

# 2022 ITS Transportation Conference

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Thursday, October 27, 2022



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# Today's Agenda

1. Introductions
2. Overview of Milwaukee County Transit System (MCTS)
3. Overview of East-West Bus Rapid Transit (BRT)
4. Lessons Learned from all phases of the project
  - a) Planning
  - b) Design
  - c) Construction
5. Working with the Federal Transit Administration (FTA)
6. Top 5 Things to Remember



**David Locher, MCTS, Transportation Manager**

**Mike Zabel, HNTB, Construction Manager**

# MCTS

## Milwaukee County Transit System



- 1 Admin Building
- 2 Garages
- 3 Maintenance Facilities
- 350 buses
- 1,050 total employees
  - 750 bus operators
- 3,878 bus stops
  - 547 MCTS shelters
  - 120 ad shelters
  - 21 private shelters

# Where We Operate / Who We Serve

TRI-COUNTY: MILWAUKEE, WAUKESHA & OZAUKEE

County Pop: 947,735

Urbanize Area Pop: 1.38M

- **Ridership**
- **2019:** 28,972,674
- **2020:** 15,595,089 (pandemic)
- **2021:** 14,356,646 (pandemic)
- **2022:** Trending to exceed 2020





# Additionally



- MCTS Paratransit Services
  - Contracts with: First Transit and Transit Express



**NOTE: MCTS is NOT the HOP**

- Owned by City of Milwaukee
- Operated by Transdev



# How We Do It

## Operations Funding Sources

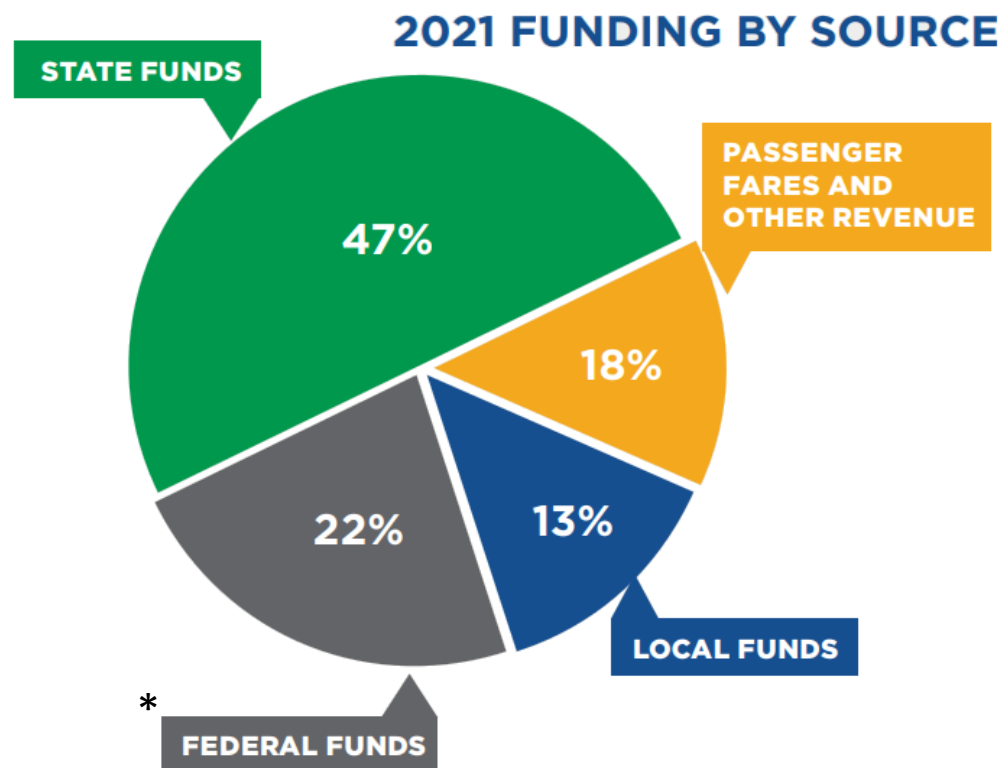
Typical Operating Budget: Up to \$163M

MCTS Bus Service: \$146M

MCTS Paratransit: \$17M

As budgets shrink, the number of buses on the road decreases and the service frequency diminishes.

