

**AECOM**



# City of Madison Bus Rapid Transit

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# City of Madison BRT

Madison Bus Rapid Transit Overview

Overview of BRT & Project Verification

Traffic Signal Infrastructure

Overview

Challenges & Opportunities

Lessons Learned

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## Madison Bus Rapid Transit Overview

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## Traffic Signal Infrastructure

### Overview

### Challenges & Opportunities

### Lessons Learned

# Overview of BRT – high quality, cost-effective transit system

- Direct routes and fewer stops
- Bus-only lanes
- Improved boarding
- Minimize signal delay



# Project Verification – over 50% dedicated lanes

- Combination of red epoxy striping, red MMA, and dyed concrete
- Request to experiment approved by FHWA





# Project Verification – improved boarding

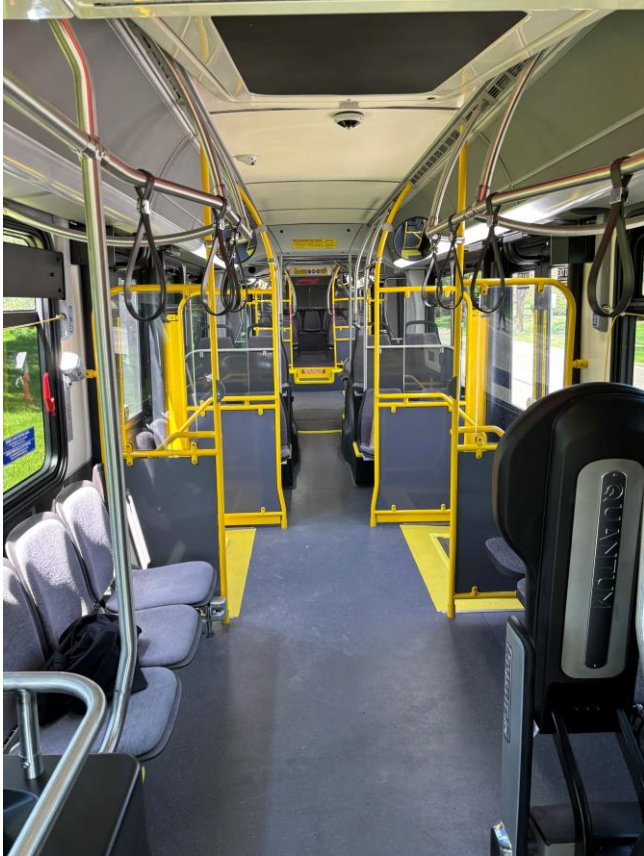
- Elevated platform
- Ticket vending machine on platform
- Ticket validators on bus





# Project Verification – high quality

- 60' Articulated Battery Electric Buses



# Project Verification – high quality (cont.)

- Shelters & Amenities:
  - Real Time Information Signage
  - Station Signage
  - Heaters





# Project Verification – high quality (cont.)

- Shelters & Amenities:
  - Benches
  - Lean Rails
  - Push to Talk



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# Traffic Signal Infrastructure - Challenges

