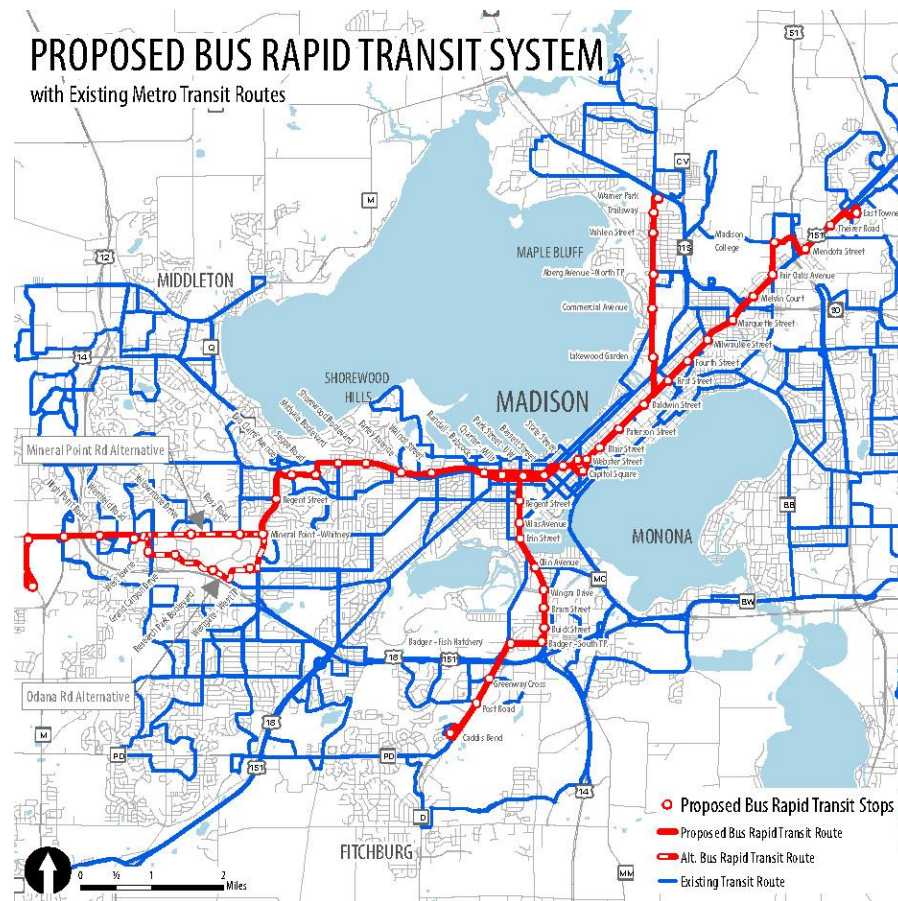


# BRT Alternatives Analysis Scope of Work

## Introduction

[\*Madison Transit Corridor Study – Investigating Bus Rapid Transit in the Madison Area\*](#) outlined a vision for a four-corridor BRT system consisting of two diametrical routes overlapping in central Madison. The study concluded there was strong potential for successful BRT implementation in the Madison area. The Madison Area Transportation Planning Board (MATPB) and City of Madison endorsed the study’s findings and have made implementation of a BRT system a key recommendation in their recently completed regional and city long-range transportation plans. Following adoption of the plans, MATPB, City, and Metro Transit staff performed a comparative analysis of the corridors and selected the east-west corridor for the first phase of the BRT system.



City of Madison Resolution ID 47513 (*adopted 1-2-18*) identified a “locally-preferred alternative” and expressed Common Council support to proceed with a Phase 1 Project Development in an east-west corridor running through the UW Campus and Madison’s Central Business District (with the east and west project termini to be determined).

The goal of this study is to develop the details of a “locally preferred alternative” for the initial segment of the BRT system in the east-west corridor and advance the identified BRT project into the “project development” phase of the Federal Transit Administration’s Small Starts program. The anticipated schedule is 12 months. Among the details to be identified through this study are the termini, route, station locations, and street cross-sections, including potential priority treatments (e.g., bus lanes, intersection queue jumps). Public participation will be crucial during all phases of this study. Stakeholder involvement, including reaching out to impacted businesses and property owners, environmental justice population groups, and other residents, will be especially important during the process to develop the detailed project scope, including finalizing street improvements,

detailed stop locations, amenities, and other system features. Following the completion of this study and FTA approval, a separate RFP will be released for a follow-up project to undertake final detailed planning and design of the initial BRT segment.

