

# North Shore Connector LRT

## Pittsburgh, Pennsylvania

(November 2002)

### Description

The Port Authority of Allegheny County (PAAC) proposes to construct a 1.6-mile Light Rail Transit (LRT) system extension connecting the Golden Triangle and the North Shore wholly within downtown Pittsburgh. The project would extend existing LRT service from the Gateway Center LRT Station in the Golden Triangle to the vicinity of the West End Bridge on the North Shore via a tunnel below the Allegheny River. On the North Shore, the project would be a mix of at-grade and elevated alignment. The project would also include a Convention Center Connection, linking the existing Steel Plaza LRT Station and the Convention Center.

The major goals of the project are to: improve transportation access to and within the North Shore of downtown Pittsburgh; support existing and proposed development on the North Shore; and deliver efficient and equitable transit service into established neighborhoods. To achieve these goals, the North Shore Connector LRT is intended to improve connectivity between downtown area attractions and hotels located in the North Shore, Cultural District, and Strip District areas. The new transit service would enhance accessibility to major sports, cultural and civic facilities, improve the linkage between North Shore fringe parking and employment centers in the Golden Triangle, facilitate downtown pedestrian activity, and improve reverse commuting opportunities.

<b>Summary Description</b>	
<b>Proposed Project:</b>	Light Rail 1.6 Miles, 3 New and 1 Modified Station
<b>Total Capital Cost (\$YOE):</b>	\$389.9 Million
<b>Section 5309 New Starts Share (\$YOE):</b>	\$233.9 Million (60 %)
<b>Annual Operating Cost (2015 \$YOE):</b>	\$6.5 Million
<b>Ridership Forecast (2015):</b>	13,200 Average Weekday Boardings 6,500 Daily New Riders
<b>Opening Year Ridership Forecast (2007):</b>	7400 Average Weekday Boardings
<b>FY 2004 Finance Rating:</b>	<b>Low-Medium</b>
<b>FY 2004 Project Justification Rating:</b>	<b>Medium</b>
<b>FY 2004 Overall Project Rating:</b>	<b>Not Recommended</b>

The *Not Recommended* overall project rating is based on the project's "Low-Medium" finance rating. The overall project rating applies to this *Annual New Starts Report* **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, schedule, and impacts are refined. **The FTA ratings and recommendations will be updated annually to reflect new information, changing conditions, and refined financing plans.**

This project includes a proposed Federal share of 60 percent in Section 5309 New Starts funding. The Administration is seeking legislation that would limit the Federal New Starts share to no more than 50 percent beginning in FY 2004. Future ratings of this project would be affected by that change.

## Status

The Alternatives Analysis completed by PAAC in early 1999 concluded that a multi-modal package of transportation improvements be carried forward for further analysis during project environmental review. The project is included in the 2000 Southwestern Pennsylvania Commission (SPC) long range transportation plan, as well as the 2003-2006 SPC Transportation Improvement Program for design and construction. The “Gateway LRT Alternative” was selected as the Locally Preferred Alternative for the North Shore Connector LRT project in August 2000 by PAAC. FTA granted approval to initiate Preliminary Engineering in January 2001. The Final Environmental Impact Statement (FEIS) was published in April 2002 and FTA issued the Record of Decision in July 2002. Revenue service is planned to begin in 2007.

TEA-21 Section 3030(a)(97) authorizes the “Pittsburgh North Shore – Central Business District Corridor” for Final Design and Construction. Through FY 2002, Congress has appropriated \$23.67 million in Section 5309 New Starts funds to 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 New Starts Report and when it is ready to advance into Final Design.

## Project Justification

### **Rating: Medium**

The *Medium* project justification rating reflects the relatively strong land use rating and the project’s low cost-effectiveness. With the continued improvement in FTA’s project evaluation process, including the introduction of the transportation system user benefit measure, the value of proposed transit projects can be more accurately assessed. Accordingly, FTA intends to put additional emphasis on the cost-effectiveness measure. This year, this project has received a “low” rating for cost-effectiveness, which raises concerns about the merits of the project for Federal funding. FTA strongly encourages the sponsor to improve the cost-effectiveness of the project.

