total of 16 stations would be constructed. DART would add 3,400 parking spaces to its system as part of the project, and is planning to procure a fleet of high capacity "super" light rail vehicles consistent with the system's long range capital program. Service would be provided at ten-minute peak-period frequencies.

The NW segment, which generally parallels Interstate 35 East (I-35 E) (a major north-south arterial), is a growing employment area and a major North American Free Trade Agreement cargo route. Traffic on I-35 E, adjacent to the NW segment, is projected to increase 45 percent by 2025. Truck traffic is estimated to increase nearly 80 percent by 2011 in the NW segment corridor. The SE segment corridor, located entirely within the city of Dallas, houses a highly transit-dependent population. Approximately one-third of SE Corridor households are considered low-income; nearly 17 percent of households do not own a car, more than double the percentage of zero-car households within Dallas County. By linking residents in the SE segment to the Dallas CBD and employment areas in the NW segment, the project is intended to provide a more reliable alternative than existing bus service, thereby ameliorating daily travel times in the entire NW/SE corridor, while improving mobility and accessibility throughout the corridor and in other parts of the region served by the DART LRT system.

Summary Description	
Proposed Project:	Light Rail Transit 21 Miles 16 Stations
Total Capital Cost ($YOE):	$1,406.2 Million (includes $155.4 million in finance charges)
Section 5309 New Starts Share ($YOE):	$700.0 Million (49.8%)
Annual Forecast Year Operating Cost:	$47.6 Million
Ridership Forecast (2025):	45,900 Average Weekday Boardings 10,700 Daily New Riders
Opening Year Ridership Forecast (2011):	40,300 Average Weekday Boardings
FY 2007 Finance Rating:	**Medium-High**
FY 2007 Project Justification Rating:	**Medium**
FY 2007 Overall Project Rating:	**Medium**

FTA expects to execute a Full Funding Grant Agreement for the Dallas Northwest/Southeast LRT MOS project in FY 2006.

Project Development History and Current Status

DART completed major investment studies on the SE Corridor and NW Corridor in January 2000 and February 2000, respectively. FTA approved the combined NW/SE LRT minimum operable segment (MOS) into preliminary engineering in July 2001. DART completed separate Final Environmental Impact Statements for each project in October 2003 (including the locally-funded NW segment extension). FTA issued Records of Decision completing the environmental review processes for both projects in February 2004. FTA approved the NW/SE LRT MOS project into final design in June 2005.

Significant Changes Since FY 2006 Evaluation (November 2004)

In June 2005, DART submitted revised travel forecasts for the project, based on an assumption of signal priority for LRT along the CBD Transitway Mall. The NW/SE LRT MOS project is expected to bring combined LRT headways to 2.5 minutes in each direction in the CBD - which would compromise LRT operations under the current fixed-time traffic signal system. Implementation of LRT signal priority results in an increase in the estimate of the project's travel time benefits. The project cost estimate decreased from 1,490.1 million due to a reduction in the estimated finance costs.

Project Justification Rating: Medium

The project is rated *Medium* for project justification based on a *Medium* rating for cost effectiveness and a *Medium* rating for the project's transit-supportive land use.

Cost Effectiveness Rating: Medium

The *Medium* cost effectiveness rating reflects the level of travel-time benefits (15,400 hours each weekday, plus special events) relative to the project's annualized costs. The estimate of both costs and benefits of the project at this stage of development is considered reliable.

Cost Effectiveness	
	New Start vs. Baseline
Cost per Hour of Transportation System User Benefit	$18.60*
Incremental Cost per Incremental Trip	$30.50

* Indicates that measure is a component of Cost Effectiveness rating.

The NW LRT alignment is intended to provide fast and reliable transit travel times in the increasingly congested I-35 corridor. The NW corridor generates approximately one-third of the project's travel-time benefits. While the Dallas CBD generates nearly two thirds of regional work-commute travel-time benefits, the high concentration of jobs located along the mid-NW alignment (particularly at the Medical District and Market Center) results in significant benefits accruing to this market as well. Residents along the SE alignment benefit from more direct transit access to downtown Dallas and NW corridor job opportunities; 60 and 20 percent of SE-generated travel-time benefits are attributable to these two travel markets, respectively. Travel forecasts indicate that more than one half of all work-commute benefits are experienced by lower-income populations; 20 percent of these benefits are attributable to the SE corridor alone. Less than 10 percent of forecast benefits are attributable to trips to special event generators, including Fair Park and America Airlines Arena. DART, in cooperation with the city of Dallas, has also developed a series of measures for expanding LRT capacity and speeds in the CBD. Implementation of these measures provides approximately 15 percent of estimated travel-time benefits.

