

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

Transportation Policy & Planning Board – September 20, 2019

Note: Public Meeting 4 -  
Working Locally Preferred Alternative  
and Station Design Input Meeting

Madison College | September 26, 2019 | 6:00-8:00 PM

MADISON DEPARTMENT



OF TRANSPORTATION



**AECOM**



**Madison is growing**



# Madison

2017 255,200

2050 292,500

**2050\* 355,000**

# Dane Co

536,000

638,000

**<1,000,000**

**\*If we grew at similar rate as from 1990 to 2017**



**madisonbiz.com**

- **Number one** for industry diversity (EMSI, 2018)
- **Number one** for tech job momentum (CBRE, 2017)
- **Second-highest** employment outlook in the country (ManpowerGroup Survey, 2018)
- **Top 15 Global Startup Cities** in per-capita venture capital investment (Center on American Entrepreneurship, 2018)
- **Third-best Place to Live in America** (Livability, 2019)





# Employment

**200,000 jobs in 2010**

**+85,000 projected for Dane Co 2050**

**+45,000 projected for Madison 2050**

**+10,000 in Isthmus**



E Washington Ave

1 lane

1 lane

# Transit is more efficient

80 people by bus



80 people by car

30 mph, 1.2 VOR



# **Rail/Transit Studies: Recent History**

## **Previous Rail/ High Capacity Transit Studies**

**1980-81 Dane County Transit Technology Corridor Study (DCRPC)**

**1985-86 Dane County Transit Priority Corridor Study (DCRPC)**

**1990-92 Light Rail Transit Corridor Study (C. Madison)**

**1996 Study to Evaluate Commuter Rail Implementation (Dane Co)**

**1998 Dane County Commuter Rail Feasibility Study (Dane Co)**

**1999-2003 Transport 2020 Commuter Rail Alternatives Analysis (City/County/WisDOT)**

**2005-2008 Transport 2020 Commuter Rail Preliminary Engineering/EIS (City/County/WisDOT)**

**2011-13 Bus Rapid Transit (BRT) Preliminary Feasibility Study (MATPB)**

**2018-2020 Bus Rapid Transit East-West Corridor Project Development**



# Bus Rapid Transit (BRT)

## *Madison East-West Corridor Project Development*



# METROFORWARD >>



## METROFORWARD >>

LET'S INVEST IN FAST, RELIABLE AND ACCESSIBLE TRANSPORTATION FOR THE MADISON METROPOLITAN REGION

### INVESTING IN METRO TRANSIT MAKES SENSE, NOW MORE THAN EVER

Metro Transit can improve workforce transportation, reduce congestion and serve as the backbone of a vibrant regional economy. However, federal and state funding has remained flat over the past 20 years, resulting in aging infrastructure, a lack of modern clean-air vehicles and a bus network that cannot support our region's needs any longer.

#### OUR REGION IS READY TO MOVE FORWARD >>

The Madison region is growing rapidly. Our city has consistently ranked in the top tier for being a dynamic, safe place to live—and continues to attract talent, businesses and new residents. Our growth is evident in many ways, from the booming housing development, to the changing downtown skyline.

If growth continues at this pace, by the year 2050, there will be an anticipated 85,000 new jobs and 100,000 new residents in Dane County. This translates into 800,000 new road trips to work, school and play. Without action, the resulting gridlock will more than double travel times for everyone on the road.

If single-occupancy automobiles made up all of these additional trips, it would require adding two or more lanes to our main roads on the Isthmus, and doubling parking in the downtown area—parking costs alone equating more than \$250 million.



#### OUR FUTURE DEPENDS ON THE CHOICES WE MAKE TODAY

We cannot build a superhighway through our beautiful Isthmus. It is not sustainable or even feasible.

#### SO WHAT DO WE DO? WE INVEST IN WHAT WORKS

Metro provides 57,000 rides per weekday and 13 million rides per year. Metro Transit already operates 62 routes across our region, with 218 buses serving Madison, Middleton, Fitchburg, Verona, Sun Prairie, the Village of Shorewood Hills and the Town of Madison.



