



Federal Transit  
Administration



SHARED-USE  
MOBILITY  
CENTER

# MOD On-Ramp Program Lessons Learned Webinar

## MOD for First/Last Mile Solutions

June 30, 2020

# WELCOME

## Lessons Learned from the MOD On-Ramp Program June 23 & June 30



Federal Transit  
Administration



In this series of two webinars, the Federal Transit Administration (FTA), the Shared-Use Mobility Center (SUMC), and the six participating transit agencies from the [Mobility on Demand On-Ramp Program \(MOD\)](#) will share lessons learned. This program provided technical assistance and project-building strategies to support six innovative MOD projects in developing concepts, partnerships, and plans to prepare for the implementation of mobility options.

### MOD for Mobility Integration

Date: Tuesday, June 23

Time: Noon - 1:30 p.m. PT / 1:00 - 2:30 MT / 2:00 - 3:30 CT / 3:00 - 4:30 ET

**Register for June 23**

### MOD for First/Last Mile Solutions

Date: Tuesday, June 30

Time: Noon - 1:30 p.m. PT / 1:00 - 2:30 MT / 2:00 - 3:30 CT / 3:00 - 4:30 ET

**Register for June 30**

# HOUSEKEEPING

All attendees are muted and cameras off

Closed captioning available

Submit questions through Q&A box

Questions are going to be addressed during the Q&A portion of this webinar

Chat box to interact with other participants

Webinar recording will be available at the [MOD Learning Center](#)

# AGENDA

## Opening Remarks

- Federal Transit Administration
- Shared-Use Mobility Center

## Presentations

- MATA: Microtransit for Low-Density Area
- BART: On-Demand Accessible Ride-Hailing
- MDOT MTA: Access to Opportunity Microtransit

## Q&A Session



**Rik Opstelten**  
Program Manager



**Sharon Feigon**  
Executive Director

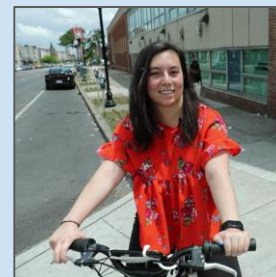
**Alvaro Villagran**  
Program Manager



**John Lancaster**  
Director of Planning  
and Scheduling



**Bob Franklin**  
Department Manager for Customer  
Access and Accessibility



**Jade Clayton**  
Senior Planner





**Federal Transit  
Administration**



## Research &amp; Innovation

## Research &amp; Reports &gt;

## Technology &gt;

## Transit Automation &gt;

## Training and Workforce Development

## Bus Rapid Transit &gt;

## International Public Transportation Program &gt;

## Bus Testing &gt;

## Recipient Resources

## Related Links

## FAQ

## Integrated Mobility Innovation

## Transit Automation Research

## Related Links

- [Sign Up for Updates](#)
- [Shared Mobility guidance](#)
- [Transit Cooperative Research Program](#)
- [Harnessing Innovation for Public Transportation](#) 

## Research & Innovation

FTA envisions the US having a world-class public transportation system with access and mobility for all. FTA's research strives to advance public transportation innovation by leading research, development, demonstration, deployment, evaluation, and implementation practices and technologies that enhance effectiveness, increase efficiency, expand quality, promote safety, and ultimately improve the transit rider's experience.



Through testing and deployment, FTA's Research, Demonstration and Innovation program helps the transit industry adopt tried-and-proven technologies. Demonstrations of new technologies can reduce risk and help create both supply and demand. Learn more about FTA's research program in our latest video, [Harnessing Innovation for Public Transportation](#).

### What's New

- In May, FTA posted research reports on the [demonstration of a fuel cell electric bus in Birmingham, AL](#), the status of seven 2016 Safety, Research and Demonstration (SRD) projects, and a Mobility on Demand (MOD) research and demonstration project in Palo, Alto, CA.
- On May 26, 2020, FTA announced a \$1.25 million funding opportunity to demonstrate and evaluate [innovative technologies and designs to improve the state of good repair](#) for transit agencies.
- FTA's [Accelerating Innovative Mobility \(AIM\)](#) initiative highlights FTA's commitment to support and advance innovation in the transit industry and promotes forward-thinking approaches to improve financing, system design, and service.