**Strategy for delivering frequency?**



\*

FEDERAL FUNDS

\* One-time federal assistance 2020-2024  
Pre-pandemic ~15% federal

# BRT – Bus Rapid Transit

High quality, cost-effective bus-based regional transit system with:

- Unique branding
- Specialized vehicles
- Enhanced stations
- Off-board fare collection
- Transit-only lanes
- Traffic signal priority
- Frequent service
- Fewer stops





# Where is BRT used?

- **182 cities globally** (brtdata.org)
  - Europe: 44
  - Latin America: 61
  - North America: 22
- **Comparable US cities with BRT**
  - Kansas City, Missouri
  - Grand Rapids, Michigan
  - Cleveland, Ohio
  - Jacksonville, Florida
  - San Antonio and El Paso, Texas



El Paso, TX

# Why Bus Rapid Transit?

- BRT plays a vital role in a **healthy, multimodal** transportation system that connects people to **jobs**, and businesses to their **customers**
- BRT is **cost-effective** and has been proven to increase transit use with **improved service** frequencies, travel time and reliability
- BRT supports millions of dollars in **economic development**
- BRT meets a critical need to **mitigate traffic congestion**



**9**  
colleges and  
universities



**120K**  
100+ BUSINESSES  
with 250 or more  
**EMPLOYEES**

**47,000**



**RESIDENTS**

**7** **MEDICAL**  
FACILITIES



**25**  
**HOTELS**



**COUNTLESS ATTRACTIONS**  
including the county zoo, Miller Park,  
Bucks' arena, art museum and Summerfest

- The East-West BRT is projected to average over 9,500 daily riders by 2035 and increase overall transit ridership in the corridor by 17 percent. Ridership will be fueled by activity generators within the half-mile station area around the preferred route including ...

# Populations Served

## BRT Population Statistics

Place	Population	% Zero-Car Households	% Minority Population	% Population below Poverty
East-West Corridor (within ½-mile)	69,821	21%	37%	23%
City of Wauwatosa	46,396	8%	12%	6%
City of Milwaukee	594,833	18%	63%	29%
Milwaukee County	948,201	14%	46%	22%
State of Wisconsin	5,686,986	7%	17%	13%

US Census, 2010

# Project Details & Features



## **33 stations**

connect regional network of major employment centers, education facilities and recreational destinations



## **Modern electric buses**

provide a quiet, comfortable, sustainable vehicle with features for easy boarding and interior bike storage



**Reliable and predictable travel times** through the use of dedicated lanes (over 50% of the corridor length), fewer stops, traffic signal priority and pre-board ticketing



## **Reduces traffic congestion**

by attracting more transit riders and removing thousands of cars from the corridor



**More frequent daily service** with buses every 10 minutes during peak hours and midday, and every 20-30 minutes in early morning, evening and late-night

# PROJECT PHASES

**2016**

East-West BRT Feasibility Study

Select Locally Preferred Alternative

**2017-2018**Federal Transit Administration  
Project DevelopmentEngineering/  
Environmental Review**2018-2020**

Final Design

**2021-2023**

Construction

**2021-2023**

Startup/Testing

Service Begins

2020

- Final Design Activities
- FTA Risk Assessment
- Small Starts Grant Agreement

2021

- Begin Construction
- FTA Coordination

2022

- Finalize Civil Construction
- Project testing

2023

- Install station amenities
- Pre-Revenue Operations
- FTA Approval for revenue service
- **June – Start of revenue service**



# Project Details – Public Outreach

## Conducting a robust outreach program

### Outreach goals

- Proactive communication
- Education and awareness
- Solicit input

### Outreach Activities

- Conduct outreach meetings and community events
- Inform with Communications and materials
- Incorporate feedback into project planning and design

