



DRAFT Consultant Scope of Services:

Estimating Potential Future Demand for Grand Junction Transit Service

Introduction:

The Consultant work shall provide the Cambridge Redevelopment Authority (CRA) and the City of Cambridge (City) an estimate of future demand for rail transit on the Grand Junction corridor under several alternatives. The City desires to continue the multi-use path along the entirety of this corridor and has set aside funding for the future construction of such a path with the intent of not precluding reasonable future transit options on the corridor. For more information about the history of the multi-use path planning process, including various feasibility reports and other resources, please visit the City and CRA's Grand Junction Greenway websites.¹ The City and the CRA, along with many stakeholders in Kendall Square, support the study of the Grand Junction rail line as a potential corridor for future transit service expansion to serve the employment growth in Cambridge and Boston.

The consultant shall develop demand estimates for up to four (4) alternatives for future transit, building on work done for the Kendall Square Mobility Task Force (KSMTF).² Specifically the Consultant work shall build off the Grand Junction Transit Feasibility Review from December 22, 2016.³

The demand estimates shall be developed in cooperation with the Central Transportation Planning Staff (CTPS), which manages the regional travel model. All scenarios shall be examined in a 2040 build year. CTPS has already completed a "no-build" scenario for 2040 using updated land use assumptions to analyze various bus service ideas for the KSMTF planning process. The consultant shall work with CTPS to provide the inputs needed to update the model for the four Grand Junction alternatives. The "no-build" scenario will include expected improvements such as the Green Line Extension, and if possible, expected service improvements on the Red and Orange Lines expected from the purchase of all new cars.

¹ <http://www.cambridgema.gov/CDD/Projects/Transportation/GrandJunctionPathway> & <http://www.cambridgeredevelopment.org/grand-junction-pathway/>

² <http://www.cambridgema.gov/CDD/Projects/Transportation/kendallsquaremobilitytaskforce>

³ http://www.cambridgema.gov/CDD/Projects/Transportation/~/_media/CCE84B2335074AD5ABA91258B6D7BD51.a
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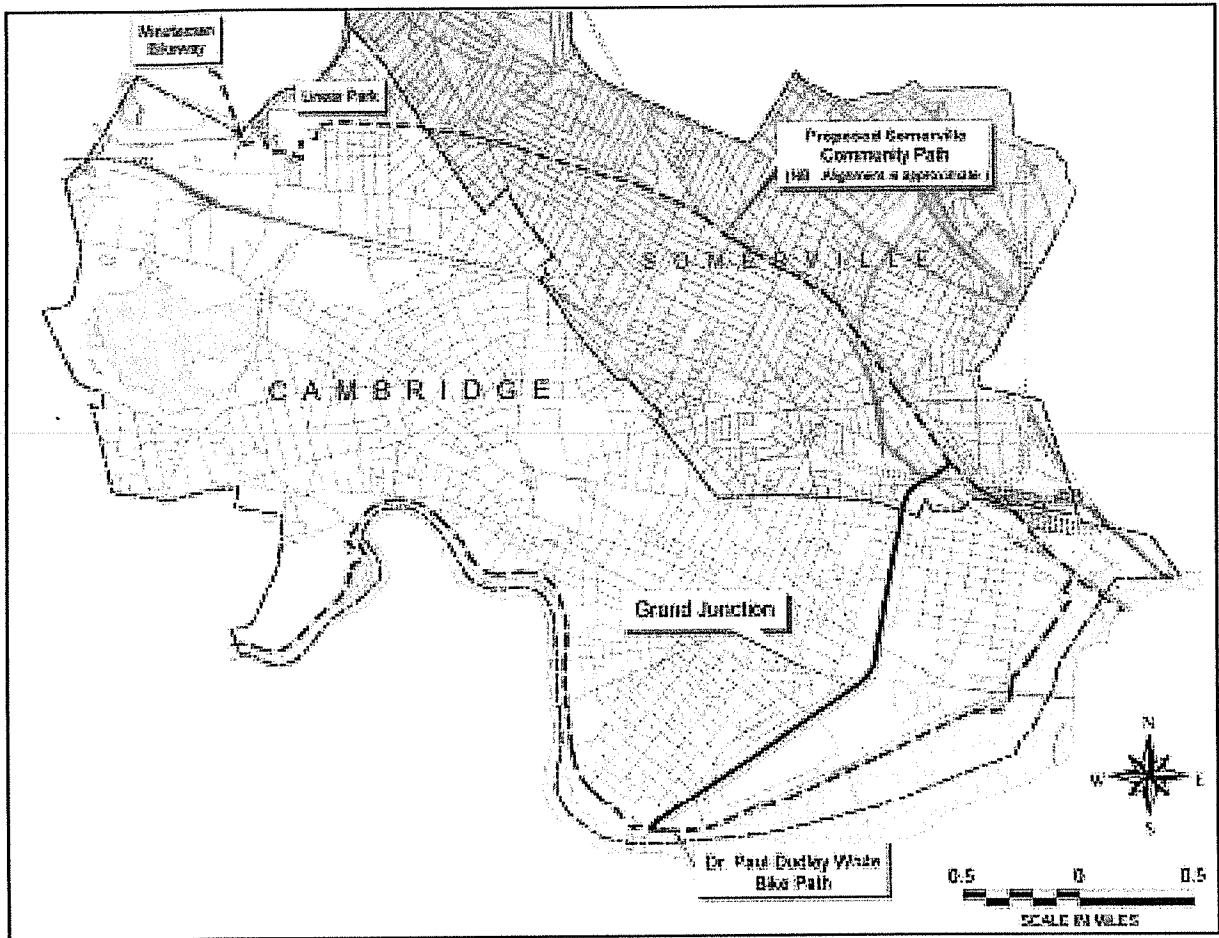