While the cost estimate for the NW/SE LRT MOS project is generally sound and has recently been revised to include updated finance charges and current actual costs for construction materials, the contingency is relatively low given the project's level of development. The project's schedule is aggressive with respect to completion of design packages, approval of an FFGA, and start of construction.

Transit-Supportive Land Use Rating: Medium

The rating is based upon the *Medium* ratings assigned to existing land use and transit-supportive plans and policies and the *Medium-High* rating assigned to the performance and impacts of land use policies.

Existing Land Use: Medium

- Total employment for all station areas is 121,900. The majority of station areas exhibit moderate to low population densities. Population density for all station areas is estimated at greater than 2,700 persons per square mile. Within the entire corridor, the number of persons per square mile is estimated at nearly 3,500. Both project segments provide direct access to downtown Dallas, which current contains approximately 123,500 jobs.
- The corridor contains an entertainment district, medical facilities, cultural and historic sites, museums, and large residential developments. Several of these major trip generators serve large numbers of employees and are within walking distance of proposed station areas.
- Large amounts of dedicated parkland and/or flood plains are found near two stations. Two station areas include large tracts of industrial land, while three station areas have substantial vacant land. Remaining station areas are considered mixed-use.
- The average cost of off-street parking in downtown Dallas is a relatively inexpensive $5 per day.

Transit-Supportive Plans and Policies: Medium

- The city of Dallas' *Growth Policy Plan* includes guidelines for regional scale development locations, employment centers, and high-density development near DART stations, and is accompanied by local policies aimed at preserving neighborhoods and making them more livable.
- Along with station area planning, the plan also focuses on thoroughfare planning (entertainment venues), social/cultural amenities, and park-and-ride facilities. The plan encourages growth nodes to be supported by DART's transportation capacity.
- The Transit Oriented Development Implementation Program, currently under development, would place funds from the sale of specified parcels of DART-owned land into a fund to promote access to facilities from development around DART stations.

Performance and Impacts of Policies: Medium-High

- Growth management goals have been achieved along the existing DART light rail system (Southwest, Northeast and North Central corridors) through the use of planned developments, overlays, and ordinances. The cities of Farmers Branch and Dallas have plans to promote transit-oriented development and high-density employment and housing.
- Significant amounts of development, influenced by rail construction and operations, have been built or are planned along the existing rail system, including a new hotel and mixed uses in the downtown area and the construction of municipal facilities and residential housing in a redevelopment project in the Cedars station area.
- Regionally, transit-oriented development strategies from Dallas' metropolitan transportation plan, *Mobility 2025*, are being applied by DART and its member cities.
- As a follow up to the University of North Texas Center for Economic Development and Research's initial evaluation of property values near DART's existing LRT stations, the Center completed a study in 2003 that confirms a continual rise in property values near LRT stations, including a nearly 25 percent increase in office property values adjacent to LRT stations versus an 11.5 percent increase for properties located away from LRT stations.

Other Project Justification Criteria

Mobility Improvements Rating: Medium	
Within ½-mile radius of boarding areas:	
Existing Employment	121,900
Projected Employment (2025)	148,500
Low Income Households (% of total HH)	3,200 (23%)
Average Per Station:	
Employment	7,619*
Low Income Households	200*
	New Start vs. Baseline
Transportation System User Benefit Per Project Passenger Mile (Minutes)	3.12*

Environmental Benefits Rating: High	
Criteria Pollutant (Reduction in tons)	**New Start vs. Baseline**
Carbon Monoxide (CO)	242
Nitrogen Oxide (NO_x)	56
Volatile Organic Compounds (VOC)	33
Particulate Matter (PM_{10})	13
Carbon Dioxide (CO_2)	19,430
Criteria Pollutant Status	**EPA Designation**
8-Hour Ozone (O_3)	Moderate Non-Attainment Area*
Annual Energy Savings (million British Thermal Units)	215,493

Operating Efficiencies Rating: Medium		
	Baseline	**New Start**
System Operating Cost per Passenger Mile (current year dollars)	$0.773*	$0.731*

* Indicates that measure is a component of rating for each criterion.
N/A indicates information was not available for this entry.