#### DID YOU KNOW?

**\$1.00 = \$4.00**

For every \$1 invested in public transit, approximately \$4 is generated in economic returns. An estimated 87% of bus trips directly benefit the economy by getting people to work and connecting them to local businesses.



One 60-foot bus during rush hour removes as many as 80 cars off congested roads.



In a year, 80 people on a bus have the same carbon reduction power as planting 2000 trees.



25% reduction in travel time for bus rapid transit riders with Metro Forward >>



## METROFORWARD >>

LET'S INVEST IN FAST, RELIABLE AND ACCESSIBLE TRANSPORTATION FOR THE MADISON METROPOLITAN REGION

To support our regional growth, recruit and retain strong business and talent, protect our environment, and ensure a great quality of life for our residents, we must invest in success -- sustainable, accessible, and reliable transportation.

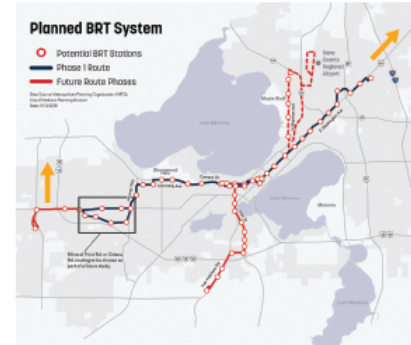
### METROFORWARD >> PROPOSES A FOUR-PRONGED APPROACH TO IMPROVE ACCESS AND REDUCE TRAVEL TIME:

#### #1 EXPAND ACCESSIBILITY AND SERVICE

Lack of access to transportation disproportionately impacts people of color, seniors, young people, those with disabilities, and low-to-middle-income families who are unable to reach school, work, or the doctor's office without access to a car. Restricted access limits upward mobility and shared prosperity. This plan addresses these inequities by subsidizing additional passes for riders and families in need; providing free summer youth passes for eligible middle and high school students to get to jobs and extracurricular activities; enhancing weekend service for workers; and adding new routes to south-side educational institutions and surrounding communities.

#### #2 MODERNIZE METRO FACILITIES TO SERVE OUR GROWING REGION

Metro Transit's main facility on East Washington Ave. is too small for our current fleet of buses and in serious need of repairs and safety upgrades. It was built more than 100 years ago to store 160 buses. With the renovation of this building and the addition of a satellite facility, Metro Transit will be able to hold 218 buses and build capacity for the future of rapid transit, along with new electric charging stations and maintenance bays.



#### #3 FOCUS ON SUSTAINABILITY

Climate change is an urgent reality. In response, the City has set a municipal goal of using 100 percent renewable energy sources and becoming carbon neutral by the year 2030. Metro Transit accounts for a significant portion of all the carbon City vehicles emit. To clean our air and protect our planet, Metro plans to pilot the use of all-electric buses by 2020, with anticipated full fleet conversion beginning in 2023.

#### #4 IMPLEMENT BUS RAPID TRANSIT

To expand service and reduce travel times for Metro riders by up to 25 percent, rapid transit uses dedicated lanes, modern platforms, pre-paid ticketing stations, larger buses and other improvements. Similar to light rail, but without the added expense of building rail infrastructure, these improvements allow for a very high-level service. Rapid transit will complement Metro's current service with riders able to hop on a rapid transit line every 15 minutes. More than 80,000 residents and almost 120,000 jobs are within a 10-minute walk of the planned rapid transit routes.

METROFORWARD >> IS TAKING A BOLD STEP TO IMPLEMENT FOUR RAPID TRANSIT ROUTES - NORTH, SOUTH, EAST, AND WEST - THAT WILL SERVE AS THE BACKBONE OF A VIBRANT ECONOMY.

### SUPPORT METROFORWARD >>

Learn more about this initiative and let your elected officials know you support investing in transit at [cityofmadison.com/MetroForward](http://cityofmadison.com/MetroForward).

