

# North Corridor LRT

Columbus, Ohio

(November 2002)

## Description

The Central Ohio Transit Authority (COTA), in cooperation with the Mid-Ohio Regional Planning Commission (MORPC), the local Metropolitan Planning Organization, is proposing to design and construct a 13-mile light rail transit (LRT) line within the North Corridor, connecting the Columbus central business district (CBD) with the City's northern suburban areas. The project would operate at-grade in downtown Columbus, primarily in exclusive lanes, with some portions of the line operating in mixed traffic, and would share existing CSX/Norfolk Southern railroad tracks in the northern portion of the corridor. The North Corridor begins at the southern border of the Columbus CBD and extends north to the Franklin County line, connecting Crosswoods, Morse, Worthington and Polaris (a major activity center), among other suburban communities. The North Corridor is considered the most congested in the Columbus area and includes COTA's busiest bus route (13,000 daily riders) that serves the Ohio State University area, which includes 50,000 students and 12,500 employees.

Increasing traffic congestion has impaired mobility in the corridor, resulting in limited access to major employment areas, including the Columbus CBD, State Capitol, Ohio State University and the Ohio Exposition Center, among other major activity centers. The corridor encompasses 33 percent of the region's jobs. One-third of the region's households do not own an automobile. The North Corridor LRT would support reverse commuting for patrons – including low-income residents – to major employment areas (medical, academic, entertainment) located throughout the corridor. COTA would design the LRT to enhance the economic and neighborhood development opportunities within the corridor by improving access to existing major activity centers and neighborhood commercial districts. The proposed project also includes the procurement of 18 light rail vehicles and the construction of 14 stations. Six of the proposed 14 stations would include park-and-ride facilities.

### Summary Description

<b>Proposed Project:</b>	Light Rail Transit Line 13 Miles, 14 Stations
<b>Total Capital Cost (\$YOE):</b>	\$501.8 Million
<b>Section 5309 New Starts Share (\$YOE):</b>	\$250.9 Million (50%)
<b>Annual Operating Cost (2025 \$YOE):</b>	\$12.9 Million
<b>Ridership Forecast (2025):</b>	17,600 Average Weekday Boardings 6,700 Daily New Riders
<b>Opening Year Ridership Forecast (2008):</b>	15,800 Average Weekday Boardings
<b>FY 2004 Finance Rating:</b>	<b>Medium</b>
<b>FY 2004 Project Justification Rating:</b>	<b>Medium-High</b>
<b>FY 2004 Overall Project Rating:</b>	<b>Recommended</b>

The *Recommended* rating is based on the adequacy of the North Corridor's transit-supportive land use throughout the metropolitan area and the sufficiency of the capital and operating financing plans *at this stage of development*. The overall project rating applies to this *Annual Report on New Starts* **and reflects conditions as of November 2002**. Project evaluation is an ongoing process. As New Starts projects proceed through development, the estimates of costs, benefits, schedules and impacts are refined. **The FTA's ratings and recommendations will be updated annually to reflect new information, changing conditions and refined financing plans.**

## Status

In May 2000, MORPC initiated a Multimodal Transportation Corridor Study to examine transportation improvement options in the North Corridor between downtown Columbus and the city's northern suburban areas. Alternatives Analysis was completed in May 2001 with the selection of a Locally Preferred Alternative (LPA). The LPA includes a major expansion of COTA bus service and the construction of an LRT line along Summit Avenue. The LPA was included in MORPC's financially constrained long range transportation plan in June 2001. FTA approved COTA's request to initiate Preliminary Engineering and the preparation of a Draft Environmental Impact Statement in December 2001 (DEIS). The DEIS is scheduled for completion in July 2003. A public referendum that, if approved, would provide a locally dedicated funding source to the LRT, is scheduled to occur in November 2003.

The North Corridor LRT is not authorized in TEA-21. Through FY 2002, Congress has appropriated \$0.5 million in Section 5309 New Starts funds for the project.

## Evaluation

The following criteria have been estimated in conformance with FTA's *Reporting Instructions for the Section 5309 New Starts Criteria*, updated in June 2002. The project will be reevaluated for next year's *Annual Report on New Starts* and when it is ready to advance into Final Design.