Based on 1990 Census data, there are an estimated 1,350 low-income households and 24,757 jobs within a ½-mile radius of project station areas. EPA rates the Pittsburgh metropolitan area as a “moderate maintenance area” for ozone and a “non-attainment area” for carbon monoxide. The incremental cost per incremental trip value for the project is \$14.70.

<b>Project Justification Qualitative Criteria</b>		
<b>Mobility Improvements Rating: Medium</b>		
	<b><u>New Start vs. Baseline</u></b>	
<b>Average Employment Per Station</b>	6,552	
<b>Average Low Income Households Per Station</b>	449	
<b>Transportation System User Benefit Per Project Passenger Mile (Minutes)</b>	15.6	
<b>Environmental Benefits Rating: Medium-High</b>		
<b><u>Criteria Pollutant Reduced</u> (tons)</b>	<b><u>New Start vs. Baseline</u></b>	
<b>Carbon Monoxide (CO)</b>	33	
<b>Nitrogen Oxide (NO<sub>x</sub>)</b>	5	
<b>Hydrocarbons</b>	8	
<b>Particulate Matter (PM<sub>10</sub>)</b>	0	
<b>Carbon Dioxide (CO<sub>2</sub>)</b>	13,160	
<b><u>Annual Energy Savings</u> (million) BTU</b>	22,960	
<b>Cost Effectiveness Rating: Low</b>		
	<b><u>New Start vs. Baseline</u></b>	
<b>Cost Per Transportation System User Benefit (current year dollars/hour)</b>	\$ 37.79	
<b>Operating Efficiencies Rating: Medium</b>		
	<b><u>Baseline</u></b>	<b><u>New Start</u></b>
<b>System Operating Cost per Passenger Mile (current year dollars)</b>	\$0.46	\$0.46

[ ] indicate an increase in emissions.

## **Transit-Supportive Existing Land Use and Future Patterns**

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

The *Medium-High* rating reflects the high densities of employment and retail shopping in the Golden Triangle Area of the Pittsburgh CBD supported by recent and ongoing new development, as well as current efforts to create higher densities of activity with new development now taking place in the North Shore area. This development is taking place under the new Pittsburgh zoning regulations that require substantially improved pedestrian and handicapped access. Due to the coordinated efforts of the Port Authority, Southwestern Pennsylvania Commission, Allegheny County, municipalities, and the Commonwealth of Pennsylvania, densities continue to increase in the station areas along the transit lines in the South, East, and West corridors radiating out from the Pittsburgh CBD.

**Existing Conditions:** The proposed Connector links the redeveloping North Shore area with the Golden Triangle across the Allegheny River and is an extension of the South Corridor LRT line. Much of the activity in the South Corridor is focused along the LRT line. By connections in the CBD, the new line links the North Shore to the major bus-transit East and West Corridors as well. The CBD, especially the Golden Triangle area, continues to be the major mixed-use office commercial center of the region. The Golden Triangle generates a high density of both work and shopping trips. It also contains hotels, restaurants, and entertainment that generate additional trips. The opening there this past year of the expanded David Lawrence Convention Center enhanced the area's prominence. Two new major sports facilities, Heinz Field and PNC Park, opened in the North Shore area this past year. The east end of the North Shore contains offices adapted from industrial uses. It also contains new medium-to-high residential use. Adjacent to this area is mixed office and commercial land use, including the new Alcoa world headquarters and the Warhol museum. There is scattered office and light industrial use adjacent to this area. The western portion of the area is under redevelopment from mixed commercial-industrial and CBD parking to other uses.

**Future Plans, Policies, and Performance:** Current and planned redevelopment in the areas served by the North Shore Connector increases the economic activity and the trip ends there. Golden Triangle station areas are the locations of much of the growth. North Shore station areas will also realize much new development. The total value of recent and planned new development projects in the area served by the project is \$1.3 billion. Pittsburgh zoning policy requires excellent pedestrian access to transit, sidewalks, and buildings and compliance with ADA standards. Policies in Pittsburgh, other municipalities, and Allegheny County encourage higher density development along the LRT and busway lines, especially in the station areas. More opportunities remain, however, for focusing development in the station areas, to make development more transit-supportive.

## **Local Financial Commitment**

### **Rating: Low-Medium**

The *Low-Medium* local financial commitment rating was determined by the *Low-Medium* ratings for both the capital and operating financing plans.

