A feasibility study to evaluate bus rapid transit service in the East-West Corridor connecting major employment and activity centers between downtown Milwaukee, the Milwaukee Regional Medical Center (MRMC), and Milwaukee County Research Park (MCRP).
Major Employers and Activity Centers

- Downtown Milwaukee is the largest employment hub in Milwaukee County
  - 81,000 jobs, new investments, 25,000 residents and growing
- Corridor has retail centers and strong neighborhoods in both Wauwatosa and Milwaukee, including the Near West Side Neighborhood:
  - 30,000 employees and 40,000 residents
- The MRMC/MCRP is a significant employment center and statewide/regional destination
  - Over 16,000 employees and 30,000 daily visitors
  - MCRP has 4,600 employees
The Outcomes of East-West BRT

• **Outcomes to transit riders**
  – Improves existing corridor transit service by:
    • Operating every 10 minutes on weekdays
    • Arriving at downtown stops every 5 minutes during rush hours (either an East-West BRT or Route 30/30X bus)
    • Saving up to 13 minutes in transit travel time between downtown and the Swan Blvd. Park-and-Ride lot
      – This savings translates into over 112 hours a year, which is valued at $1,464
    • Saving up to 8 minutes in transit travel time between downtown and MRMC
      – This savings translates into over 69 hours a year, which is valued at $901
  – Connecting downtown to Miller Park in just over 15 minutes
  – Connecting Marquette to the Milwaukee Art Museum in 11 minutes
  – Connecting Wauwatosa to Riverside in 23 minutes
  – Connecting the west side (35th Street) to MRMC in just over 17 minutes
The Outcomes of East-West BRT

• Outcomes to communities
  – Provide cost-effective alternative to a car
  • Owning a car costs corridor residents an average of $755/month, compared to $64/month for an MCTS pass

• Expand mobility
  – Improve access for those who cannot or choose not to drive
  • 7,250 to 9,250 corridor residents depend on transit
The Outcomes of East-West BRT

• **Outcomes to commuters**
  – Reduce congestion
    • Removes up to 6,700 cars daily
    • Approximately 77% of those cars travelling along Bluemound Road and Wisconsin Avenue are single-occupant;
  – Improve safety
    • Dedicated lanes reduce traffic weaving
    • Dedicated lanes mean cars won’t get stuck behind buses
The Outcomes of East-West BRT

- **Outcomes to businesses**
  - Catalyze economic development
    - Peer agencies have seen $500 million or more in investment along BRT routes
  - Increase employee attraction and retention
  - Attracts businesses and community investment in station areas and along the route because the infrastructure signals permanent investment

- **Outcomes to the region**
  - First investment in a regional BRT network
  - Provide regional, multi-modal connections
  - Improve air quality
    - Generate a 17 million-mile annual reduction in vehicle miles travelled
  - Leverage federal funding that is not otherwise available locally
BRT Intelligent Transport Systems

- Transit Signal Priority (TSP)
- Queue Jump Lanes
- Real-Time Information Systems
- Closed Circuit Television Cameras (CCTV)
- Automated Passenger Counts (APC)
- Automatic Vehicle Location (AVL)
- Transit Control Center
Most ITS systems use one form or another of communications technologies.

- **Private radio networks:** Consists of a radio base, radio towers and transmitter/receivers in each bus. Enables long-distance exchange of live data.

- **Cellular:** Each bus driver has a cell phone for voice and a cell modem for data (can also be combined). Enables long-distance exchange of live data.

- **Wi-Fi:** Consists of a garage or an area with wireless access points. Each bus has a Wi-Fi bridge that links the bus to the network.
Transit Signal Priority (TSP)

TSP design and operational considerations...

- Conditional vs. Unconditional
- Centralized or Distributed
- Regional Interoperability & Integration with Other Applications
- Signal Timing, Capacity, Bus Stop locations
Real-Time Information Signs

Metro Transit, Minneapolis, MN

Notes:
• Pole mounted outside bus stops
• Used at stops with multiple routes, high ridership
• Fiber used for communications to central office

Chicago Transit Authority

Notes:
• Smaller size, integrated into shelter
• Cellular communications to center
Sales/vending technology: Given the higher-quality image and customer-friendly experience that is often one of the goals of BRT, ticket vending machines at BRT stations are typically introduced.
**Surveillance/CCTV/Security Systems**

**Surveillance devices** are principally made up of closed-circuit television (CCTV) cameras, occasionally equipped with microphones. These enable a central dispatch and/or control center to remotely monitor vehicles, stations and guideways.

**Alarms** can include passenger-activated alarm strips or buttons on vehicles or in stations, and operator panic buttons.
AVL technology is applied to monitor the location of transit vehicles in real time through the use of GPS devices or other location-monitoring methods. Information about the vehicle location is transmitted to a centralized control center in either raw data format or as processed data.
BRT Capital Cost Sharing

- **County**
  - $8.4 - 9.6 M
  - 20%

- **Federal**
  - $33.6 - 38.4 M
  - 80%

Total Cost = $42 – 48M