<b>Project Justification Quantitative Criteria</b>		
<b>Mobility Improvements Rating: Medium</b>		
	<b><u>New Start vs. Baseline</u></b>	
Average Employment Per Station	8,944	
Average Low Income Households Per Station	507	
Transportation System User Benefit Per Project Passenger Mile (Minutes)	6.5	
<b>Environmental Benefits Rating: Medium</b>		
	<b><u>New Start vs. Baseline</u></b>	
<b><u>Criteria Pollutant Reduced</u></b> (tons)		
Carbon Monoxide (CO)	220	
Nitrogen Oxide (NO <sub>x</sub> )	30	
Hydrocarbons	30	
Particulate Matter (PM <sub>10</sub> )	2	
Carbon Dioxide (CO <sub>2</sub> )	7,870	
<b><u>Annual Energy Savings</u></b> (million BTU)	91,120	
<b>Cost Effectiveness Rating: Medium-High</b>		
	<b><u>New Start vs. Baseline</u></b>	
Cost per Transportation System User Benefit (current year dollars/hour)	\$10.80	
<b>Operating Efficiencies Rating: Medium</b>		
	<b><u>Baseline</u></b>	<b><u>New Start</u></b>
System Operating Cost per Passenger Mile (current year dollars)	\$0.68	\$0.66

## **Project Justification**

### **Rating: Medium-High**

The *Medium-High* project justification rating reflects the sufficiency of the corridor's transit supportive land use environment and anticipated mobility improvements, the number of low-income households served, and the corridor's employment market. Based on 1990 Census data, COTA estimates that there are approximately 7,091 low-income households within a ½-mile radius of the proposed 14 stations. This represents approximately 35 percent of the total number of households that are located within a ½-mile radius of proposed station areas. In addition, COTA estimates that the North Corridor LRT would serve approximately 125,200 jobs that are located within a ½-mile radius of proposed station areas. The Columbus metropolitan area is designated as an "attainment area" for ozone, carbon monoxide and particulate matter. COTA

estimates that the North Corridor LRT has an incremental cost per incremental trip value of \$19.50.

### **Existing Land Use, Transit-Supportive Land Use Policies and Future Patterns** **Rating: Medium**

The *Medium* land use rating reflects the presence of several major trip generators within the North Corridor, including several cultural sites, entertainment venues, medical facilities, universities, fairgrounds, residential areas and a major convention center. However, the rating also acknowledges the North Corridor's relatively marginal population and employment densities.

**Existing Conditions:** The North Corridor encompasses a population of approximately 233,300 (15 percent of the Columbus metropolitan area) and approximately 234,600 jobs (28 percent of the Columbus region's employment). Employment within the Columbus central business district was estimated at 95,700 (13.4 percent of the region's employment). The corridor contains several mixed land uses, housing varieties, pedestrian amenities and higher density fringe villages. While these elements are encouraged in the Columbus Comprehensive Plan, demonstration of complementary zoning allowances or traffic mitigation measures that are currently in place to support them was not evident. The City of Columbus recently adopted a Traditional Neighborhood Design Code. The code promotes redevelopment in station areas. The regulations support mixed-density neighborhoods with mixed uses, pedestrian-friendly streets and street-oriented building standards. However, while proposed station areas encompass a host of high trip generators, including the Ohio State Fairgrounds, Ohio State Hospital and the Arena and Theater districts, population densities in the station areas are lower than the corridor as a whole.

**Future Plans, Policies and Performance:** By the year 2025, CBD employment is projected to increase approximately 32 percent to 126,900. Regional population densities are anticipated to increase from 7.2 to 7.7 persons per acre. Similarly, regional employment densities are projected to increase from 7.3 to 8.7 jobs per acre. Population and employment in proposed station areas are forecast to increase approximately 13.5 percent (125,900) and 19.7 percent (205,800), respectively, during the same time period. The City of Columbus has a variety of land use policies within the North Corridor and the region as a whole, including a Federal Empowerment Zone designation, local comprehensive land use plan and an Urban Commercial Overlay District, coupled with a University Overlay District. However, evidence was not shown that the current performance of these efforts has yielded demonstrative results. Accordingly, COTA, in cooperation with the Mid-Ohio Regional Planning Commission is working to improve these policies in the local evaluation of transportation projects. In addition, the region's long range transportation plan and Transportation Improvement Program will be evaluated using these policies. COTA has indicated that these elements will be refined as project development progresses for the North Corridor LRT.

## Other Factors

**Regional Initiatives:** Several major redevelopment efforts are planned for areas located within, or near, the North Corridor. These include: the Arena District, Warehouse District, Brewery District, Italian Village East, City of Columbus, Ohio State University, PenWest District, Broad and High Streets, Market Exchange District, Columbus Auto, Morse Road/Interstate 71, Cleveland Avenue near the proposed State Route 161 station area and the neighborhoods of Polaris and Easton. In addition, a Traffic and Growth Management Policy is being developed for northern Franklin and southern Delaware counties to study and address the way in which growth occurs in greenfield areas and the resultant growth impacts on traffic.

## Local Financial Commitment

### **Rating: Medium**

The *Medium* local financial commitment rating was determined by the *Medium* rating for the capital financing plan and the *Medium* rating for the operating financing plan.