- Median Bus Lanes
- Unique Movements
- Accommodating all users
- Safety Record





# Traffic Signal Infrastructure - Challenges

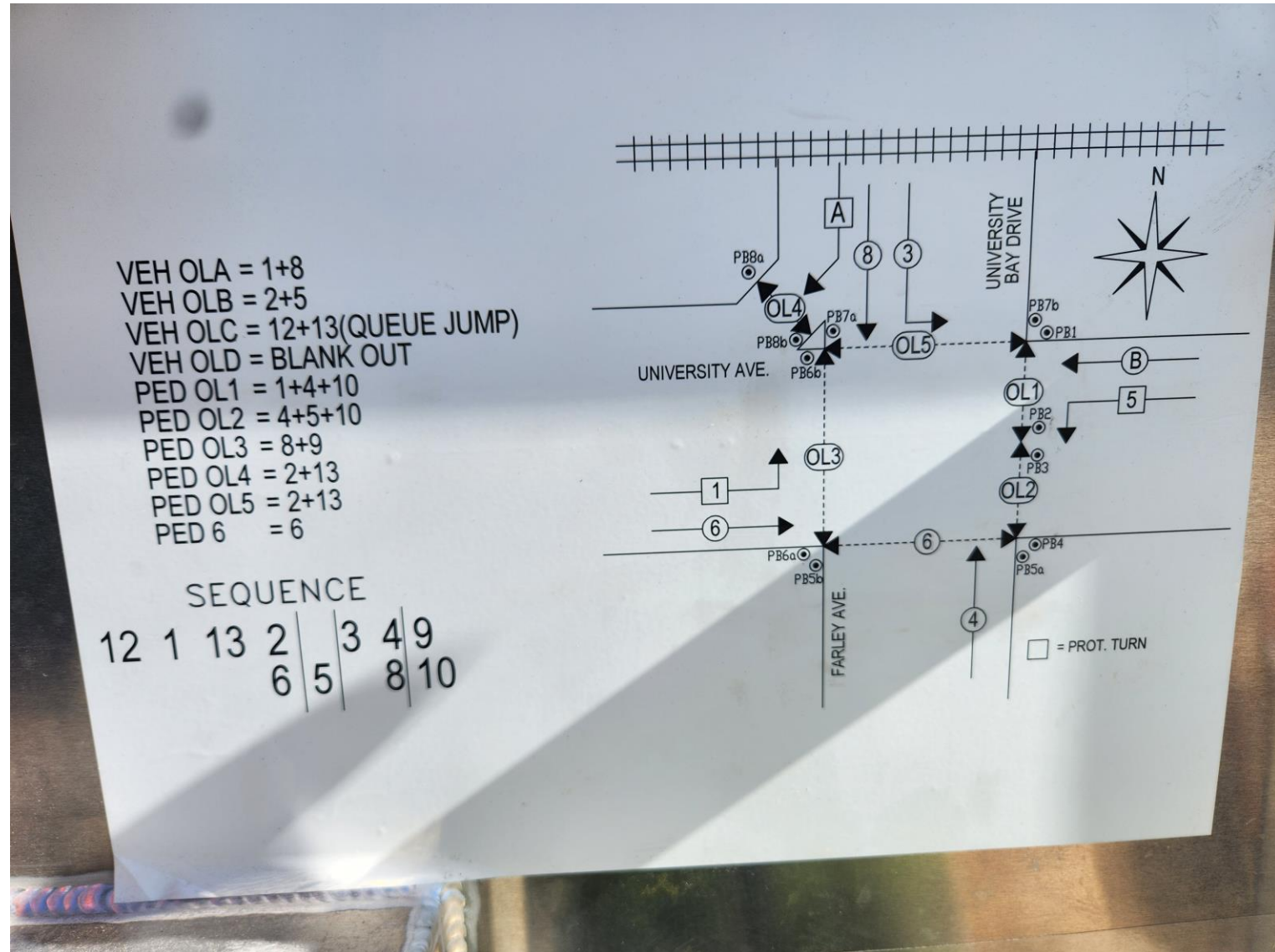
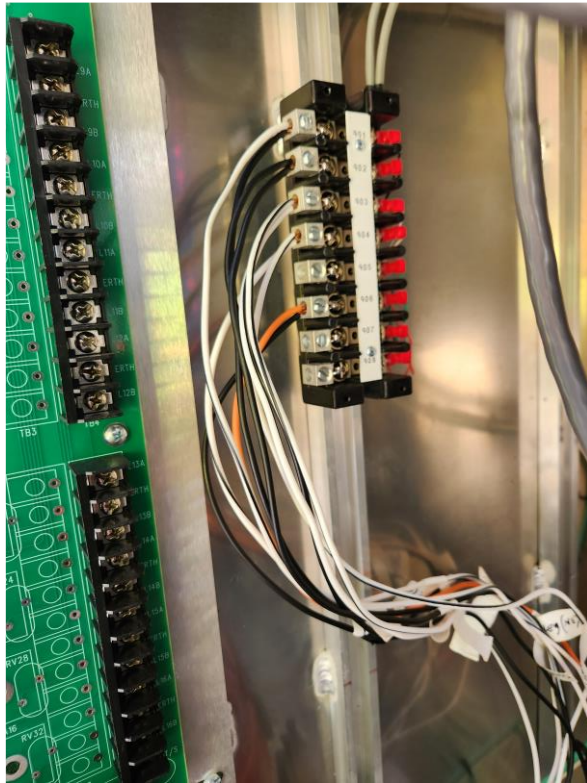
- **QUEUE JUMPS**
- Signal Phasing
- Special maneuvers