# What is Bus Rapid Transit?

## BRT has:

- Very **high level** service, similar to but one step down from light rail
- Typically over 50 percent of the route will have **dedicated bus lanes**, giving buses an advantage in congestion
- **10-15 minute** service levels - 6 am to 12 midnight



*Cleveland's Health Line BRT*



*Example of dedicated bus lanes*

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# What is BRT?

- Branded stations and buses
  - Goal is 100% electric!
- Direct routes/fewer stops
- Off-board fare payment
- Bus-only lanes where feasible
- Transit signal priority



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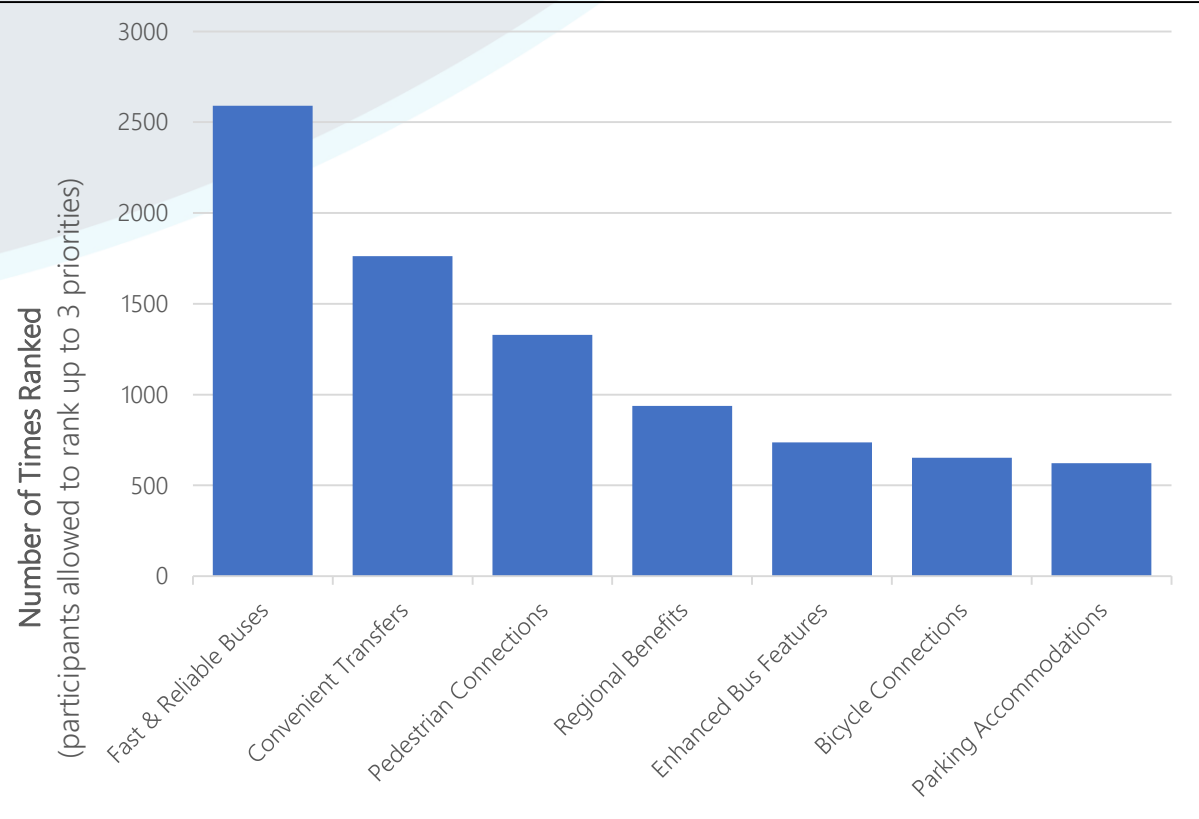


