Madison East-West Bus Rapid Transit (BRT) Planning Study

Public Meeting 2: Preliminary Alternatives Workshop

May 14, 2019

Open House Exhibits

Main Floor

MADISON EAST-WEST BRT PLANNING STUDY

Moving Madison Transit Initiative

The NEED

- Madison is an attractive and growing city.

The PROBLEM

- Madison's growth cannot be sustained by the automobile alone.
- Metro Transit has existing challenges.

The SOLUTION: MovingMadison

- Rehabilitate Metro Bus Garage on E Washington Avenue
- Satellite Bus Garage
- Transit Priority
- Bus Rapid Transit
- Serve Outlying Communities
- Improve Peripheral Bus Service
- Expand and Add Park and Ride Lots
- Electric Buses

The RESULTS

- MovingMadison is a substantial investment that takes our transportation network to the next level

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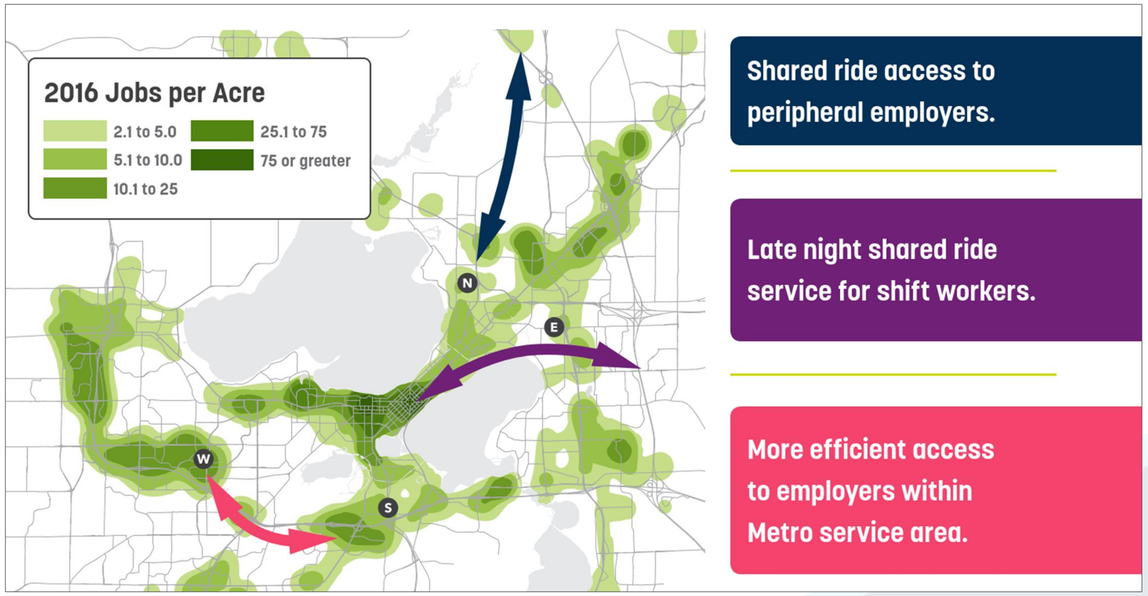
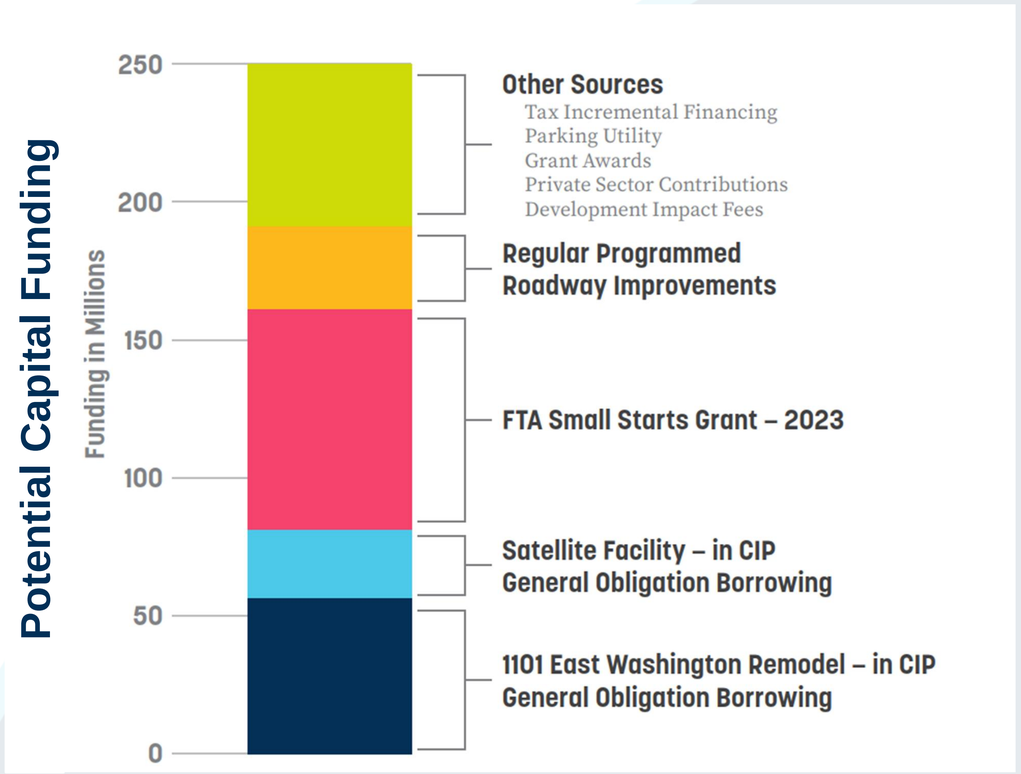
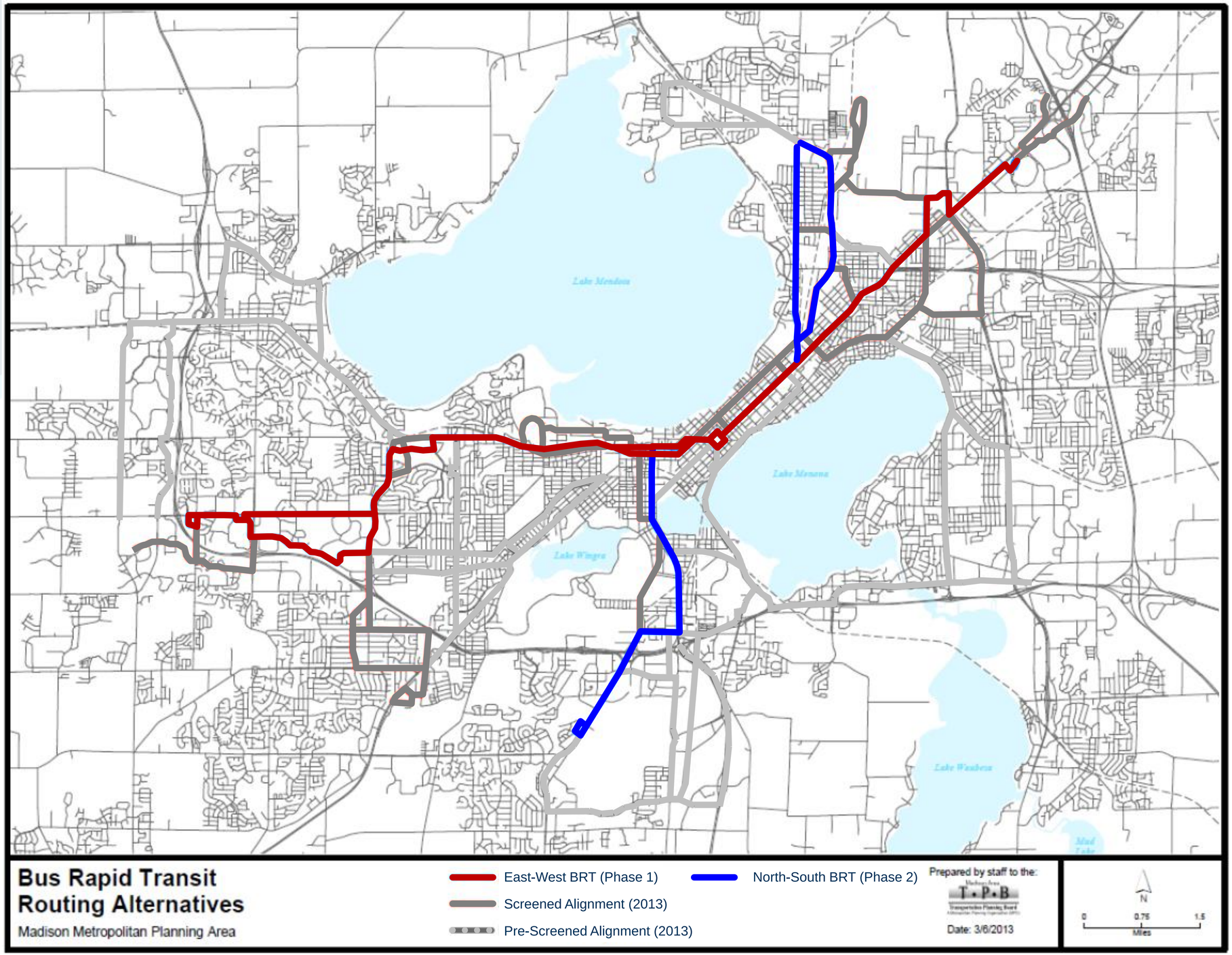