# Traffic Signal Infrastructure - Opportunities

- Queue jumps
- **SIGNAL PHASING**
- Special maneuvers



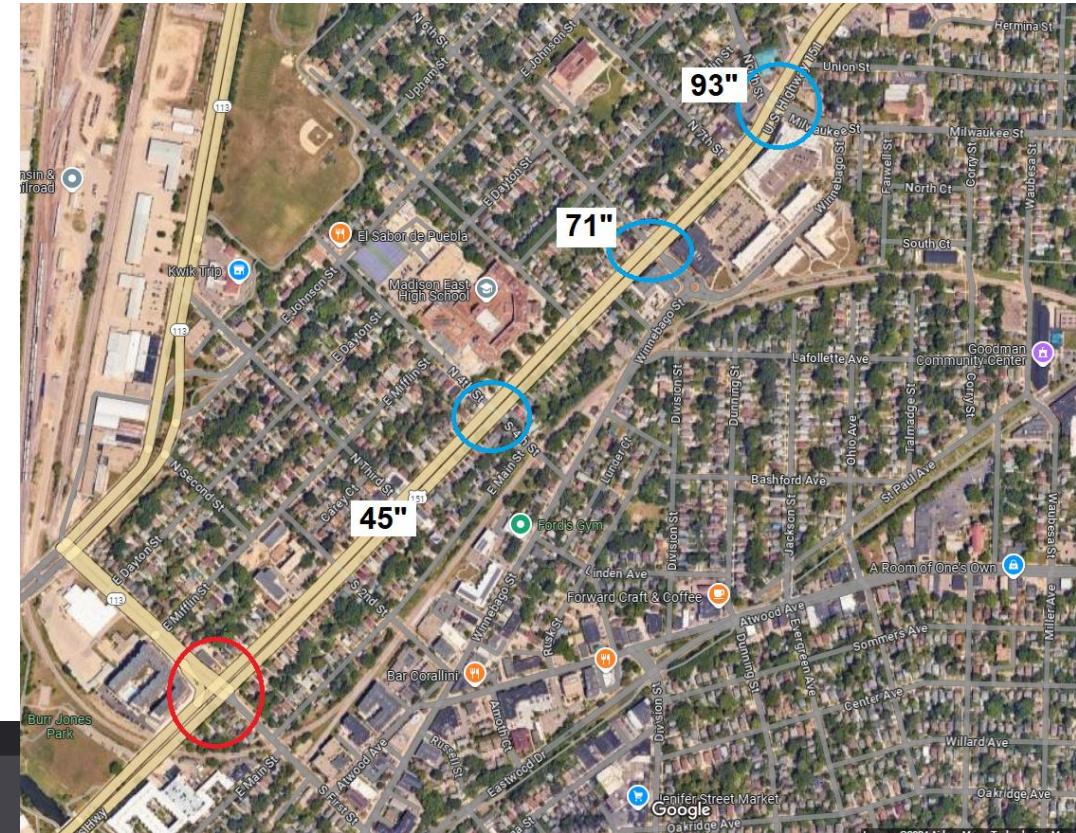
# Traffic Signal Infrastructure - Opportunities

- Queue jumps
- **SIGNAL PHASING**
- Special maneuvers

Peer to Peer Setup (MM) 1-2-6

Local Port

Peer	Port	IP 1	IP 2	IP 3	IP 4	Timeout	Peer Name
1	503	192	168	43	2	1	Paterson
2	503	0	0	0	0	1	????????????
3	503	0	0	0	0	1	????????????
4	503	0	0	0	0	1	????????????
5	503	0	0	0	0	1	????????????
6	503	0	0	0	0	1	????????????
7	503	0	0	0	0	1	????????????
8	503	0	0	0	0	1	????????????
9	503	0	0	0	0	1	????????????
10	503	0	0	0	0	1	????????????
11	503	0	0	0	0	1	????????????
12	503	0	0	0	0	1	????????????
13	503	0	0	0	0	1	????????????
14	503	0	0	0	0	1	????????????
15	503	0	0	0	0	1	????????????