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# Community Survey Results

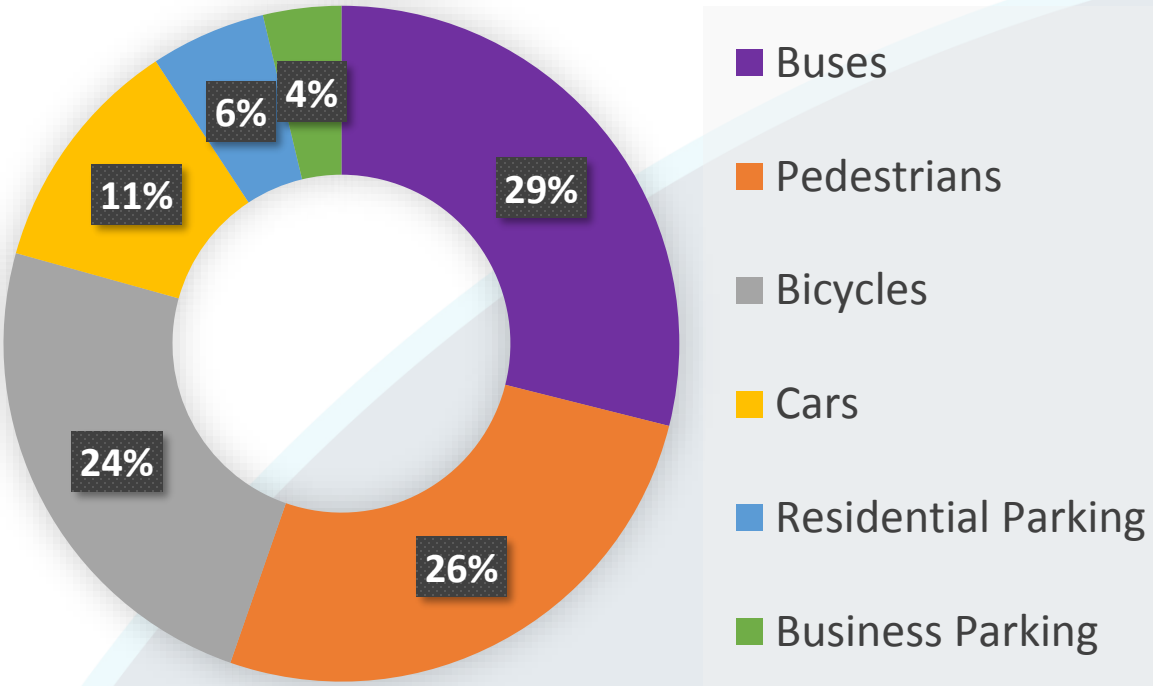
## SURVEY 1

### Survey 1 Priorities



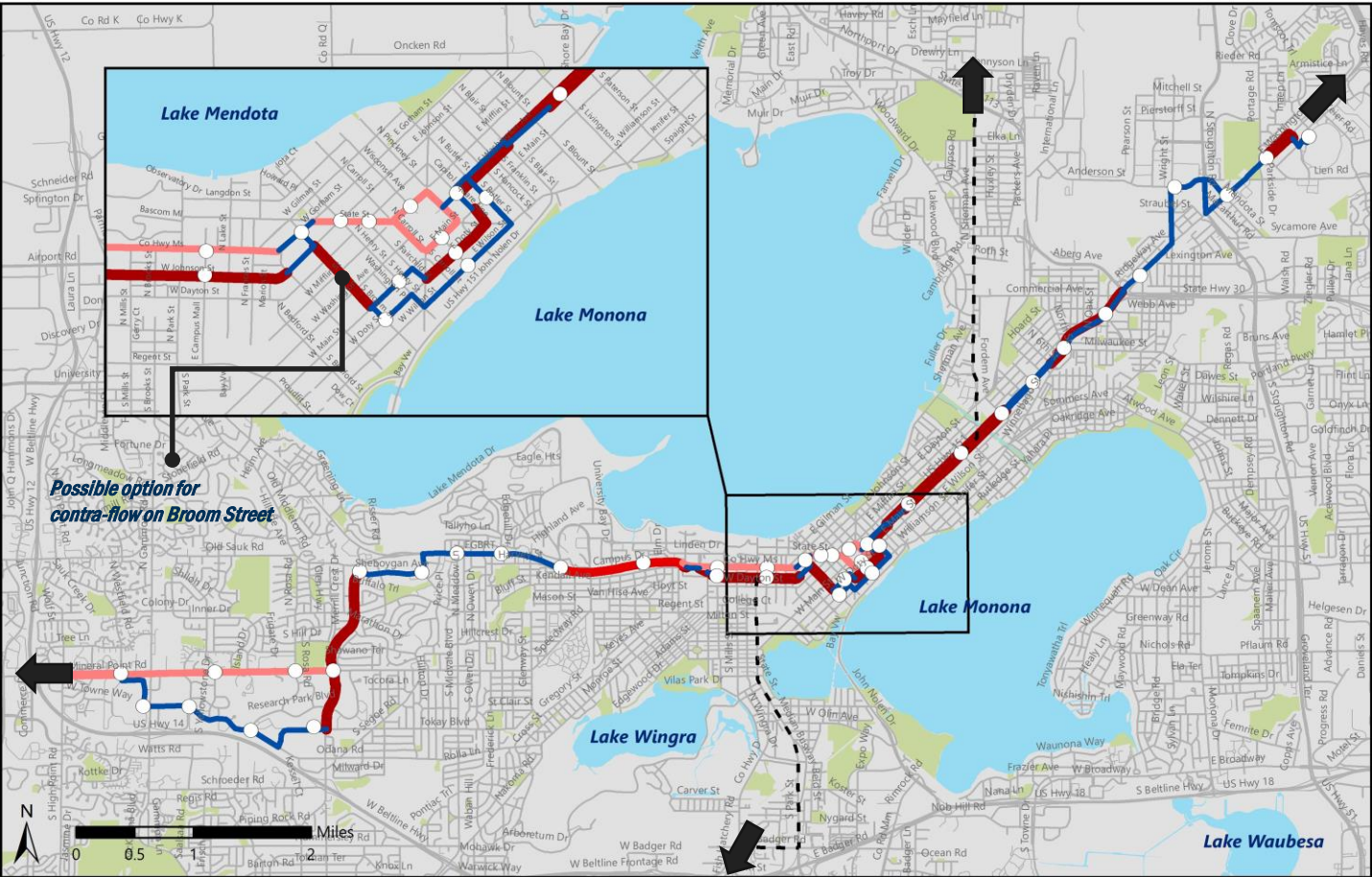
## SURVEY 2

### Right-of-way Space Priorities



# MADISON EAST-WEST BRT PLANNING STUDY

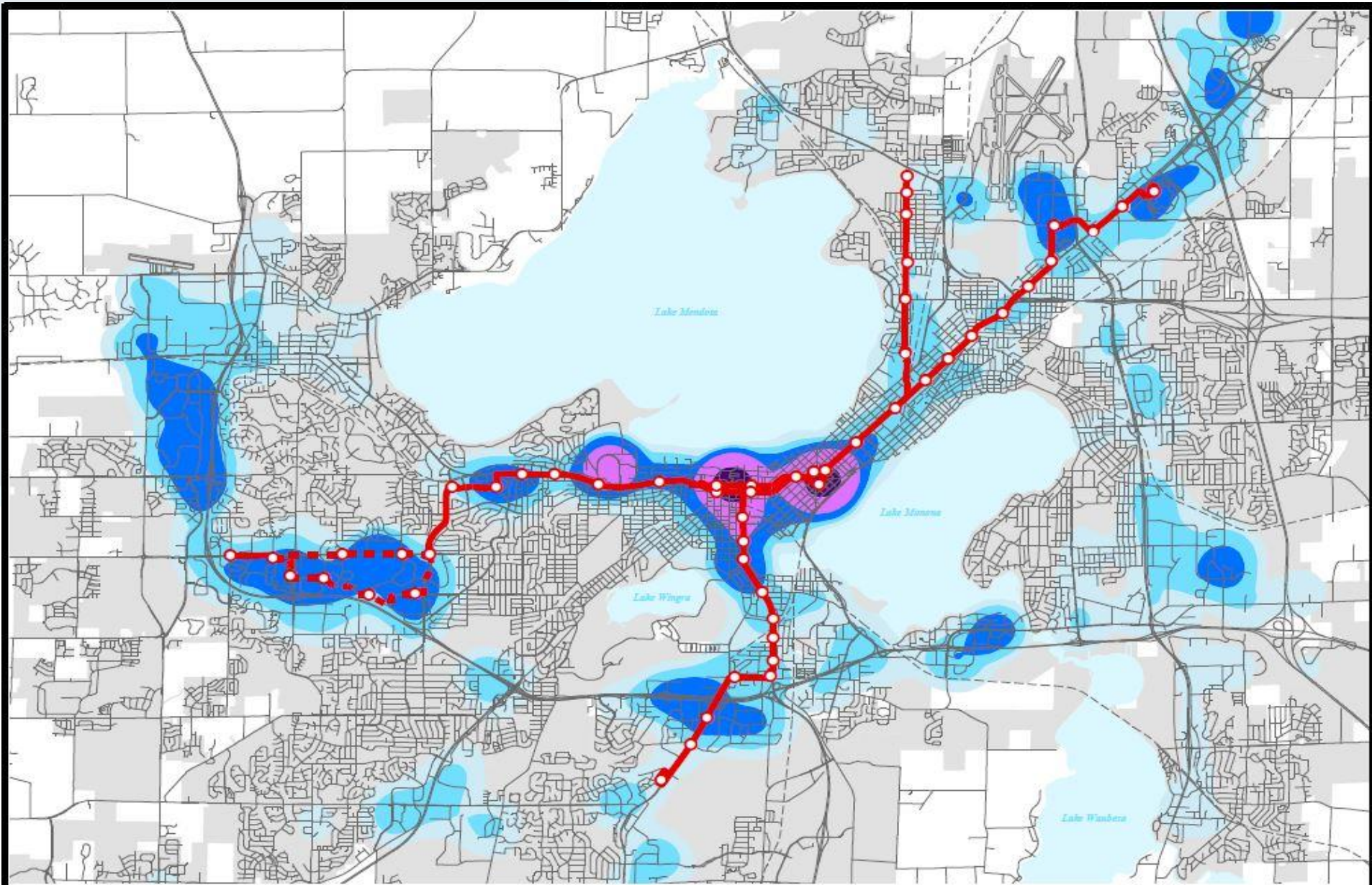
## Location of Dedicated Lanes for Working LPA



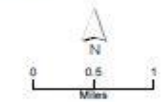
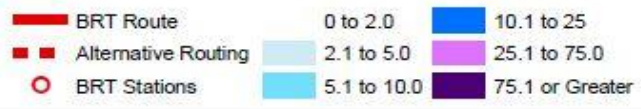
Between 45% and 55% Dedicated Running Way

**Madison East-West BRT Planning Study**

- East-West BRT Proposed Station
- Future North-South BRT
- ← Future BRT Extensions
- Dedicated Lanes**
- Dedicated Bus Lane (BRT vehicle in new bus lane)
- Bus-only Shoulder (Bus uses during congestion)
- Existing Bus Lane (BRT vehicle utilizes existing bus lanes)
- Mixed Traffic (BRT vehicle shares lane with other vehicles)