MADISON EAST-WEST BRT PLANNING STUDY

2013 Screened and Currently Recommended Routes



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MADISON EAST-WEST BRT PLANNING STUDY

Project Development Process

DESIGN → 30% → 60% → 100%

We Are Here

2019 | 2020 | 2021 | 2022 | 2023 | 2024

FUNDING

Adopt Locally Preferred Alternative

Request Entry into Project Development

Federal (FTA) Project Development

Start Federal (FTA) Project Development Process

Request Eligibility Review from FTA

Apply for FTA Capital Funding

Receive Capital Funding from FTA

ENVIRONMENTAL

Start Analysis

Receive Clearance from FTA

CONSTRUCTION

Begin Service

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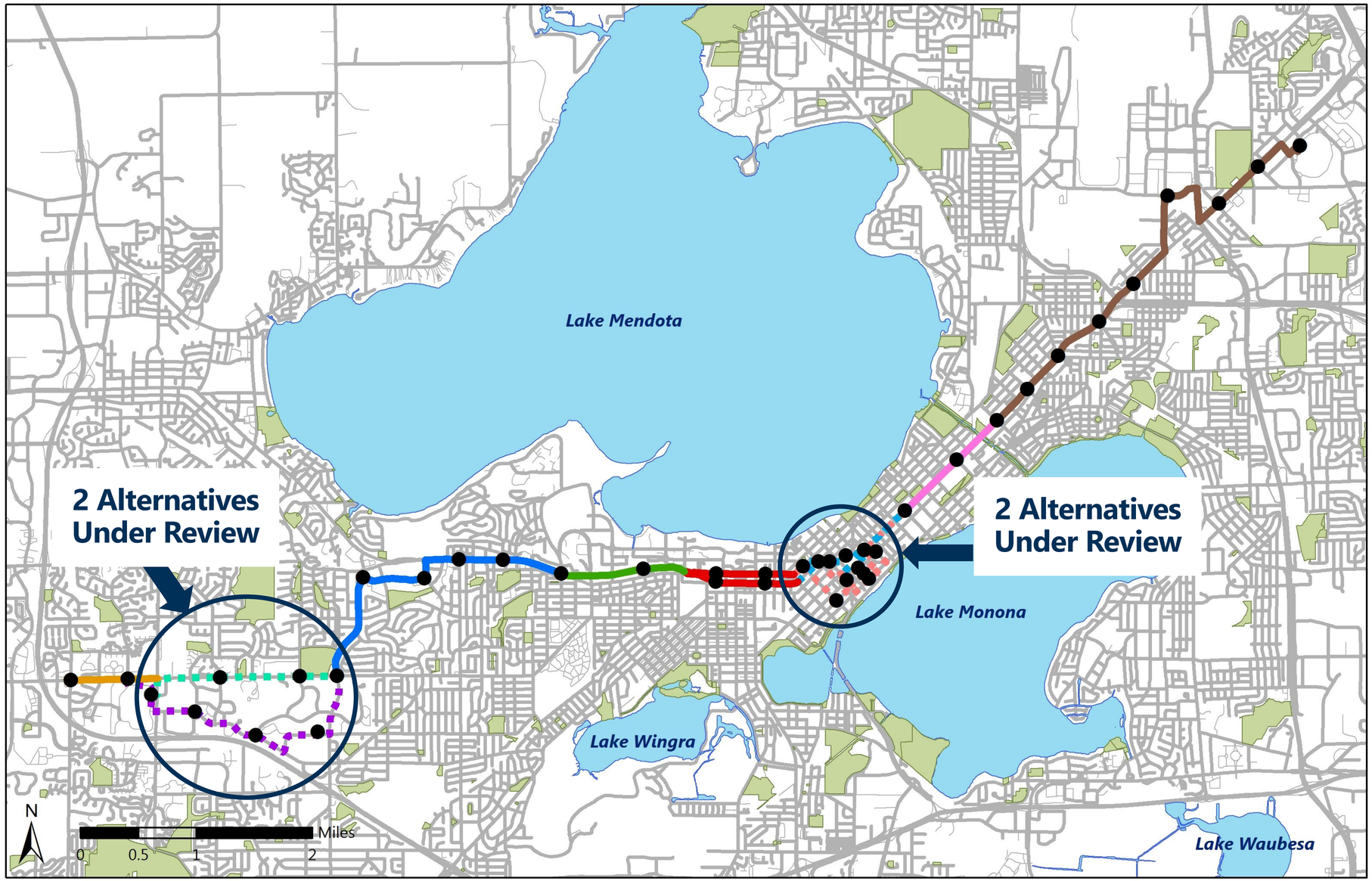
MADISON EAST-WEST BRT PLANNING STUDY

