Northeast Corridor Light Rail Project

Charlotte, North Carolina

(November 2009)

The Charlotte Area Transit System (CATS) is proposing the construction of a 10.6-mile light rail transit (LRT) line that would extend from Uptown Charlotte, the region's central business district (CBD), northeast to the US 29 interchange of Interstate 485 (I-485) near the University of North Carolina-Charlotte (UNCC). The inner segment of the proposed line follows active Norfolk Southern and North Carolina Railroad right-of-way while the outer part follows US 29 (North Tryon Street), before leaving US 29 right-of-way to proceed to and through the campus of UNCC. The Northeast Corridor Light Rail Project includes 13 stations, 26 railcars, and seven park-and-ride lots that would provide a total of 4,500 spaces. Peak period light rail service along the Northeast Corridor would initially operate at 7.5-minute frequencies.

The purpose of the project is to improve transit travel times in a congested travel corridor that is expected to experience significant growth in the coming years. The project would result in improved transit service to key employment, entertainment, cultural, and retail areas of Charlotte, including Center City Charlotte, professional sports and entertainment facilities, the Charlotte Convention Center, the NASCAR Hall of Fame, and both UNCC and its Uptown campus.

Summary Description	
Proposed Project:	Light Rail 10.6 Miles 13 Stations
Total Capital Cost ($YOE):	$1,180.03 Million (includes $40.8 million in finance charges)
Section 5309 New Starts Share ($YOE):	$590.02 Million (50.0%)
Annual Forecast Year Operating Cost:	$20.14 Million
Ridership Forecast (2030):	23,800 Average Weekday Boardings 12,900 Daily New Riders
Opening Year Ridership Forecast (2019):	17,561 Average Weekday Boardings
FY 2011 Local Financial Commitment Rating:	**Medium**
FY 2011 Project Justification Rating:	**Medium**
FY 2011 Overall Project Rating:	**Medium**

Project Development History and Current Status

The Northeast Corridor Light Rail Project is the result of a series of studies focused on transit improvements in the corridor and in the Charlotte-Mecklenburg region as a whole. CATS initiated a Draft Environmental Impact Statement (EIS) in the corridor in 2005, resulting in the selection of LRT as the locally preferred alternative (LPA) in June 2006. After continued environmental, engineering, and other technical work, as well as reconfirmation of CATS' dedicated sales tax revenue source to expand its system, the project was approved by FTA into preliminary engineering in November 2007. The current financial plan, recently revised to reflect lower sales tax revenue due to the national economic downturn, would support the start of revenue operations in 2019. However, the schedule for completing the environmental review in March 2011 and advancing to a FFGA in 2012 has not been adjusted to reflect the change in the financial plan. CATS remains hopeful that a 2016 opening year is still possible if sales tax revenue – the primary source of funding for CATS – exceeds current expectations. FTA is monitoring CATS' reconciliation of the 3-year discrepancy between the financial plan and the construction schedule.

Significant Changes Since FY 2009 Evaluation (November 2007)

The capital cost of the project increased substantially – from $750 million (YOE) to the current estimate of $1,180 million (YOE). The ridership projections have also increased substantially – from 10,500 to 23,800 forecasted average daily riders. The cost increases are due in large part to design changes aimed to accommodate higher ridership projections such as increasing the number of railcars, increasing the length of station platforms, adding a new parking garage, and adding several grade separations. The higher ridership projections are based on the experience of the South Corridor project, which introduced light rail to Charlotte in November 2007. The South Corridor had significantly higher-than-expected ridership.

Project Justification Rating: Medium

The project justification rating is based on the weighted average of the ratings assigned to each of the following criteria: the cost-effectiveness criterion is weighted 20 percent; the transit supportive land use criterion is weighted 20 percent; the economic development criterion is weighted 20 percent; the mobility improvements criterion is weighted 20 percent; the environmental benefits criterion is weighted 10 percent; and the operating efficiencies criterion is weighted 10 percent.

Cost Effectiveness Rating: Medium

The cost effectiveness rating reflects the level of travel-time benefits (9,600 to 12,700 hours each weekday) relative to the project's capital and operating costs based upon a comparison to a baseline alternative. Note the modeling approach taken by CATS acknowledges the uncertainty in predicting how travelers will respond to improved transit service. The result is a range of benefit estimates. Both ends of the range garner a *Medium* rating.

Cost Effectiveness	
	New Start vs. Baseline
Cost per Hour of Transportation System User Benefit	$16.01 to $20.45*
Incremental Cost per Incremental Trip	$1.96 to $15.28

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

Transit-Supportive Land Use Rating: Low

The land use rating reflects the population and employment densities within ½-mile of proposed station areas.

- There are 59,000 employees in the Charlotte CBD, a total of 76,000 jobs served, and average station area population densities of 2,300 persons per square mile. UNCC, with an enrollment of 21,500 students, represents a major trip generator.
- The CBD has a compact, high-density commercial core and a considerable amount of new residential development, as well as vacant land and parking lots awaiting development. Four stations abut industrial areas and rail yards on one side, and older, gridded residential neighborhoods of moderate densities (primarily single-family) on the other. The remaining stations are generally low-density and suburban in character. Pedestrian accessibility is generally poor as many street frontages lack sidewalks and many intersections lack marked and signalized crossings. Ample surface parking is generally provided.

Economic Development Rating: Medium-High

The economic development rating is based upon the average of the ratings assigned to the subfactors below.