**Over 250 stakeholder meetings**

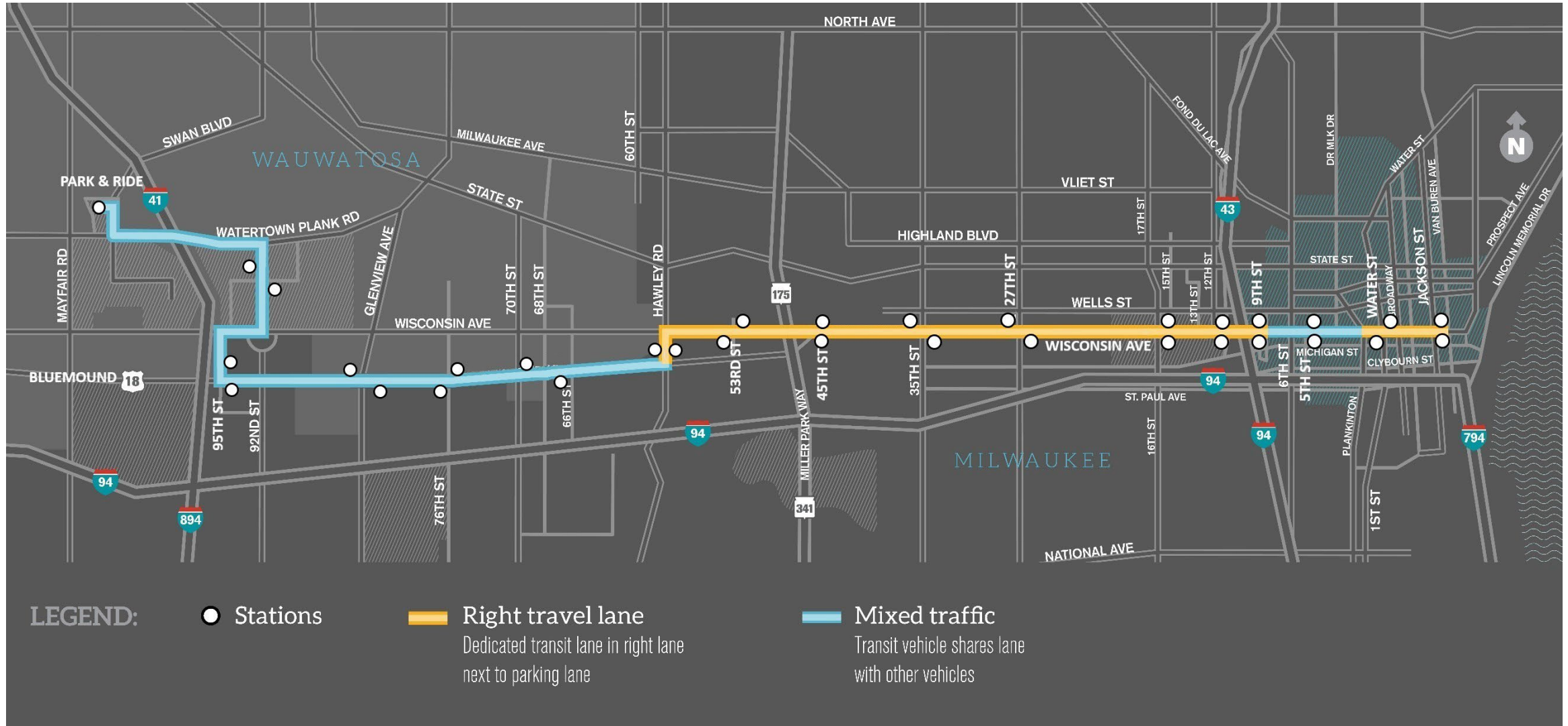
held from Jan. 2017 to Oct. 2022

## Outreach to project stakeholders:

- Elected officials
- Municipal/state technical staff
- Regional stakeholders
- Neighborhood and business districts
- Media resources
- Local stakeholders (large institutions, organizations and businesses along the route)
- Transit users
- Residents/Property owners