Preliminary Alignment and Alternatives



Madison East-West BRT Planning Study

- East-West BRT Proposed Station
- Segment 1
- Segment 2: Mineral Point Rd Option
- Segment 2: Odana Rd Option
- Segment 3
- Segment 4
- Segment 5
- Segment 6: State Street Option
- Segment 6: Henry/Wilson Option
- Segment 7
- Segment 8

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MADISON EAST-WEST BRT PLANNING STUDY

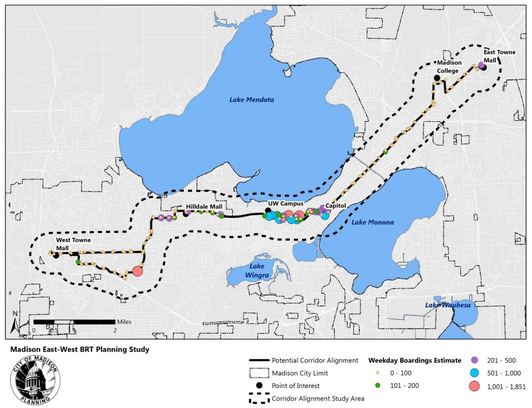
Purpose and Need

The purpose of the Madison East-West BRT Planning Study is to identify and implement the optimal transit investment strategy that will accommodate the anticipated growth in travel demand and increased ridership within the corridor, support mobility options that match emerging demographic trends and preferences, leverage the existing transportation infrastructure to improve connectivity within the corridor, and encourage sustainable development patterns that reduce reliance on single-occupant motor vehicles.

Project Need #1: Improve Travel Times throughout the Corridor

Current transit travel times are about 41 minutes from the far west side to downtown and 32 minutes from the far east side to downtown. There are an estimated 20,000 boardings on the bus stops that are currently on the proposed BRT alignment. There are an additional 21,000 boardings within a half-mile of the alignment.

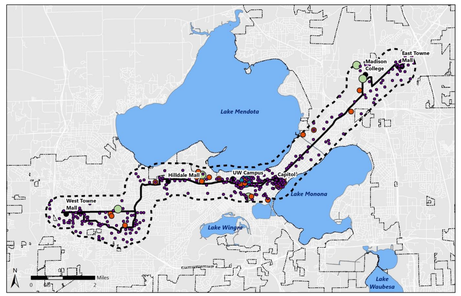
Weekday Boardings at Bus Stops throughout the Corridor



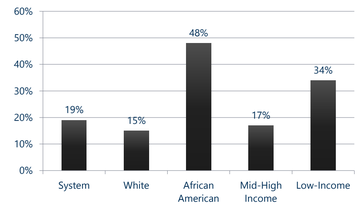
Project Need #2: Provide higher and more regular service levels connecting all neighborhoods to services and employment

Equity is a top priority of City leaders, and any investment in transit should serve those who have the greatest need, including low-income populations and transit-dependent individuals and households. Transit should provide efficient connections to jobs and centers of employment.

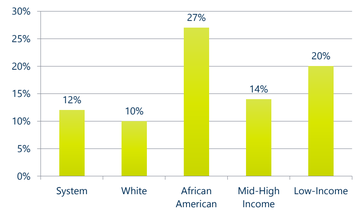
Employers with At Least 50 Employees



Bus Transfer Rates



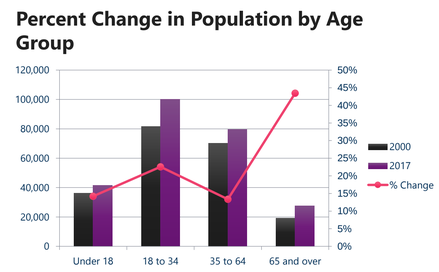
Share of Transit Riders with Travel Times that exceed 45 minutes



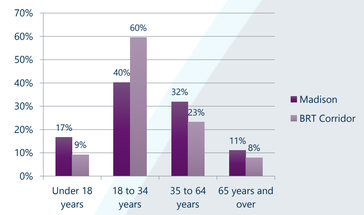
Project Need #3: Provide service that meets the needs of everyone, particularly millennials and seniors

Since 2000, Madison has seen significant increases in the number of 20 to 34 year olds and 50 to 64 year olds. Even though the number of people between ages 60 and 64 has doubled since 2000, the large increase in millennials has driven down the city's median age.