In preparation for this pre-project development study, a Metro Transit On-Board Passenger Survey was conducted and the data used to better calibrate the regional travel model. Enhancements were made to the travel model to: (1) improve representation of trip making behavior to/from the University of Wisconsin (UW) - Madison campus (which accounts for around 50% of trips on the mainline system); (2) improve representation of congested speeds on the roadway and bus networks; and (3) refine and update the mode choice model calibration and validation. An FTA Simplified Trips-on-Project Software (STOPS) model was also developed and calibrated for use in comparing against the travel model results. The transit ridership modeling enhancements project documentation and technical report is at this [link](#).

## BRT Project Timeline

2012-2013	MATPB feasibility study identifies long-term vision for BRT
2013-2015	MATPB and City of Madison endorse BRT system plan and moving forward to next phase of study
2017	MATPB adopts Regional Transportation Plan 2050, which recommends completing project planning leading to initial BRT project with future expansion.
2017	Staff comparative analysis of alternative BRT corridors; City Common Council and MATPB endorse selection of east-west corridor as Phase 1 for further evaluation
Mid 2018- Mid 2019	More detailed evaluation of east-west corridor; refinement and identification of initial project (Locally-Preferred Alternative (LPA))
Mid 2019	Apply to Federal Transit Administration (FTA) to enter Project Development/NEPA
Mid 2019- Fall 2020	Project Development – detailed
Fall 2020	Apply for final design/construction grant for federal FY 2020 budget
Mid 2021- 2022	Final Design
2023-2024	Construction

## Pre-Project Development Study Tasks

The following tasks are the minimum work items necessary to complete this phase of the planning process. Consultants may suggest additional subtasks they feel may improve or streamline the planning process and are encouraged to do so.

### Task 1: Project Management and Administration

- Oversee project and prepare for and participate in regularly scheduled check-in conference calls with the project staff team consisting of staff from City of Madison, Metro Transit, and MATPB.

Deliverables: Project management plan outline, progress meeting notes summarizing topics discussed, action items, and next steps.

### Task 2: Project Purpose and Need

- Prepare an updated purpose and need document, incorporating information from the initial BRT study and existing regional and City of Madison plans and additional information as appropriate and needed. This includes information on forecast growth and land use and transportation challenges and opportunities in both the region and the corridor.

### Task 3: Public Involvement

- **3.1 Public Involvement Plan.** Develop and assist in implementing a public involvement plan for tasks 4 and 5. The plan should define the level of consultant and staff involvement in each activity. City of Madison Planning, MPO, and Metro Transit staff will provide significant assistance with public engagement, including developing contact lists, meeting with small groups, and providing presentations to city committees and the MPO board to keep them updated on study progress. All strategies in the plan should incorporate proven online and in-person engagement techniques.
- **3.2 Project Website.** Develop and maintain a project website that includes (at a minimum) project scope, background materials, materials from public involvement meetings, and a project schedule. Interactive public engagement activities, such as surveys or walk-throughs, are encouraged.
- **3.3 Public Meetings and Station Design Charrette.** Develop materials for and participate in at least three public involvement meetings and a station design charrette. At least two (2) of these meetings should occur during Task 4 and one during task 5. The station design charrette is part of Task 5.
- **3.4 Project Alternatives Presentation.** Create a presentation on the project alternatives for city transportation committees and policy bodies to aid in selection of a “Locally Preferred Alternative” (LPA). Creative approaches to these presentations, such as video presentations or walkthroughs, are encouraged (presented during Task 4).
- **3.5 Final Presentation on LPA.** Develop a final presentation for city committees and policy bodies on the LPA and the evaluation of it along with a summary of the process to select the LPA. Creative approaches to these presentations, such as video presentations or walkthroughs, are encouraged (presented during Task 5).
- **3.6. Advisory Committee Meetings.** Participate in advisory committee meetings either in-person (minimum of 2) or electronically.
- **3.7. Other Meetings.** Attend any other meetings (as documented in the public involvement plan). Aside from the website and public meetings, additional targeted outreach is envisioned to be directed to various constituencies, including environmental justice population groups (both within and outside the BRT corridor), other residents, neighborhood associations, current bus riders, students, owners of businesses in the corridor, and public institutions (including UW-Madison and Madison College). As noted above, City Planning, MPO, and Metro staff will conduct much of this targeted outreach.

Deliverables: Public involvement plan, project website, meeting materials and presentations, advisory committee meeting minutes, and others as deemed appropriate.