Transit-Supportive Plans and Policies: Medium-High

- In the mid-1990s, the City of Charlotte and Mecklenburg County endorsed a regional growth strategy entitled "Centers and Corridors," which is designed to increase development density in five growth corridors served by fixed guideway transit and target most commercial and multi-family development to these corridors. The city and county have developed more specific development policies to support these plans, including minimum densities and pedestrian-friendly design guidelines for station areas.
- Draft Station Area Concepts have been completed for 12 of the 14 station areas in the Northeast Corridor and will serve as an interim step towards developing more detailed station area plans. With the exception of some existing single-family neighborhoods, these plans will require high density transit-supportive development, including minimum densities consistent with regional policies (15 to 20 dwelling units per acre and 0.5 to 0.75 floor area ratio or FAR).
- Existing zoning varies widely. Mixed-use districts allowing high densities and including pedestrian design requirements encompass most of the CBD. Other zoning includes a mix of single family, multi-family at 17 to 22 units per acre, and commercial development with maximum FARs from 0.5 to 1.0.
- In 2003, the Charlotte City Council adopted three transit oriented development (TOD) districts that allow mixed-use development, require minimum densities, and have reduced minimum setbacks, parking requirements, and pedestrian design requirements. The city has applied these to some properties in the South Corridor.
- The city has allocated $50 million for South Corridor LRT station area infrastructure improvements and will request a similar program of improvements for the Northeast Corridor Light Rail Project. Other tools to support TOD include funds for acquisition of land and affordable housing, gap financing, project-specific planning assistance, and a streamlined development review process.

Performance and Impacts of Policies: Medium

- The Charlotte CBD has seen a considerable amount of residential as well as commercial development in recent years. In the South Corridor, the pace of development has been slow but is accelerating with $300 million in projects completed and over $1.5 million proposed in station areas outside of Uptown.
- Strong regional growth is forecast (75 percent by 2030) and a market analysis for the Northeast Corridor suggested that just over 5,000 acres (84 percent of station area land) had the potential for redevelopment. Current market conditions in most Northeast Corridor station areas are relatively weak, however, and barriers exist that appear to limit development potential in the near term.

Other Project Justification Criteria

Mobility Improvements Rating: Medium-High	
	New Start vs. Baseline
Transportation System User Benefits Per Passenger Mile (Minutes)	5.2
Number of Transit Dependents Using the Project	4,700
Transit Dependent User Benefits per Passenger Mile (Minutes)	6.3

Environmental Benefits Rating: High	
Criteria Pollutant Status	**EPA Designation**
8-hour Ozone (O_3)	Moderate Non-attainment Area

Operating Efficiencies Rating: Medium		
	Baseline	**New Start**
System Operating Cost per Passenger Mile (current year dollars)	$0.77	$0.67

Local Financial Commitment Rating: Medium

The local financial commitment rating is based on the weighted average of the ratings assigned to each of the following criteria: the New Starts share of project costs is weighted 20 percent; the strength of the capital finance plan is weighted 50 percent; and the strength of the operating finance plan is weighted 30 percent.

Section 5309 New Starts Share of Total Project Costs: 50.0%
Rating: Medium

Locally Proposed Financial Plan		
Source of Funds	**Total Funds ($million)**	**Percent of Total**
Federal: Section 5309 New Starts	$590.02	50.0%
State: State Full Funding Grant Agreement	$295.00	25.0%
Local: ½ Cent Sales Tax	$295.00	25.0%
Total:	**$1,180.03**	**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 the total as listed due to rounding.

Capital Finance Plan Rating: Medium-High

The capital finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency capital condition is weighted 25 percent, the commitment of capital funds is weighted 25 percent, and the capital cost estimate, planning assumptions and capital funding capacity subfactor is weighted 50 percent.

Agency Capital Condition: Medium-High

- The average age of CATS' fixed route bus fleet is 6.8 years, which is in line with the industry average.
- The City of Charlotte's good bond ratings, which were issued in 2008, are as follows: Standard & Poor's Corporation AA-, Moody's Investor Service Aa2, and Fitch AA.

Commitment of Capital Funds: High

- Fifty percent of the non-New Starts share of funding for the project will come from the existing and committed ½-cent sales tax dedicated to transit. The remaining non-New Starts funds are expected to come from a North Carolina Department of Transportation (NCDOT) State Full Funding Grant Agreement, which is considered planned.

Capital Cost Estimate, Planning Assumptions, and Financial Capacity: Medium

- Sales tax revenue growth rate assumptions are in line with historical experience.
- The capital cost estimate is considered reasonable.

Operating Finance Plan Rating: Medium

The operating finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency operating condition is weighted 25 percent, the commitment of operating funds is weighted 25 percent, and the operating cost estimates, planning assumptions and operating funding capacity subfactor is weighted 50 percent.

Agency Operating Condition: Medium-High

- CATS' current ratio of assets to liabilities as reported in a recent audited financial statement is excellent at 10.4.
- CATS is reducing bus service in FY 2010 due to recent economic conditions and less than anticipated sales tax revenue collections.

Commitment of Operating and Maintenance Funds: High

- The funds needed to operate and maintain CATS' systemwide operating costs are 100 percent committed. The systemwide operating plan includes funding from NCDOT, the half-cent sales tax, fare revenue, and other operating revenue.

Operating Cost Estimates, Planning Assumptions, and Financial Capacity: Medium-Low

- Assumptions about growth in operating costs are optimistic compared to historical experience.
- Farebox recovery is assumed to improve significantly over time due to assumed frequent fare increases as approved in a policy adopted by CATS' Board.
- The project's financial plan shows significant ending cash balances exceeding six months of system-wide operating expenses.

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