Percent Change in Population by Age Group



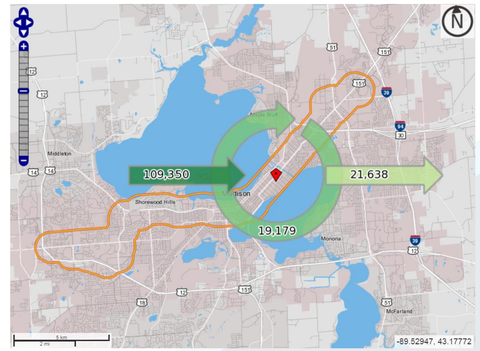
Population Age Distribution for City of Madison and BRT Corridor



Project Need #4: Accommodate increased travel demand to and from existing and planned developments, services, jobs and destinations through multi-modal transportation investments

Approximately 120,000 motor vehicles pass through the Isthmus on an average weekday. Downtown streets are already physically constrained by the lakes; therefore, it is not feasible to add additional travel lanes. Providing high-capacity BRT will more efficiently and quickly move people through the most congested area of the city and will better meet future demands for travel.

Inflow/Outflow of Workers and Residents in the Corridor



Project Need #5: Invest in sustainable options that are consistent with local/regional plans and future technology

The *Imagine Madison*, *Madison In Motion,* and RTP 2050 plans all call for a transportation system that accommodates transportation demands while easing congestion, promoting air quality, and supporting affordable housing goals, sustainability, and energy conservation. Transit service also plays a critical role in increasing access to services. A high-capacity BRT transit system investment that leverages existing transportation facilities while reducing reliance on single-occupant motor vehicles will be necessary to achieve these goals.

The East-West BRT will meet this need by:

- Reducing pollutant emissions and single-occupant motor vehicles
- Following corridor, municipal and regional plans
- Being ready to adapt future technologies, such as automated bus and intelligent transportation systems

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MADISON EAST-WEST BRT PLANNING STUDY
Goals and Objectives

GOAL	OBJECTIVE	EVALUATION PHASES		
		Tier 1: Defining Project Alternatives (qualitative analysis)	**Tier 2: Evaluating Alternatives (qualitative & quantitative)**	**Tier 3: Refining Preferred Alternative (quantitative & qualitative)**
Increase the efficiency, attractiveness, and utilization of transit for all users	• Provide reliable, frequent service that improves the experience of existing customers and attracts "choice" riders • Provide capacity for future growth in transit ridership • Provide enhanced passenger amenities and infrastructure • Reduce travel times	• Typical ridership capacity • Service reliability	• Ridership • Transit travel times	• Mobility improvements[a]
Efficiently manage the forecasted increase in corridor travel demand	• Provide frequent, high-capacity, one-seat transit connections between key East-West BRT Corridor activity generators • Manage increasing corridor travel demand through more efficient use of the existing transportation network • Contribute to acceptable levels of traffic operations and parking supply in the corridor • Improve pedestrian and bicycle connections to East-West BRT Corridor transit • Coordinate with existing and planned transit services	• Connectivity between population and employment centers	• Traffic impacts • Parking impacts • Potential right-of-way impacts • Bicycle and pedestrian impacts	• Mobility improvements[a] • Congestion relief[a]
Contribute to a socially-, economically-, and environmentally-sustainable transportation network	• Promote a more efficient and sustainable transportation system that reduces energy usage, emissions, and costs of living • Increase mobility and accessibility for transit-dependent populations • Support regional planning efforts for a more balanced, multi-modal transportation network in the region • Support local and regional goals for compact, mixed-use development along the corridor • Support institutional and key stakeholder planning efforts	• Environmental impacts (visual, natural) • Demonstrated ability to catalyze economic development • Consistency with existing corridor character • Compatibility with local and regional plans	• Station area population and employment densities • Station area equity characteristics • Station area land use and economic development opportunities • Environmental impacts/benefits	• Economic development[a] • Land use [a] • Environmental benefits[a]
Develop and select an implementable and community-supported project	• Define and select transit improvements with strong public, stakeholder and agency support • Define and select transit improvements that are cost-effective and financially feasible, both in the short- and long-term • Define and select transit improvements that are competitive for FTA funding	• Typical per-mile capital cost • Community support	• Capital and operating and maintenance costs • Cost effectiveness • Community support	• Financial capacity analysis[a] • Cost effectiveness[a]