# The East-West Corridor



# Project Details – Station Design

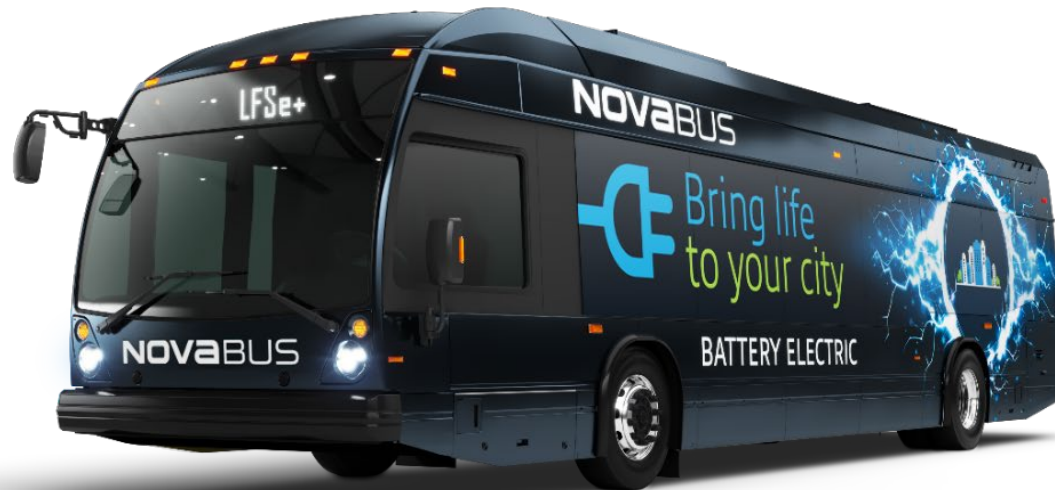


- Standard station aesthetic and features for all stations
  - Transparent façade
  - Lighting
  - ADA compliant
  - Weather-protectant shelter
  - Off-board fare collection
- On-going coordination with property owners adjacent to station locations

