

# **East-West BRT Planning Study General Information and** Project Background

# **MADISON EAST-WEST BRT PLANNING STUDY** Moving Madison Transit Initiative

# The NEED

- Madison is Attractive for All
- Madison is Growing



## 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**

Moving Madison is a Substantial Investment that takes our Transportation Network to the Next Level











# **Potential Capital Funding**



Shared ride access to peripheral employers.

Late night shared ride service for shift workers.

More efficient access to employers within Metro service area.



Start Analysis

Receive Clearance from FTA



Transportation Planning Board A Metropolitan Planning Organization (MPO







# **MADISON EAST-WEST BRT PLANNING STUDY** Working Locally Preferred Alternative Route













# **MADISON EAST-WEST BRT PLANNING STUDY** Goals and Objectives

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











# **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:

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

Existing Land Use

Economic Development Effects

Mobility

Cost Effectiveness

> Environmental Benefits

> > Congestion Relief

Current Financial Condition







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

Economic **Development** Effects

Mobility

Cost Effectiveness

> Environmental **Benefits**

Reasonable Financial Plan and Cost Estimates

> Commitment of Funds

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## **Details of Project Justification**



# **MADISON EAST-WEST BRT PLANNING STUDY** Benefits of BRT 7 Basics of Bus Rapid Transit (BRT) O

- **Improved mobility**
- Future growth and development
- Improved access to employment and education
- **Increased quality of life**
- More sustainable community

### Madison East-West BRT Planning Study

Transportation Efficiency • Economic Development • Safety Improvements • Environmental Sustainability www.madisonbrt.com والمليفة مع التحملي في "

### **1. DEDICATED LANES**

Options range from BRT in mixed traffic to dedicated side or center lane.

Security and safety will be increased monitoring feature



## **3. VEHICLES**

BRT vehicles may be 40' or 60' long to accommodate more riders, and include features like multi-door boarding and interior bike storage.



Making the shift to BRT buses helps reduce vehicle emissions and pollutants. Options for alternative fuel buses can also increase environmental sustainability.

## **5. INTELLIGENT TRANSPORTATION SYSTEM**

Technology is used to help improve system operation and passenger experience, including transit priority at intersections, real-time arrival information, and safety enhancements.

Sophisticated traffic signal management can minimize delays by extending green signals for buses approaching an intersection.



service minimizes passenger wait-time.

## 7. BRANDING

Unique name, color scheme, logo or other visual identifiers to differentiate BRT service from existing bus service.



Transit improvements can have a positive impact on property, by increasing property value and supporting diverse types of development.

Level boarding platforms and wider and additional doorways provide greater accessibility.



## 2. STATIONS

Stations will include fare ticketing machines, covered-waiting areas, level boarding, and real-time transit information.

Dedicated lanes give Streetscaping pedestrian amenities bicycle facilitie romote health

> **4. FARE COLLECTION** Fare payment will occur at BRT stations.



automated systems eliminate on-board fare collection, reducing boarding times.

### 6. SERVICE AND OPERATION PLAN

BRT routes are designed to efficiently connect riders with their destinations by optimizing routes, station locations, and service schedules to meet rider demand.



BRT systems generate permanent jobs in operations.

### Madison East-West BRT **Planning Study**

The City of Madison is exploring options for a new East-West Bus Rapid Transit line to make our city's transit system work faster and smarter. Madison's BRT will complement existing Madison Metro routes and be our city's next big step toward a sustainable local transit system









# **MADISON EAST-WEST BRT PLANNING STUDY** What is BRT

- Branded stations and buses
  - Goal is 100% electric!
- Direct routes/fewer stops
- Frequent, all-day service (every **10-15 minutes)**
- **Transit signal priority**
- **Off-board fare payment**
- **Bus-only lanes where feasible**





# **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.



**Population Age Distribution for City of Madison and BRT Corridor** 



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.



## **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.

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

Inflow/Outflow of Workers and Residents in the Corridor

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