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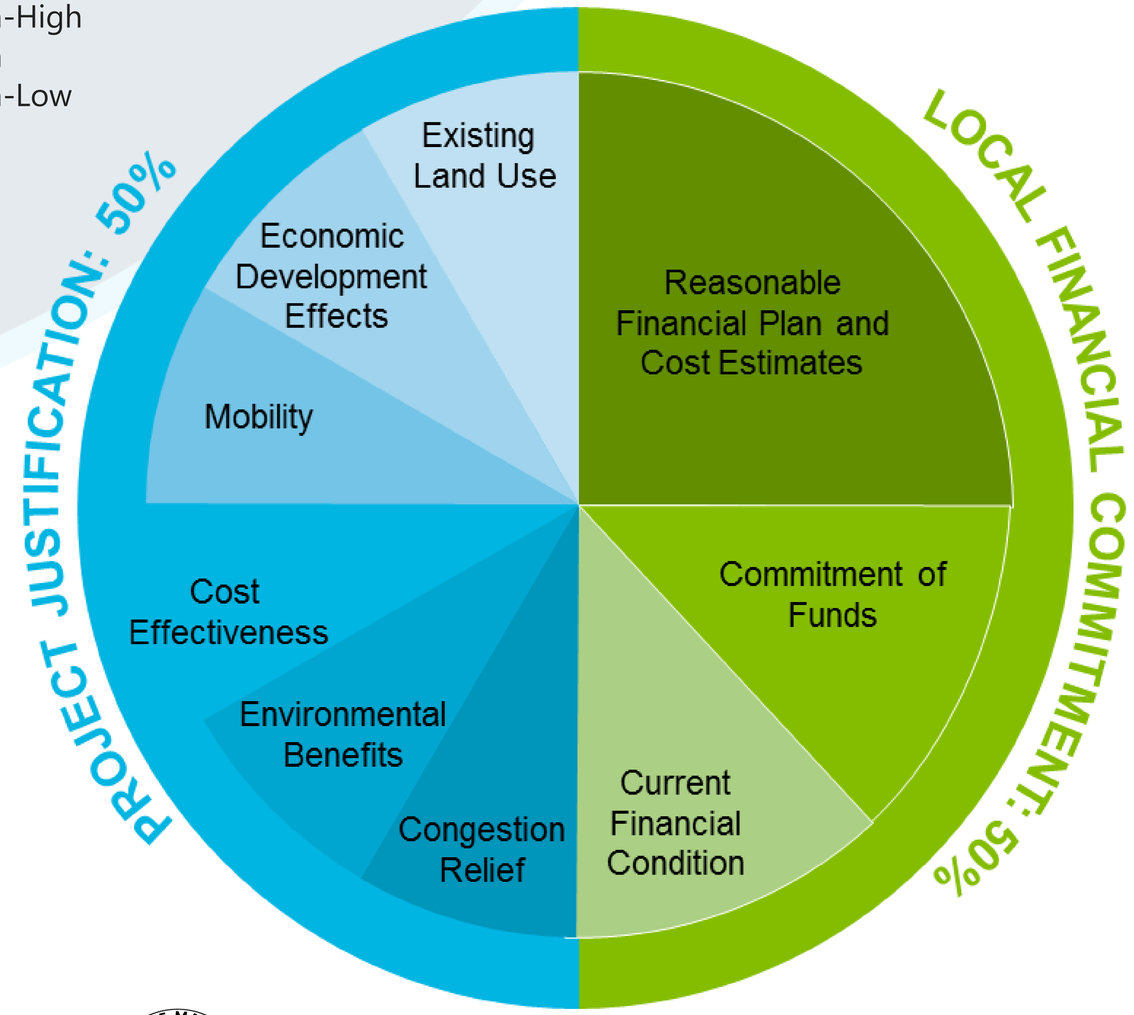
MADISON EAST-WEST BRT PLANNING STUDY
FTA Small Starts Evaluation Criteria

Projects must receive an **average "Medium" rating** from the Federal Transportation Administration (FTA), for both the **Project Justification** and **Local Financial Commitment**, in order to enter into the "Small Starts" grant application process.

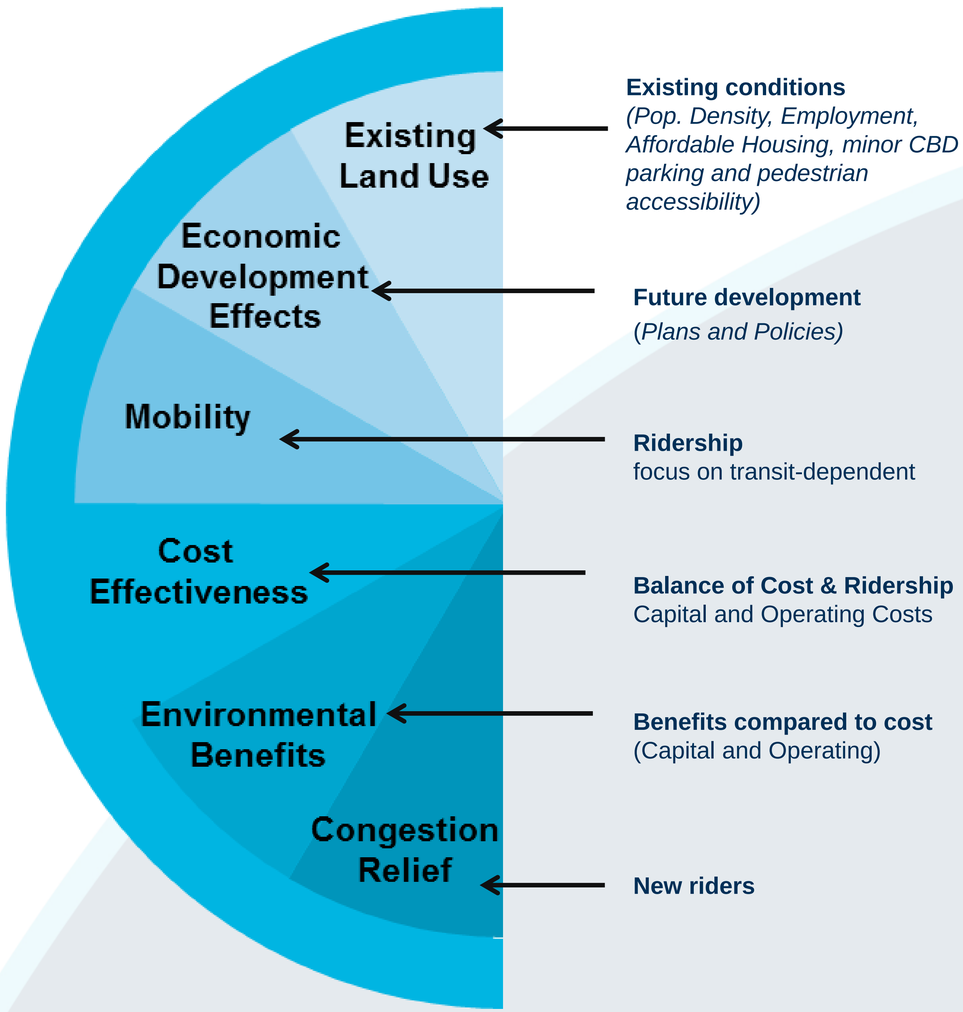
FTA rating scale applied to <u>each</u> piece of the pie:

- High
- Medium-High
- Medium
- Medium-Low
- Low



Details of Project Justification

This information is being compiled as part of the current planning study, to develop Madison's application for Federal funding.



