



Red Line Corridor Transit Study **Heavy Rail Metro**

Introduction

The Red Line Corridor Transit Study is considering three build alternatives for improved transit: Enhanced Bus Service, Bus Rapid Transit, and Light Rail Transit. Questions have been raised as to whether Heavy Rail Transit should also be studied for the Red Line Corridor. This information sheet explains why Heavy Rail Metro is not being considered as an option for study and addresses the key issues.

Description of Heavy Rail Transit

Heavy Rail Transit is the technology for the existing Baltimore Metro line between Owings Mills and Johns Hopkins Medical Complex. Metro has the capacity for a high level of transit ridership and is characterized by high speed and a total separation from all other vehicular and pedestrian traffic. For the Red Line corridor, a Metro line would require significant tunneling and aerial structure for total separation from its environment, since at-grade rights-of-way do not generally exist. Two possible applications for surface in the Red Line Corridor are within the I-70 right-of-way inside the I-695 Beltway and on US Route 40 from Martin Luther King Boulevard to where it ends at Pulaski Street in West Baltimore. Described below is one of many possible scenarios of how Metro could potentially be constructed if it were to be developed in the Red Line corridor .

Conceptual Heavy Rail Project in the Red Line Corridor

Beginning at the west end of the corridor, the Red Line would begin at Security Boulevard near the Center for Medicare and Medicaid Services (CMS). The line would be on an aerial structure along Security Boulevard to Woodlawn Drive and turn south on aerial structure along Woodlawn Drive to I-70. The line would then operate at-grade within the existing right-of-way of I-70 heading east to the end of I-70 at Cooks Lane. The line would then proceed south in tunnel under Cooks Lane, and head east under Edmondson Avenue and Franklin Street to Pulaski Street (near the West Baltimore MARC Station), where it would proceed to US Route 40. The line would operate on surface in the median of US Route 40 and go into tunnel at the east end of this depressed roadway, turn south in tunnel under Fremont Avenue, and continue east in tunnel under Lombard Street, President Street, and Eastern Avenue, ending at Eastern Avenue and Conkling Street. The total length of this conceptual heavy rail line would be 11.7 miles with 7.5 miles in tunnel, 2.0 miles aerial, and 2.2 miles surface.

Sixteen (16) stations would potentially be located as follows:

- Centers for Medicare and Medicaid Services (CMS)
- Security Square Mall
- Social Security Administration

I-70 Eastern Terminus at Cooks Lane
Westside Skill Center/Edmondson Village Shopping Center
Allendale Street
Rosemont
West Baltimore MARC Station
Poppleton
University of Maryland Complex
Hopkins Place/Light Rail and Metro
Inner Harbor East
Central Avenue
Fells Point
Patterson Park
Conkling Street/Highlandtown

The order-of-magnitude capital cost for this alternative is \$2.2-\$2.4 billion including construction of the alignment, stations, vehicles, yard and shop, and system engineering costs.

A variation of the conceptual project described above would be to veer off the Eastern Avenue alignment east of Fells Point and proceed east in tunnel under Boston Street to Conkling Street, and then change from tunnel to aerial alignment to I-895/I-95. The total length of this alternative would be 12.7 miles, with 7.7 miles in tunnel, 2.8 miles aerial, and 2.2 miles surface. The station locations would be the same as in the previous alternative except the addition of stations in Canton, Canton Crossing and at I-895/I-95 and the deletion of stations at Patterson Park and Highlandtown. The order-of-magnitude capital cost for this alternative is \$2.4-\$2.6 billion.

Why Heavy Rail Is Not an Alternative under Study in the Red Line Corridor

There are a series of questions and answers that can best explain why Metro is not being studied in the Red Line Corridor Transit Study:

Does the federal government require heavy rail transit to be studied in a major corridor transit study?

No. The Federal Transit Administration (FTA) is the federal agency responsible for the management of rail corridor studies and ultimately for providing grants for rail construction. This management is through FTA's New Starts Program. FTA technical guidance requires consideration of a reasonable range of alternatives with particular emphasis on lower cost, more affordable options such as light rail, bus rapid transit and transportation systems management improvements. There is no stipulation that heavy rail transit, or any specific mode, must or should be studied as long as there are a reasonable range of lower cost alternatives that can minimize or avoid impacts while still serving the transportation purpose and need. In fact, of the 34 projects across the United States currently in the (FY06) Preliminary Engineering and Final Design pipeline of the FTA New Starts Program, 27 projects are not considering heavy rail transit as an option.

Would the Federal Transit Administration fund a Red Line Metro project for construction?

The FTA evaluates any proposed rail project by a set of criteria that measure a transit project's:

- Cost effectiveness
- Affordability
- Potential for ridership
- Travel time savings for transit riders
- Potential benefits for local land use and development
- Environmental benefits, and
- Ability to meet project purpose and need.

It is important to note that the competition for funds across the nation is fierce as the number of projects far exceeds the FTA's ability to fund the projects.

For a project capital cost in the range of \$2.2-\$2.6 billion, a project would typically need to have a projected daily ridership of between 130,000 and 150,000 trips per day to be competitive nationally, based on the FTA cost-effectiveness criteria. Although ridership forecasts have not been developed for a Metro option, or for any of the alternatives in the study at this time, it is unlikely that forecasts would result in this range of ridership. For a sense of comparison, the existing 15.5-mile Metro line between Owings Mills and Johns Hopkins Medical complex carries about 45,000 trips per day.

Therefore, based on cost effectiveness, it would appear that a Red Line project at a \$2.2-\$2.6 billion cost level would be an unrealistic project for FTA to approve. However, even if FTA were to approve the project, the New Starts Program budget is limited. To enable funding for as many projects as possible, FTA attempts to spread its program funds.

Although the New Starts Program allows for 80% of construction costs to be funded with federal funds, FTA for many years has only been funding at a 50% level. For a Red Line project this would equate to \$1.2-\$1.3 billion. Experience over the last several years, however, has shown that FTA caps its contribution to a maximum of \$500 million for projects, again, to fund as many projects as possible. So even if the FTA were to fund a Red Line Metro project at \$500 million, another \$1.7-\$2.1 billion would need to come from a combination of state, local and private sources.

Can the State of Maryland afford \$1.7-\$2.1 billion in state transportation funds for a Red Line Metro project?

No, it cannot. There are many transportation needs statewide, both transit and highway, that already exceed projected transportation revenues over the next 20 years. It is important that available funds for transit help improve and maintain the core bus system in Baltimore, provide for the operation and maintenance of existing Metro, Light Rail,

and MARC lines, as well as help meet transit needs in other parts of the state. Although funds may be directed to new initiatives, \$1.7-\$2.1 billion in state dollars for one project is simply not financially feasible.

Would Baltimore be settling for second-rate transit? Aren't other cities studying and building heavy rail?

As mentioned earlier, there are 34 projects currently in the FTA New Starts Program in either planning or engineering. Of those, only seven are studying heavy rail. Twenty-seven are not. Of the seven projects that are studying heavy rail, five are extensions or new branches of existing heavy rail lines in New York City, Northern Virginia (Dulles Extension), Miami, Los Angeles, and Santa Clara (extension of San Francisco BART). Of the other two projects that are not direct extensions, one is in New York City and the other is in Salt Lake City, Utah. The 27 projects that are not studying heavy rail include cities that do not have heavy rail as well as many cities that do, such as Boston, Philadelphia, and San Francisco..