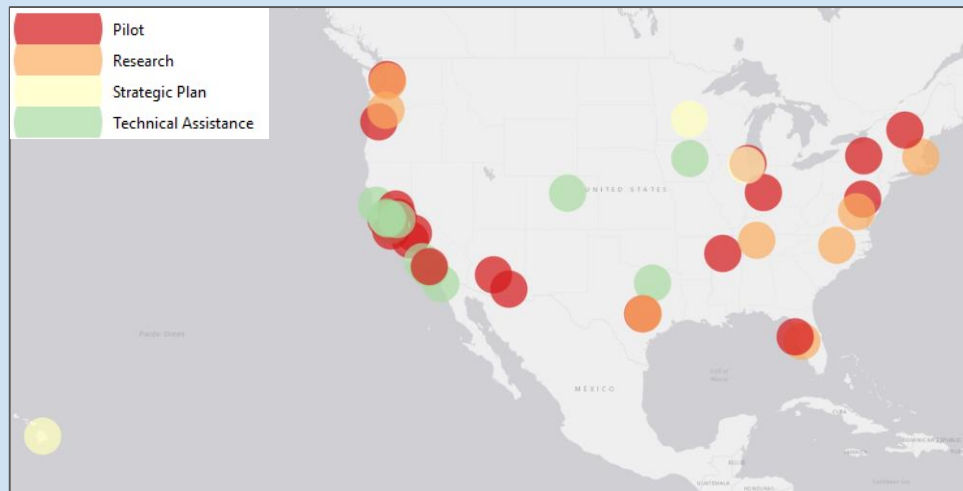
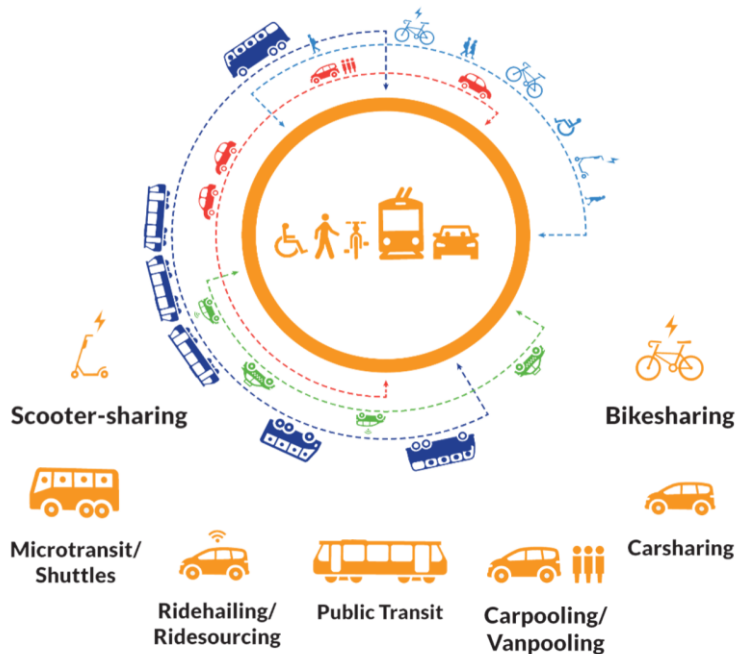