Logic Processor Statements (MM) 1-5-2

Logic #  Name

If

IF:	PEER	T/F	Assignment	#	IS	State
<input type="text"/>	<input type="text" value="1"/>	<input type="text" value="T"/>	<input type="text" value="DET"/>	<input type="text" value="6"/>	<input type="text" value="IS"/>	<input type="text" value="On"/>
<input type="text"/>	<input type="text" value="-"/>	<input type="text" value="F"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Then

Assignment	#	State
<input type="text" value="DET SET PED"/>	<input type="text" value="4"/>	<input type="text" value="On"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

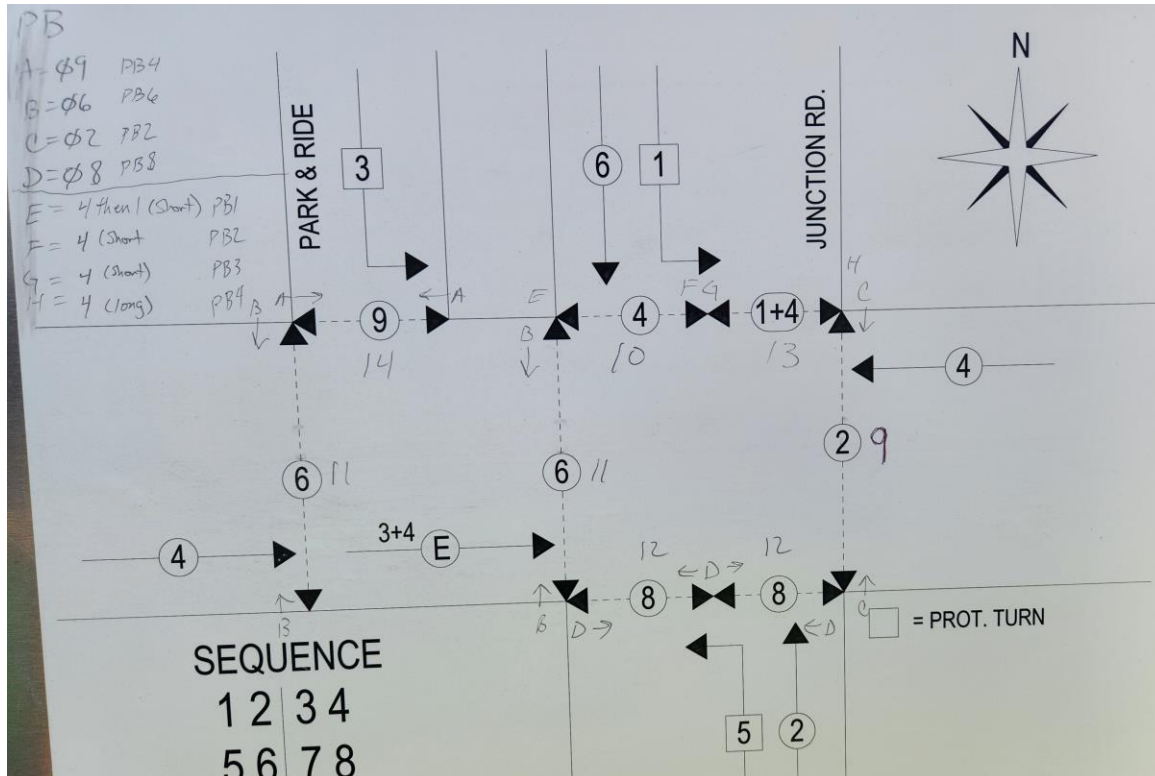
Else

Assignment	#	State
<input type="text"/>	<input type="text"/>	<input type="text"/>