**Proposed BRT System with  
2016 Employment Density**



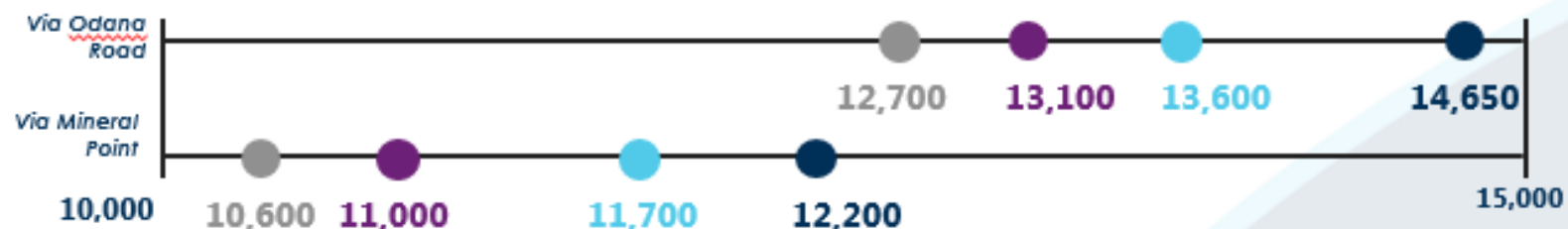
# MADISON EAST-WEST BRT PLANNING STUDY

BRT Travel Time, Ridership, Capital Costs\*

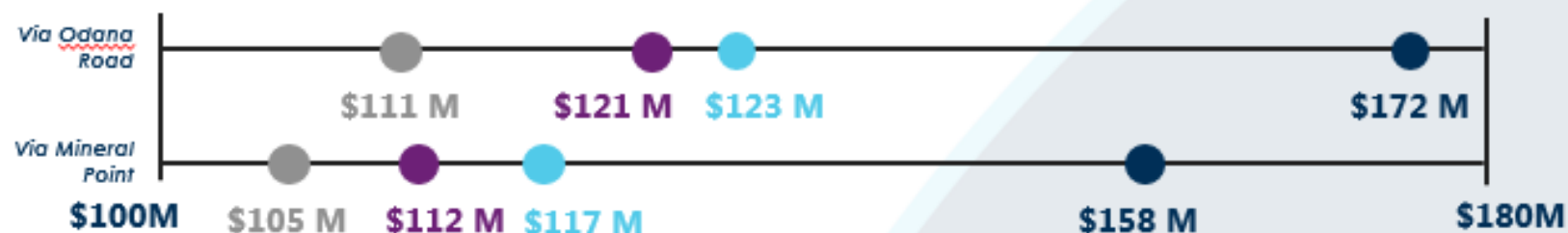
## Travel Times (End-to-End)



## Daily Ridership



## Capital Costs



\*All data reflects the Broom/Wilson downtown option

\*\*LPA = Locally Preferred Alternative, TSP = Transit Signal Priority, QJ = Queue Jump



# MADISON EAST-WEST BRT PLANNING STUDY

## Capital Costs for Working LPA

### Odana and Broom/Wilson Options

<b>Cost Categories</b>	<b>Working LPA Cost (\$2019 in millions)</b>
Dedicated Lane Marker (Paint)	\$2
Stations and Shelters	\$24
Maintenance Facility	\$7
Roadway Improvements	\$19
Transit Signals and Intersection Improvements	\$22
Right-of-Way Acquisition	\$1
Electric Buses	\$30
Engineering, Environmental, and Construction Design	\$17
Contingencies	\$4
<b>Total</b>	<b>\$120-\$130 million</b>
<b>Federal Contribution</b>	<b>(up to) \$100 million</b>
<b>Local (Non-Federal) Contribution</b>	<b>\$20-\$30 million</b>

# Bus Rapid Transit: Capital Financing

- Project Description:  
Implement Bus Rapid  
Transit from West Towne  
Mall to East Towne Mall

- Project Priority 1

■ Citywide Element:  
Land Use and  
Transportation

■ Strategy 2

Implement **Bus Rapid  
Transit** to improve travel  
times, enhance reliability, and  
increase ridership.