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MADISON EAST-WEST BRT PLANNING STUDY

BRT Priority Treatment Options

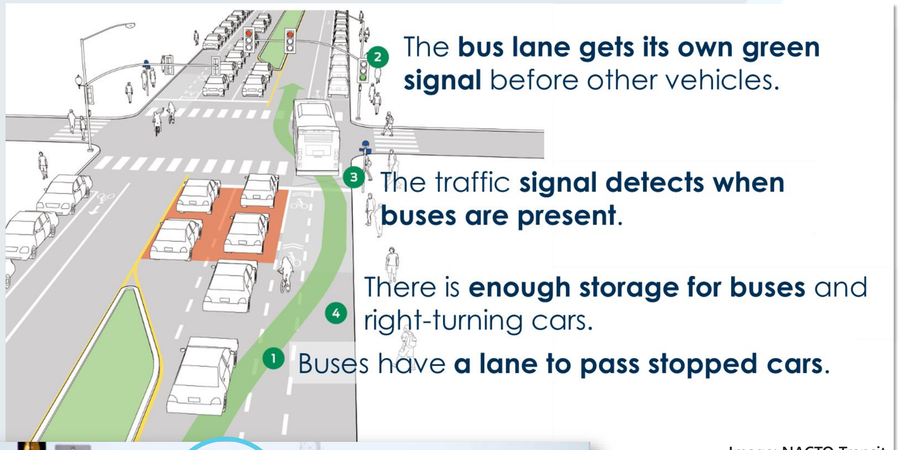

Image: NACTO Transit Street Design Guide

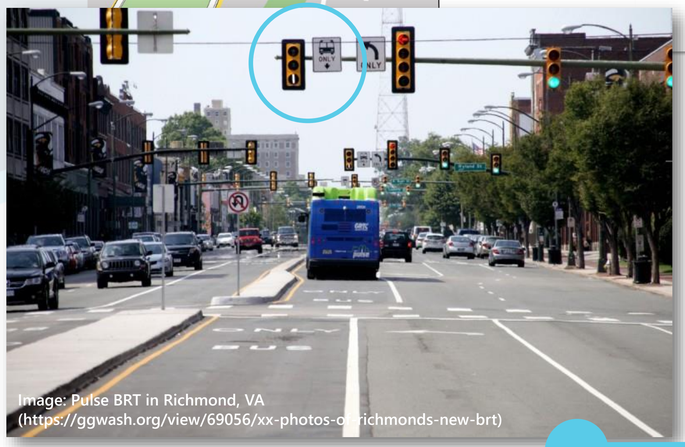

Image: Pulse BRT in Richmond, VA (https://ggwash.org/view/69056/xx-photos-of-richmonds-new-brt)

Traffic queue jump with transit signal priority

Bus-only lanes where feasible

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Madison East-West Bus Rapid Transit (BRT) Planning Study

Public Meeting 2: Preliminary Alternatives Workshop

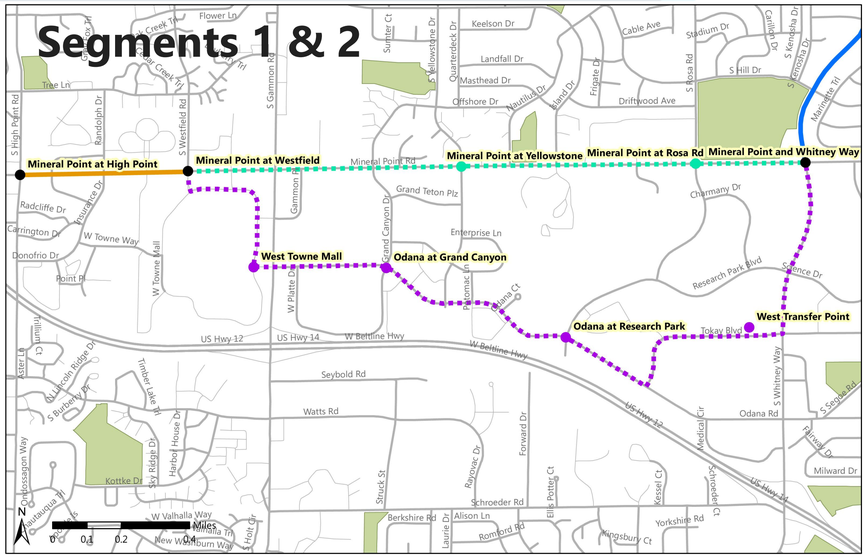
May 14, 2019

Breakout Room 1 Exhibits

West Side

MADISON EAST-WEST BRT PLANNING STUDY

West Side



Madison East-West BRT Planning Study

- Potential Station Location
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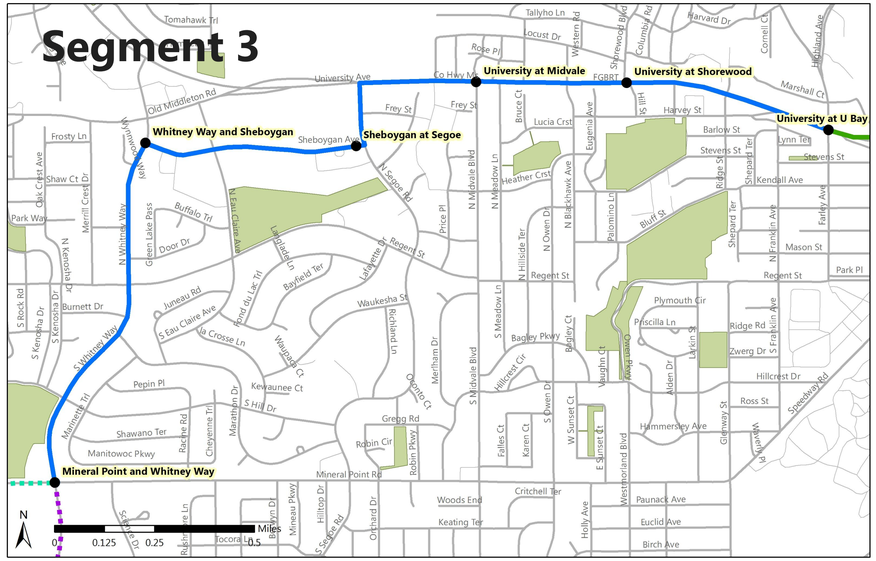