### **Proposed Non-Section 5309 New Starts Share of Total Project Costs: 50%**

### **Rating: Medium**

COTA's financial plan for the North Corridor LRT includes Section 5309 New Starts funds, State legislative appropriations, local funds, and less than one percent in cross-border lease proceeds.

<b>Locally Proposed Financial Plan</b>		
<b><u>Proposed Source of Funds</u></b>	<b><u>Total Funding (\$million)</u></b>	<b><u>Percent of Total</u></b>
<b>Federal:</b> Section 5309 New Starts	\$250.9	50.0 %
<b>State:</b> Legislative Appropriations	\$120.2	24.0 %
<b>Local:</b> COTA Regional Sales Tax	\$128.7	25.6 %
<b>Other:</b> Cross-Border Lease	\$2.0	0.004 %
<b>Total:</b>	<b>\$501.8</b>	100.0 %

**NOTE:** Funding proposal reflects assumptions made by project sponsors, and are not DOT or FTA assumptions. Total may not add due to rounding.

## **Stability and Reliability of Capital Financing Plan**

### **Rating: Medium**

The *Medium* rating reflects the strong capital condition of COTA and the comprehensiveness of the capital financing plan for the North Corridor LRT – at this stage of development. Local funding for the proposed project is contingent on the passage of a sales tax referendum scheduled for November 2003.

**Agency Capital Financial Condition:** COTA is in sound financial condition. The average age of the agency's bus fleet is approximately 5.3 years. At this time, the agency has no outstanding debt. In addition, while COTA's cash flow analysis indicates that funding shortfalls are anticipated in future years, cash balances from previous years will be sufficient to cover the expected shortfalls. Positive cash balances are projected throughout the agency's funding plan.

**Capital Cost Estimate and Contingencies:** The total capital cost estimate for the North Corridor LRT includes a 25 percent contingency. This estimate is reasonable given the project's size, scope and current stage of development. However, given that the majority of the alignment for the proposed LRT would operate within an existing CSX/Norfolk Southern freight railroad right-of-way, contingencies for railroad force account work, currently budgeted at 17 percent, may not be sufficient to cover any unforeseen variabilities. COTA is planning to undertake a capacity analysis in early 2003 to identify impacts to existing freight railroad operations, infrastructure, right-of-way, etc.

**Existing and Committed Funding:** At this time, approximately 24 percent of the non-Section 5309 New Starts funds exist, but are not committed to the proposed project. These funds consist of annual planned State legislative appropriations. An additional ¼-percent locally dedicated sales tax, that would provide 25.6 percent of the non-Section 5309 New Starts share of the project's total estimated capital cost, is scheduled for a referendum in November 2003. The remaining funds consist of anticipated proceeds from a planned cross-border lease of light rail vehicles that would be procured as part of the North Corridor LRT project.

**New and Proposed Sources:** At this time, approximately 24 percent of the non-Section 5309 New Starts share currently exists. These funds are comprised of planned State legislative appropriations. The remaining 26 percent of the non-Section 5309 New Starts share of the project's total estimated capital cost would be provided by new funding sources (regional sales tax and vehicle cross-border lease proceeds).

## **Stability and Reliability of Operating Finance Plan**

### **Rating: Medium**

The *Medium* rating reflects an adequate operating funding strategy for the proposed North Corridor LRT – at this stage of project development. However, the rating also acknowledges COTA's heavy reliance on a planned sales tax referendum, scheduled for November 2003, that would provide a major source of the proposed project's operating funding.

**Agency Operating Financial Condition:** COTA's current operating condition is sound. The agency's historical operating statistics reflect increasing levels of service for bus and paratransit services over the past seven years.

**Operating Cost Estimates and Contingencies:** Annual operating and maintenance costs for the North Corridor LRT are estimated at \$12.9 million (escalated dollars) and are anticipated to increase annually, in conjunction with the rate of inflation, according to the agency's cash flow analysis. These estimates are reasonable. The agency's cash flow analysis indicates a positive cash balance that increases from \$15.2 million in 2001 to \$63.9 million in 2009, the first full year of proposed LRT operations. If no additional capital projects are built, COTA's cash balance is projected to reach approximately \$650 million by the year 2030. The cash flow projection assumes the passage of the planned ¼-percent sales tax referendum, scheduled for November 2003.

**Existing and Committed Funding:** At this time, approximately 84 percent of the North Corridor LRT's operating and maintenance funding exists and is committed to the project. These funds consist of fare revenues, sales tax levies, Section 5307 Preventative Maintenance funds and other transit-related revenues. The remaining 16 percent in operating funds would be covered with the planned November 2003 ¼-percent sales tax referendum.

**New and Proposed Funding Sources:** The majority of the projected operating and maintenance revenues would come from existing sources. The remainder would be provided with the passage of a new locally dedicated funding source – ¼-percent sales tax.

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