# Traffic Signal Infrastructure – Challenges

- Transit phases with coord phases
- Queue jumps
- **Special maneuvers**







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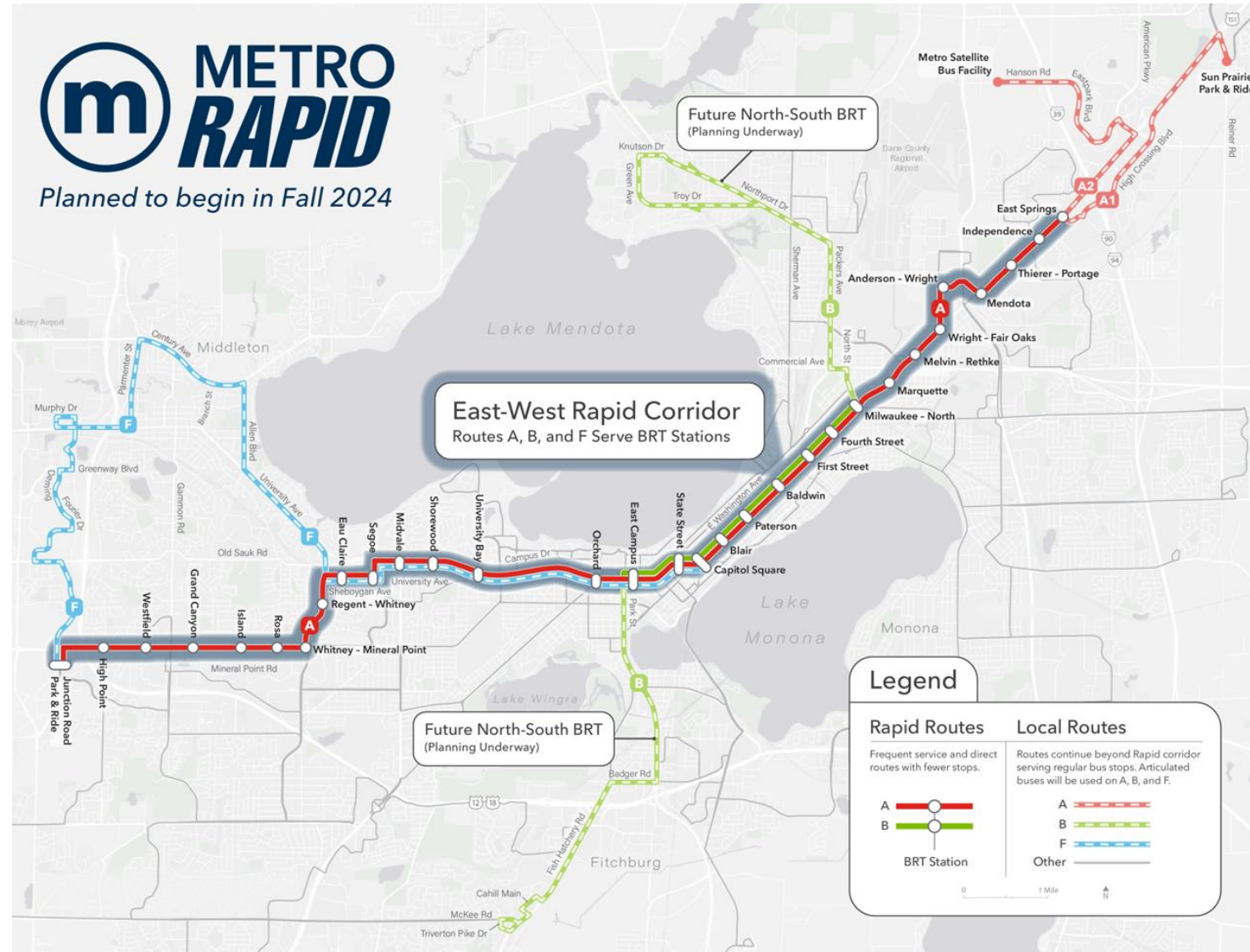
Challenges & Opportunities

Lessons Learned



# LESSONS LEARNED FOR THE CITY OF MADISON

- Assume full signal reconstruction.
- Contractor to furnish all material.
- Prepare for long lead times.
- EOS controllers for future SCP deployment.
- Revisions to detection layout in dedicated lanes.





# Open Discussion

Additional Resources

City Website: <https://www.cityofmadison.com/metro/routes-schedules/bus-rapid-transit>



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**Thank you.**

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