# Project Details – Vehicles

- 11 Nova LFSe+ Electric
- 1 in-route charger
- 8 depot chargers

**Lessons Learned:**  
Design around the vehicle





# Testing & Redesign

- Avoiding Change Orders



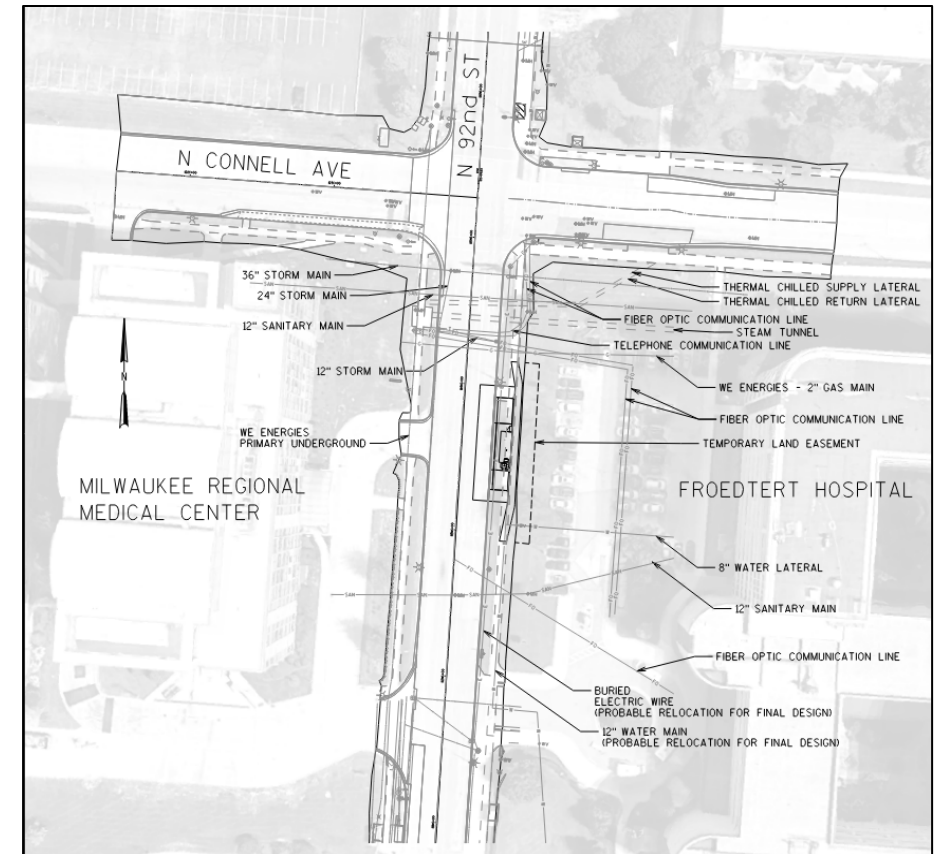


# Utility & Stakeholder Coordination

## Establishing continuity of design decisions

### Accountability

- City of Milwaukee
- Marquette University
- We Energy Utility
- MRMC/Froedtert Hospital



# East-West BRT Construction

## Continuous Stakeholder Engagement



# Lane Striping

## Continuous Stakeholder Engagement





# Field Verification

## Managing Quality of Product



# Project Details – Costs and Funding

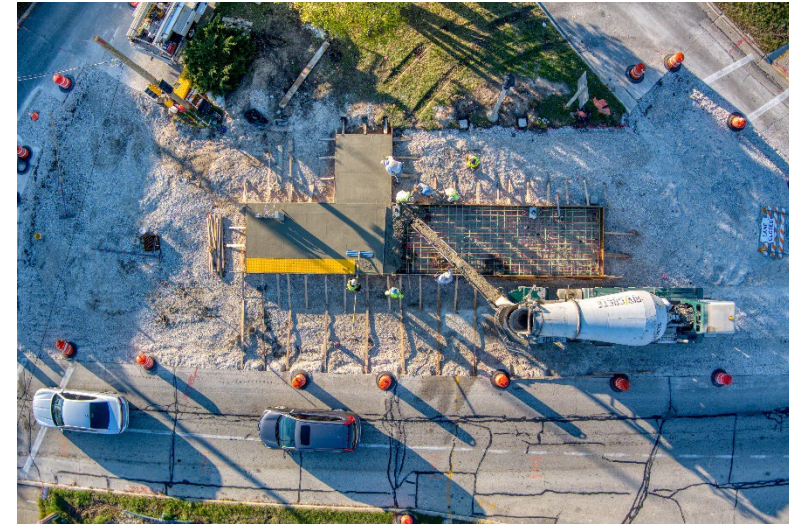
- Capital Cost (\$55.05 million)
  - Federal share (cannot exceed 80%): 79% - Capital Investment Grants (CIG) Program Small Starts \$40.9M; Section 5307 Urbanized Formula Funds \$2.3M
  - Milwaukee County match: 21%
    - ✓ \$11.7 million committed through Milwaukee County Bus Replacement Funds, Milwaukee County Signal Prioritization Project, Milwaukee County 2020 Capital Budget, Milwaukee County Bonding, and Vehicle Registration Fee Revenue.

SCC #	Description	YOE \$ (million)
10	Guideway & Track Elements	\$1.54
20	Stations, Stops, Terminals, Intermodal	\$3.31
30	Support Facilities: Yards, Shops, Admin. Bldgs	\$-
40	Sitework & Special Conditions	\$16.87
50	Systems	\$7.35
60	Row, Land, Existing Improvements	\$0.24
70	Vehicles	\$15.22
80	Professional Services	\$8.20
90	Unallocated Contingency	\$2.32
100	Finance Costs	\$-
	<b>Project Total</b>	<b>\$55.05</b>



# Coordination with FTA

- Capital Investment Grant (CIG) Program – Small Starts
- \$40.9 million (80/20) split
- Monthly and Quarterly Meeting
- Project Management Oversight Contractor (PMOC)



# Top 5 Lessons Learned

1. Robust public outreach
2. Communication and coordination within the agency  
– Establish experienced project oversight
3. Utilize resources (peer systems, financial resources, create partnerships)
4. Understanding the FTA milestones and requirements early in Project Development
5. Develop procurement strategies and project delivery method(s)



# Questions?

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**For more information:**

[www.eastwestbrtmke.com](http://www.eastwestbrtmke.com)

**Or contact:**

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