Local Financial Commitment Rating: Medium-High

The *Medium-High* local financial commitment rating is based on *Medium-High* ratings for the capital and operating finance plans, and a *Medium* rating for the non-New Starts share of project costs.

Section 5309 New Starts Share of Total Project Costs: 50%
Rating: Medium

DART is requesting an approximately 50 percent New Starts share of total project costs, which results in a *Medium* rating for this measure.

Locally Proposed Financial Plan		
Source of Funds	**Total Funds ($million)**	**Percent of Total**
Federal: Section 5309 New Starts	$700.0	49.8%
Local: Dedicated Sales Tax	$706.2	50.2%
Total:	**$1,406.2**	100.0%

NOTE: The financial plan reflected in this table has been developed by the project sponsor and does not reflect a commitment by DOT or FTA. The sum of the figures may differ from total as listed due to rounding.

Capital Finance Plan Rating: Medium-High

The capital finance plan is rated *Medium-High,* based upon the average of the ratings of the five subfactors listed below. The capital condition, commitment of capital funds and capital funding capacity subfactors are rated *High*. The completeness and capital cost estimates and planning assumptions subfactors are rated *Medium*.

Agency Capital Condition: High

- The average age of DART's bus fleet is 5.6 years, which is younger than the industry average.
- DART's excellent bond ratings, which were issued in December 2003, are as follows: Moody's Investors Service Aaa and Aa3; Standard & Poor's Corporation AAA and AA; and Fitch AAA and AA.

Completeness of Capital Plan: Medium

- The submission was complete and included a 20-year cash flow statement, identification of key assumptions, historical data, supporting documentation, and a moderate level of detail. The submittal did not include a sensitivity analysis.

Commitment of Capital Funds: High

- All non-New Starts funding for the project is committed and comes from the existing dedicated local sales tax.

Capital Funding Capacity: High

- The project's financial plan shows projected cash balances, reserve accounts, and/or access to credit that would allow DART to cover cost increases or funding shortfalls equal to approximately 57 percent of the estimated capital costs.

Capital Cost Estimate and Planning Assumptions: Medium

- Assumptions included in the capital financial plan, including sales tax growth rate assumptions, are generally in line with or are more conservative than historical experience.
- The capital cost estimate is considered current and reliable, and include conservative inflation assumptions, although contingencies are low and there is concern that any schedule slippage may result in cost increases.

Operating Finance Plan Rating: Medium-High

The operating finance plan is rated *Medium-High*, based upon the average of the ratings of the five subfactors listed below. The commitment of operating funds and operating funding capacity subfactors are rated *High*; the completeness of the operating plan and operating cost estimates and planning assumptions subfactors are rated *Medium;* and the operating condition subfactor is rated *Medium-Low*.

Agency Operating Condition: Medium-Low

- DART is in good financial condition, with a history of balanced budgets or surpluses, positive cash reserves, and few service modifications.
- DART's current ratio of assets to liabilities, as reported in its most recent audited financial statements, is 1.1. The low current ratio is due to a large amount of commercial paper on DART's balance sheet under current liabilities. This commercial paper is expected to be converted into long-term debt in the near future. When this happens, DART's current ratio should improve significantly.

Completeness of Operating Plan: Medium

- The submission was generally complete and included a 20-year cash flow statement, identification of key assumptions, historical data, supporting documentation, and a moderate level of detail. However, project-specific operating costs and revenues were only specified in the initial year of operation. For all other years, the project operating costs and revenues were shown consolidated with the rest of the system.
- The submittal did not include a sensitivity analysis.

Commitment of Operating Funds: High

- All operating funding is committed, including fare revenues and dedicated sales tax funding.

Operating Funding Capacity: High

- The project's financial plan shows projected cash balances, reserve accounts, and/or access to credit exceeding 50 percent of the project's estimated annual operating expenses.

Operating Cost Estimates and Planning Assumptions: Medium

- Operating cost and revenue assumptions are consistent with historical experience.

Map