Massachusetts Bay Transportation Authority
Budget Department

Capital Funding Request

For Inclusion in the FY10-FY14 Capital Investment Program

Submitted By: William Lally (x4326)

Department Sponsor: SMI

Priority
☒ High
☐ Medium
☐ Low

Ranking ☐

A. **Project Title**: **Floating Slabs and Tunnel Leak Repair – Alewife to Harvard**

B. **Project Category**: (check all that apply)

- ☒ Improvement of Existing Infrastructure/Replacement of Equipment
- ☒ New Infrastructure Reinvestment Project
- ☐ Additional Funding for Existing Project
- ☐ Americans With Disabilities Act (ADA) Accessibility Project
- ☐ Other Service Expansion (Planning and/or Construction)
- ☐ Safety/Security Project

B-A. If this request is for additional funding of an existing project please provide the following information:

Previously awarded funding $_____
Expended to date $_____
Additional funding requested $_____

C. Detailed **Project Description/Scope**. What will this project entail?

This project requires the complete removal of the existing floating slab system and the installation of a new system, which will help control noise and vibration from the operation of trains. The project will also open the drainage system and replace track and signal facilities.

D. Is there an impact to the **health and safety** of MBTA customers or personnel if this project is not done? How does this project correct an existing deficiency in safety, health, and the environment? Is this a "safety-critical" project? If so, how?

The deterioration of the existing floating slab system is a safety hazard. The excessive water leaks from the tunnel walls and the track area affected has begun to show signs of severe corrugation. Many of the slabs are laterally out of position which creates line defects. Electrolysis is also readily apparent.

D-1. Is there an impact to the **environment**?

No environmental impact.

E. Impact on **State of Good Repair**. How will this project contribute to the MBTA's state of good repair? What is the age of the asset that this project seeks to repair or replace? What condition is the asset in?

The project will correct the water and drainage problems that are now severely impacting the corroding the track and signal systems. The existing floating slab was installed in the 1970's and has long passed it's viable lifespan.

F. Impact on **Operations**. Does this project directly impact operations? If so, how? Will this project correct an existing operating deficiency? Will MBTA customers enjoy improved service? If yes, how will service improve specifically – efficiency, reduced trip times, customer service, increased ridership, etc.?

Currently, direct impact on operations has been minimal however the corrosion has required the renewal of rail curves and fastening systems which could otherwise have maintained a longer lifespan. There are also line deviations of the track which cannot be corrected until the floating slab system has been replaced.

G. **Legal Requirements**. Does any law, agreement, or other commitment directly require that the MBTA complete this project? (AG's Office, DEP, ADA project within Key Station Plan, MOU, etc.) Is there a timeline for compliance or the threat of fines? Are there alternatives or substitutes the MBTA can use to comply?

MBTA Maintenance standards, DTE standards apply. There are no alternatives or substitutes.

H. **Alternative** Scope of Work/Solution. What other possible alternatives exist to completing this project as described above, besides taking no action? How else can the MBTA meet the need for this project? Can the effort be funded in stages? Can the scope be reduced and still address the most pressing problems?

There are no alternatives known to the MOW department at this time. It is crucial that an engineering study be completed to determine additional alternatives exist.

I. **Impact on the Operating Budget**. Please quantify how this project would impact the departments or the Authority's operating budget – in terms of labor, materials, etc. How do the operating costs of the alternatives outlined in section H above compare to this project? If this capital project is funded, will the department's next operating budget request increase or decrease as a result?

Currently unknown.

J. **Consequences of Not Funding this Project**. What will happen if this request is not approved?

The slabs will continue to corrode, most likely at an increased pace as time passes. If not dealt with now the safe operation of trains would be adversely affected and a serious impact on Red Line service would result.

K. **Conceptual Budget and Schedule** (provide back-up as appropriate). How long do you expect this project to take? At what stage, if any, is the design for this project? How was this budget estimate developed? What assumptions were used? Was this based on prior experience, best estimates, known costs, or other information source? Please be specific & provide supporting documentation. A summary form is provided on the next page.

This five-year project and thus far only one report has been completed. Track Guy Consultants provided a figure for complete rehabilitation of 75 million which is why MOW suggests that further engineering studies be completed to discover additional options are possible.

K. **Total Capital Spending By Fiscal Year**

Submitted By:
Budget Analyst:
Project Title: : Floating Slabs
Sponsor Department: SMI

Fiscal Year Expenditure Summary

Task Budgets	FY10	FY11	FY12	FY13	FY14	Total FY10-14
Design and Engineering	$ 2,000,000	$ 1,000,000	$ 800,000	$ 1,200,000	$ 3,000,000	$ 8,000,000
Construction Contract(s)		$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 18,000,000	$ 24,000,000
Construction Contingency		$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 5,000,000	$ 8,000,000
Vehicle/Equipment Contract(s)						
Vehicle/Equipment Contingency						
Materials Procurement	$ 1,000,000	$ 2,250,000	$ 2,500,000	$ 3,700,000	$ 12,550,000	$ 22,000,000
Real Estate						
Force Account	$ 5,000,000	$ 1,500,000	$ 1,000,000	$ 1,000,000	$ 4,000,000	$ 8,000,000
Flagging						
Inspection	$ 500,000	$ 500,000	$ 1,000,000	$ 1,000,000	$ 5,000,000	$ 8,000,000
Legal						
Project Administration	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,000,000	$ 2,000,000
Indirect Costs (will calculate)						
Project Subtotal	$ 4,250,000	$ 8,500,000	$ 8,550,000	$ 10,150,000	$ 48,550,000	$ 80,000,000
Project Contingency						
Total	$ 4,250,000	$ 8,500,000	$ 8,550,000	$ 10,150,000	$ 48,550,000	$ 80,000,000

(from section H)	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Total Capital Cost of Alternative Project						$ -

L. If this is a high-priority request, please summarize the **marginal cost impacts** listed in sections F, H, and I in the table below. This section is required only for new projects or increases in scope to existing projects. How do the costs and savings of the alternatives identified in section H compare to the costs and benefits of completing this project as requested? Please consider ridership revenues, operating budget impacts, maintenance costs, etc.