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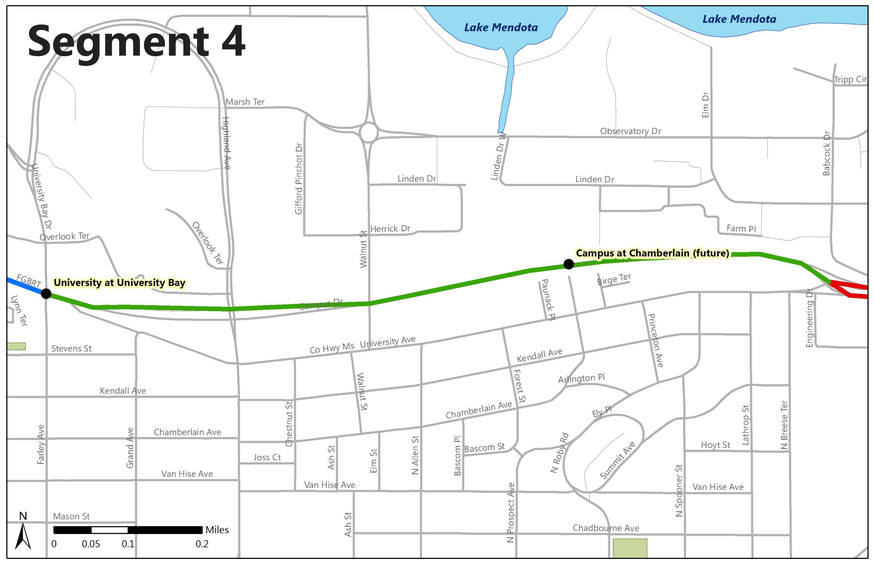

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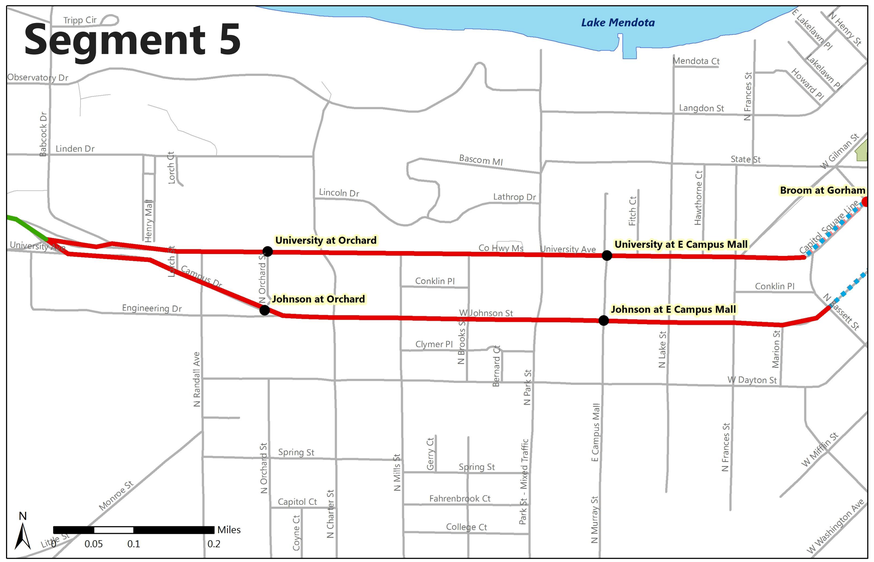

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MADISON EAST-WEST BRT PLANNING STUDY

West Routing – Current Alternatives

Alternative 1W:

- 3-4 minutes faster
- Existing bus lanes
- Requires West Transfer Point (WTP) to be moved, which could have major impacts to local bus routes serving areas south of the Beltline

Alternative 2W:

- Serves Market Square and Westgate Malls
- Better service to UW Research Park an West Towne Mall
- West Transfer Point (WTP) would be expanded in or near its current location
- No impact on local routes serving areas south of the Beltline
- No bus lanes

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University Avenue Operations – Segoe Road to University Bay Drive

			
	High BRT Investment Level: Convert one existing lane each way to Bus Lane, planned improvements at University Bay Drive	~30% faster	More than 2 x Slower
	Medium BRT Investment Level: Bus Bypass Lanes to far side stops, planned improvements at University Bay Drive	~20% faster	A little slower
	Low BRT Investment Level: Planned improvements at University Bay Drive only	~20% faster	A little faster

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Madison East-West Bus Rapid Transit (BRT) Planning Study
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Breakout Room 2 Exhibits

Downtown

MADISON EAST-WEST BRT PLANNING STUDY

Downtown Routing – Current Alternatives

Alternative 1D:

- Serves visible, central stations on State Street and the Capitol Square
- 1-2 minutes faster
- Requires moving some local routes off of State Street
- Requires buses to be on the Capitol Square during most special events like the Farmers' Market – still subject to several detours per year

Alternative 2D:

- Serves stations very close to State Street and the Monona Terrace, City-County Building, and Madison Municipal Building
- Requires changes to Henry Street to accommodate bus service, including a traffic signal at West Washington; and parking removal on Broom Street
- Very few detours

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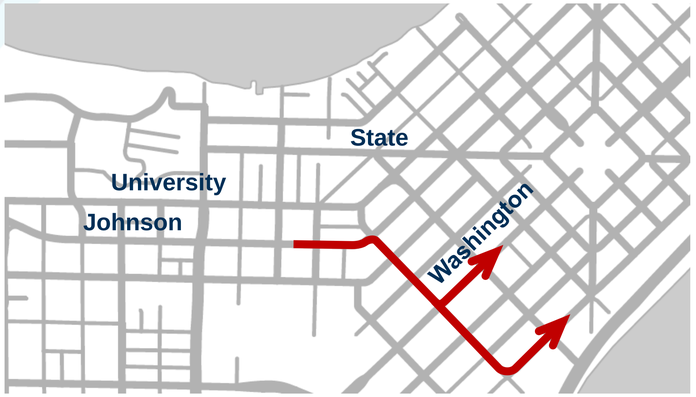
MADISON EAST-WEST BRT PLANNING STUDY

Downtown Routing – Dismissed Alternatives

Goals for Downtown Routing

- Serve regional destinations
- Fast
- Reliable and highly visible
- Can be implemented with reasonable changes
- Coordination with local service

