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# Scaled-back Green Line project would still be one of the priciest in MBTA history

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**With a price tag of \$2.3 billion, the planned Green Line extension would still be the second most costly rail expansion per mile in the transit agency's recent history.**

By **Matt Rocheleau**

GLOBE STAFF MAY 10, 2016

At a price tag of \$2.3 billion, the MBTA planned Green Line extension would still be the second most costly rail expansion per mile in the transit agency's recent history.

The agency [unveiled a scaled-back version of the project Monday](#).

The previous cost estimate, of \$3 billion, would have made it the most expensive rail expansion per mile the T has tackled since at least the late 1970s, according to [a Globe analysis](#) that adjusted for construction cost inflation.

Some of the other costly projects in recent MBTA history — which expanded the Red and Orange lines — have even involved more complex construction, including excavating new tunnels.

Based on a \$2.3 billion overall price tag, the 4.7-mile project would cost \$489 million per mile.



## State to move forward with scaled-down Green Line extension

Officials could still cancel the scaled-down \$2.3 billion project if the state runs into trouble financing it.

That would be less per mile than the reported cost of at least one other major extension project, a Globe analysis found. That project was the T's 3.2-mile northwest expansion of the Red Line, which was completed in 1985 and involved expensive new tunnels. It cost about \$505 million per mile in today's dollars.

The actual cost was adjusted to today's dollars using a Boston-specific historical construction cost index created by the Engineering News-Record, a national construction industry magazine.

Building the existing 4.7-mile southern portion of the Orange Line was "the largest public works project in Massachusetts history" at the time it was completed in 1987, the Globe reported. In today's dollars, it cost \$422 million per mile.

The 5.4-mile Haymarket-North Orange Line extension project, completed in 1977, cost a "staggering" \$180 million, a Globe reporter wrote at the time. In today's construction dollars, that's \$159 million per mile.



The 3.4-mile extension of the Red Line to add its two southernmost stations on the Braintree branch was finished in 1983 and cost about \$83 million per mile in today's dollars.

## How the Green Line extension's cost estimate compares historically

Only one other major expansion project on the MBTA has cost more per mile.

Project	Cost per mile (in today's dollars)	Year completed	Total cost (in today's dollars)	Total cost (at time)	Length (in miles)	Stations	Location
Red Line northwest extension	\$505m	1985	\$1.6b	\$574m	3.2	4	Between Harvard and Alewife
Green Line north extension	\$489m	possibly by 2020	\$2.3b	\$2.38b	4.7	7	North from relocated Lechmere; work began in 2013
Orange Line south	\$422m	1987	\$1.98b	\$743m	4.7	9	Between Tufts

extension, replacing elevated railway							Medical Center and Forest Hills
Orange Line north extension	\$159m	1977	\$856m	\$180m	5.4	6	Between Haymarket and Oak Grove
Red Line south extension	\$83m	1983	\$282m	\$90m	3.4	2	Between Quincy Center and Braintree

**SOURCE: Globe analysis, review of archives**

Consultants and MBTA officials have outlined explanations for the relatively high costs of the Green Line extension, including that the project would have to be built in a particularly dense urban environment, earlier designs for stations were elaborate, and because the T used an unfamiliar contracting method.

On Monday, consultants hired by the T to redesign the project said the agency could save about \$288 million with simpler stations and \$122 million with a shorter walking and cycling path with fewer walls and bridges attached to it.

Concerns about costs are common with any major publicly funded project, and MBTA officials have cautioned that comparing projects that have been completed in different eras can be problematic.

The details of projects can also vary markedly — how many new stations, how much land and equipment are needed — and that can also distort comparisons.

Officials have said the extension would create significant economic growth — new businesses, housing, and jobs. It would serve tens of thousands of riders daily and would reduce traffic congestion on nearby roadways, thus improving air quality.

The state would lose out on nearly \$1 billion in federal funding if it were to abandon the project.

The T also has a legal obligation to complete the work. The Conservation Law Foundation successfully sued the T to finish the project, which is meant to mitigate the environmental effects of building the Big Dig.

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