Figure 1-1. Vicinity Map

Source: 2006 Grand Junction Rail with Trail Feasibility Study

Task A: Rail Service Alternatives

The Consultant shall develop up to four (4) alternatives that are feasible and realistic given the configuration of the rail network with the addition of the Green Line Extension. The consultant shall describe these alternatives in enough detail for modeling by CTPS. These alternatives could include the following, but should be modified and finalized in conversations between the Consultant, the CRA and the City:

- Single track rail option between a new Kendall station and North Station with the best frequency that could be operated by two train sets on a single track with a central passing siding in the peak hours, and half that frequency off-peak.
- Single track (or two track where it already exists) rail option between North Station and a further station west of Kendall Square, either at MIT or further west towards the BU Bridge (but

not crossing the BU Bridge). This alternative could include the best frequency achievable with additional resources and in consideration of the scale of traffic impacts at roadway crossings.

- Two track, rail option between North Station and a further station west of Kendall Square, either at MIT or further west to the BU Bridge (but not crossing the BU Bridge). This alternative could include the best frequency achievable with additional resources and in consideration of the scale of traffic impacts at roadway crossings.
- Two track rail option between North Station and a future West Station (proposed as part of the I-90 Allston Interchange project ⁴) with two stops and a headway of 15 min or less.

In developing these alternatives, the consultant shall consider travel times, likely cost per passenger mile, impacts on intersections with roadways, and the need for passing sidings to allow passing and better frequency. Alternatives will need to be neutral in terms of technology (i.e. accommodating various forms of potential future rail service without assuming a specific vehicle type). The consultant shall suggest realistic station locations given land use, ownership, and serving demand.

Meetings

- Kick-off meeting with City and CRA staff to finalize scope and schedule, as well as discuss and finalize the alternatives
- Additional meeting, if needed, to refine and finalize alternatives

Deliverables

- Technical Memorandum: Grand Junction Transit Alternatives

Task B: CTPS Modeling

The Consultant shall write a scope for CTPS to model peak and off-peak boardings by station and loads on each link of the service for each of the alternatives. The CTPS modeling work would be contracted and funded separately from the Consultant work.

Meetings

- Meeting with City and CRA staff to review the alternatives and discuss a scope for CTPS
- Meetings with CTPS as necessary
- Meeting with City and CRA staff to discuss results of CTPS modeling effort

Deliverables

- Scope for CTPS work
- Technical Memorandum: Evaluation of CTPS model results

⁴ <http://www.massdot.state.ma.us/highway/HighlightedProjects/AllstonI90InterchangeImprovementProject.aspx>

Task C: Vehicle Parameters and Cost Estimates

The Consultant shall identify the scope of issues related to rail transit vehicles compatible with the modelled service alternatives for consideration. The consultant shall develop operating and maintenance (O&M) costs for the alternatives, annualized capital cost of rail vehicles, and comparison of these costs per passenger-mile with existing services, and other metrics relevant for comparing the alternatives.

Deliverables:

- Technical Memorandum: Cost Estimates for and Comparison of Grand Junction Transit Alternatives