Bassett Street



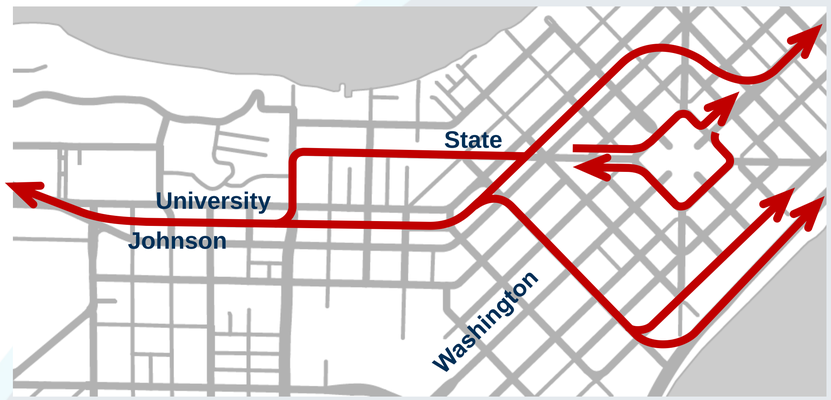
- Insufficient service to State Street Area
- Poor pedestrian environment
- Eastbound and westbound stations are far apart

Outer Loop

West Washington

- Slower than Alternative 1
- More detour events than Alternative 2

Others



- Operational problems and conflicts
- Slow and unreliable
- Inadequate service to regional destinations

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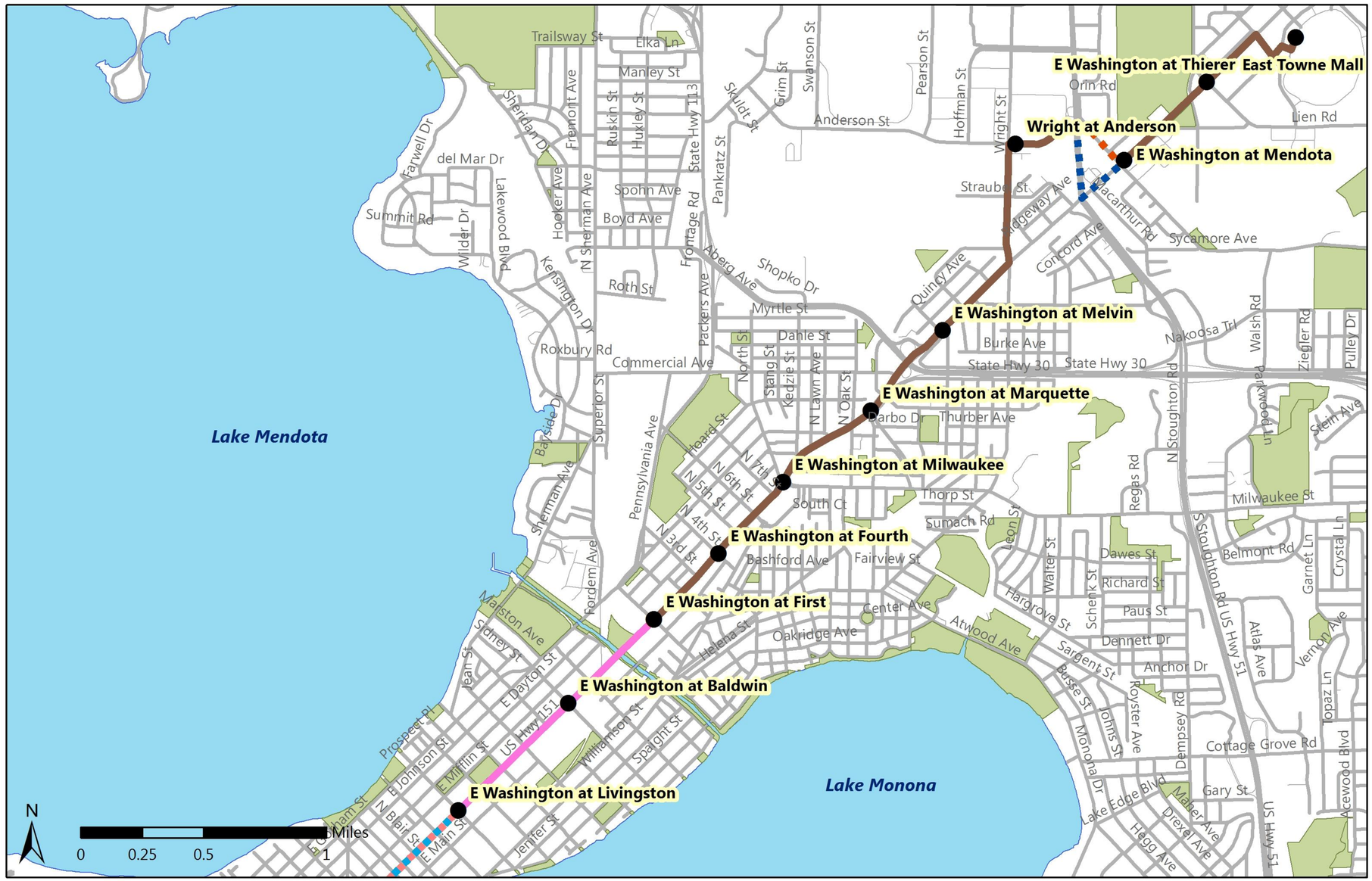
Breakout Room 3 Exhibits

East Side

MADISON EAST-WEST BRT PLANNING STUDY

East Side



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MADISON EAST-WEST BRT PLANNING STUDY

East Washington Avenue Operations – Blair Street to East Towne Mall

++	High BRT Investment Level: Convert one existing lane each way to Bus Lane (Maintains On-Street Parking)	~30% faster	1.5 to 2 x Slower
+	Medium BRT Investment Level: Bus Lanes in On-Street Parking Areas (Remove Most or All On-Street Parking)	~20% faster	About the same as now
	Low BRT Investment Level: Queue Jumps and Bus Bypass Lanes in Parking Areas (Remove Some On-Street Parking)	~20% faster	About the same as now

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