## **Proposed Non-Section 5309 New Starts Share of Total Project Costs: 40 %**

### **Rating: Medium**

The project financial plan includes Section 5309 New Starts funding, other Federal funding, and State and local sources.

<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	\$ 233.9	60.0 %
Section 5307 Urban Area Formula	\$ 2.6	0.7 %
CMAQ	\$ 75.3	19.3 %
<b>State:</b>		
Annual Capital Appropriations	\$ 65.0	16.7 %
<b>Local:</b>		
Allegheny County Appropriations	\$ 13.0	3.3 %
<b>Total:</b>	<b>\$ 389.9</b>	<b>100.0 %</b>

**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: Low-Medium**

The *Low-Medium* rating is based on concerns with PAAC's ability to maintain financial capacity for its existing system and planned improvements. Viability of the capital financial plan is dependent on obtaining an increase in the State's annual capital assistance to PAAC. This cap is currently set at \$30 million annually but must increase to \$60 million annually to fund all PAAC projects currently proposed for development, including the North Shore Connector.

**Agency Capital Financial Condition:** While PAAC is currently experiencing financial challenges with respect to its operating budget, the agency's capital budget has not been similarly impacted by the same events (i.e., declines in ridership and operating subsidies). The average age of PAAC's transit fleet is roughly 6.5 years for bus and 17.5 years for light rail; the average age for the inclined plane system is 130 years (based on 2000 NTD data).

**Capital Cost Estimates and Contingencies:** The \$390 million project capital cost estimate is based on conceptual designs developed for the DEIS, with PE activities completed to date in support of this estimate. This implies a cost of about \$260 million per mile, which appears reasonable given that the proposed alignment includes both elevated and subway segments. However, given that roughly two-thirds of the alignment is below grade, the possibility for cost increases remains. The project capital costs include an assumption of three percent annual inflation that is reasonable but not conservative.

**Existing and Committed Funding:** All proposed funding sources currently exist, although the level of funding is uncertain. At present, approximately ten percent of the \$155.8 million in proposed non-Section 5309 funds can be considered firmly committed to the project. This includes \$2.6 million in Section 5307 funds already expended for the DEIS and a portion of the \$13 million in County Capital Assistance dedicated to local matches. Federal CMAQ funds have not been programmed by the SPC, and it is unclear how much of available State assistance has been committed to the project.

**New and Proposed Sources:** Although the proposed state assistance fund exists, an increase from \$30 million to \$60 million in the current cap on PAAC's annual State Capital Grant allocation is required. Action by the State Legislature is required, but no schedule is available.

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

### **Rating: Low-Medium**

The *Low-Medium* rating is based on PAAC's current deficit situation, the first in nearly 20 years, and the impacts of assumed strategies for its resolution. PAAC is proposing to cover the operating subsidy for the North Shore Connector using surpluses on the agency's existing transit operations. While PAAC has typically experienced small operating surpluses in recent years, the agency's current \$5.3 million operating deficit emphasizes the risks of this operating financial plan.

**Agency Operating Financial Condition:** PAAC has recently implemented measures to address a \$5.3 million operating deficit resulting from significant declines in system ridership and lower than anticipated operating assistance from the State. These actions include an increase in passenger fares, employee layoffs and wage freezes and service cuts. Employees have been cautioned that further measures may be required next year. Further system reductions may be required.

**Operating Cost Estimates and Contingencies:** Operating cost estimates for the North Shore Connector Project are reasonable and in line with recent cost experience for PAAC's existing LRT service. Costs are projected to increase at an annual rate of three percent, which is also reasonable but not conservative. North Shore Connector farebox receipts are projected to grow at roughly 8.5 percent annually, including a 4.6 percent for ridership and a 3.7 percent increase in average fare. These rates appear optimistic. Ridership on PAAC's existing LRT system declined over the past year and was flat over the period 1996 – 1999. Similarly, while average fares increased in 2000, they remained essentially flat over the period 1996 – 1999.

**Existing and Committed Funding:** As noted above, PAAC intends to subsidize operations for the North Shore Connector using surpluses from the agency's existing operations. While surplus operating funds can be considered committed to this use, the concern lies with those years (such as the current time period) when PAAC operates in a deficit position.

**New and Proposed Funding Sources:** No new funding sources are proposed for this project.

# North Shore Connector LRT

## Pittsburgh, Pennsylvania