	Millions
Total Budget	\$128
Prior Appropriation	\$80

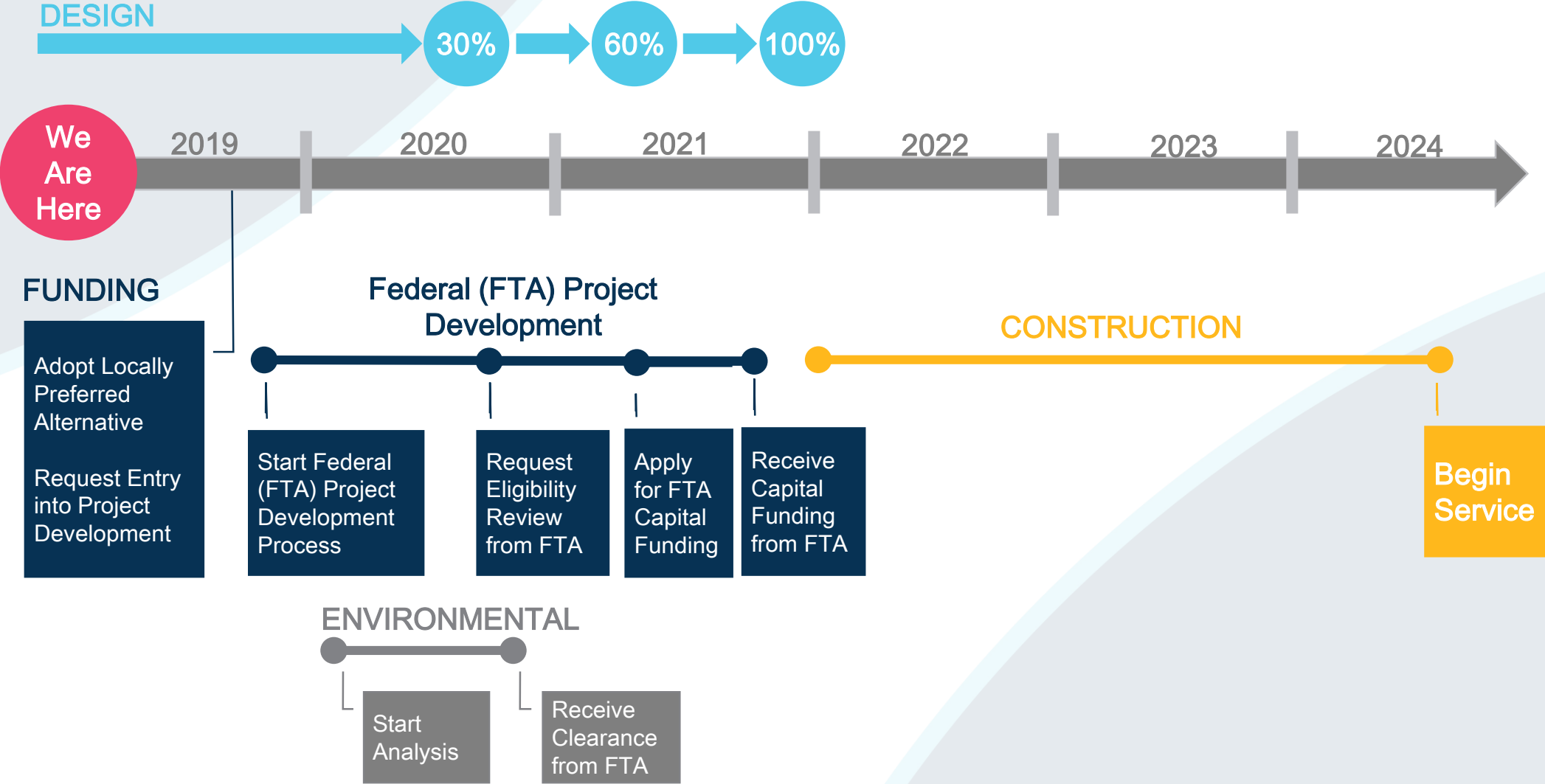
	2020	2021	2022	2023	2024	2025
Borrowing	\$1.5	\$7.5	\$13.3	\$4.2		
Federal	\$2.0	\$1.7	\$82.6	\$11.7		
TIF			\$3.5			
<b>TOTAL</b>	<b>\$3.5</b>	<b>\$9.2</b>	<b>\$99.4</b>	<b>\$15.9</b>		

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# Project Development Process



# Questions/Comments?

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