### Task 4: Determine Locally Preferred Initial BRT Project

- **4.1 Develop Project Alternatives.** Develop three (3) or more initial project alternatives with different termini and other details for the initial east-west BRT line.
  - 4.1.1 Develop scope of roadway changes and cross-sections for the different segments of the corridor.
  - 4.1.2 Detail alternative alignments through the downtown/ campus area (e.g., use of Capitol Square or outer loop, other routing)
  - 4.1.3 Prepare high level cost estimates for the project alternatives in order to compare them and inform selection of the initial project.
  - 3.1.4 Prepare up to three (3) sets of preliminary ridership estimates for the project alternatives, using both the regional travel model and the FTA STOPS model for comparison purposes.
  - 4.1.5 Coordinate with project staff team in developing some basic local transit service change concepts to be implemented in conjunction with the alternatives, and code these route changes in the travel model.
  - 4.1.6 Identify and scope large-scale transit facility projects associated with the alternatives, such as relocation and/or expansion of west transfer point, terminals, stations, intersection queue jumps, and creation of new bus-only facilities.
  - 4.1.7 Define approximate station locations (intersection level) in the corridor based on existing and planned future land uses and development density, complementary local service plan, industry best practices, etc.
- **4.2 Evaluate Project Alternatives.** Develop and apply criteria to evaluate the project alternatives and alternative downtown area alignments. Criteria will include factors such as ridership, capital and operating

cost impacts, ability to integrate BRT project with local service, equity, technical feasibility and timing issues, and traffic impacts (see 4.3 below). Public input will be sought through different mechanisms on the application of the criteria to the project alternatives.

- **4.3 Analyze Traffic Impacts of Project Alternatives.** Analyze and quantify the potential traffic impacts of the planned BRT treatments and transit signal priority for the different project alternatives through traffic operations (e.g., Syncho, PTV Vissim) modeling of selected high volume intersections (8 to 12) in the east-west corridor. Take AM and PM peak turning movement counts for these intersections in the corridor, and develop potential traffic signal timing plans for them with the current counts and forecast future year volumes. Analyze and report on traffic speed and capacity impacts for autos and reliability and operational benefits for BRT under “build” versus “no build” scenarios.

Deliverables: Project alternatives analysis document summarizing the analysis of the alternatives, including typical section sketches, transit priority treatments, local service restructure concepts, capital cost breakdown and operating cost, terminals and other facilities, equity analysis, major engineering and other technical issues, traffic impacts, etc.

### Task 5: Analyze and Refine Locally Preferred Alternative

- **5.1 Refine Roadway Improvements.** Refine LPA plan for BRT treatments such as bus lanes, intersections that will have transit signal prioritization, and any intersection queue jumps.
- **5.2 BRT Stations.** Finalize BRT station locations and layout and define station amenities and conceptual design, working to gain buy-in from impacted stakeholders. A station design charrette is planned in addition to the above referenced public meetings to assist in developing consensus among important stakeholders such as businesses, property owners, and residents in the corridor. The consultant team should consider utilization of visualization tools for stations to ensure consensus selections are accurately captured. Multiple stop designs may be required in some cases due to space constraints of station locations.
- **5.3 Ridership Estimates.** Refine ridership projections for LPA using both the regional travel demand and FTA STOPS models. Coordinate with project staff team in developing more refined local transit service change concepts to be implemented in conjunction with the BRT project, as necessary. Code route changes into travel model along with the recommended BRT project.
- **5.4 Cost Estimates.** Refine cost estimates for LPA. This includes determination of fleet needs and scope of capital facility projects based on sub-tasks 5.1 and 5.2 above. Develop capital and operating costs that are accurate enough for budget planning and FTA documentation.
- **5.5 Traffic Analysis of BRT Project.** If necessary, refine the traffic analysis of the refined LPA (e.g., if a new or revised priority treatment is considered at this stage of the study). Alternative traffic signal timing plans might also need to be developed for some intersections. If further analysis is done, report on traffic speed and capacity impacts for autos and reliability and operational benefits for BRT.

Deliverables: Project recommendation document outlining and illustrating the details of the recommended initial project, including roadway improvements, detailed station locations with example design sketches and renderings, ridership estimate, detailed cost estimates, and documentation of any additional traffic analysis. Also PowerPoint presentation on the project recommendation.

### Task 6: Small Starts Application Process

- **6.1 NEPA Class of Action Request.** Conduct environmental scoping for the LPA and prepare NEPA Class of Action Request document for FTA, which should include a detailed project description and clear justification for the Madison BRT proposed class of action. The purpose of this is to fast track the project into NEPA.
- **6.2 Letter Requesting Entry into Small Starts Project Development.** Prepare letter with necessary supporting information to FTA requesting entry into Small Starts Project Development.

Deliverables: Technical memo, application materials