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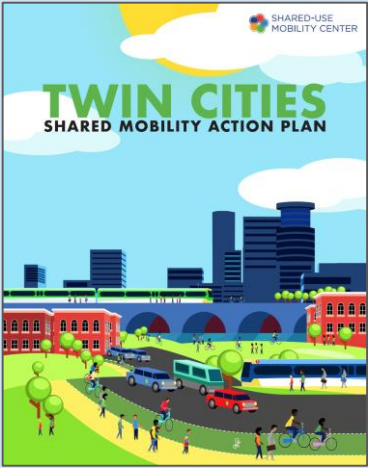
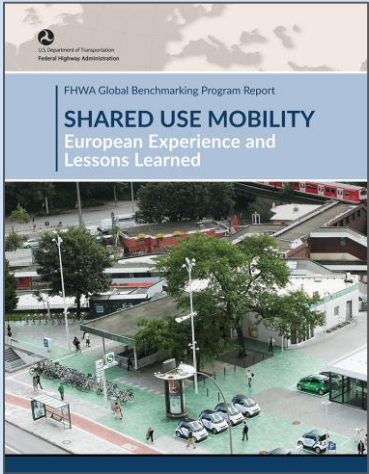
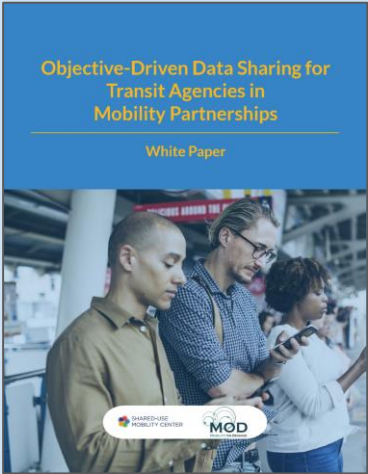


# Shared-Use Mobility Center

## Creating a Multimodal Transportation System that Works for All




# Shared-Use Mobility Center




# Mobility on-Demand Learning Center

[learn.sharedusemobilitycenter.org](https://learn.sharedusemobilitycenter.org)

METRO PROFILES DEFINITIONS EMISSIONS

## Learning Module: Microtransit



Credit: SUMC

### Overview

Microtransit, like most on-demand mobility services, is less a completely new mode than an evolution of existing modes enabled by technology. Unlike many of the other shared modes, microtransit can take many forms in how it operates, the types of vehicles it uses, and the forms of partnerships (if any) that enable it. This variation leads to a wider range of definitions than the other shared modes, as discussed below. The broad range of possible applications for microtransit can also lead to its use for meeting existing transportation challenges. This Learning Module attempts to bring the mode into focus for public agency planners. An examination of previous pilots and resulting studies indicate that microtransit is not a one-size-fits-all solution. Rather, it is one of many tools available to help meet the mobility needs within a community.

### Case Study: Vermont Flexible Trip Planner: Bringing Fixed and Flexible Transit Together on a Single Platform

**Author:** Shared Use Mobility Center

The Vermont Agency of Transportation (VTtrans), in partnership with Trillium Solutions and Cambridge Systematics, developed an online trip planning tool that provides statewide options that include flexible transportation services such as dial-a-ride, hail-a-ride, and deviated fixed-route trips. The tool allows users—and in particular, rural transit system users—to gain a more complete picture of their mobility options when planning a trip. The online platform was developed as a pilot project within the Federal Transit Administration's Mobility-on-Demand Sandbox program. Since its launch, several other transit agencies have taken steps to replicate the initiative's resulting technologies.

This case study explores how VTtrans developed and marketed this tool, as well as its implications for the future of multi-agency, one-stop-shop trip planning platforms.



Source: VTtrans; tablet displaying trip planning tool in front of VT Moover Bus

### Case Study: COVID-19 Resource Homepage

On March 11<sup>th</sup>, 2020, the World Health Organization declared [coronavirus COVID-19](#) a worldwide pandemic. While responses to the spread of COVID-19 throughout the spring of 2020 varied by outbreak severity, location and culture, many people around the globe found themselves suddenly facing unfamiliar restrictions on their movements and their access to familiar services.

This homepage aims to serve as a centralized hub for insights into how cities and transportation sectors have been impacted by the virus and the resulting travel restrictions, as well as how public agencies and shared mobility operators have responded. The page will be regularly updated as new resources become available, and as trends and lessons emerge in the aftermath of the crisis.



Source: CDC

#### In This Case Study

- Overview
- SUMC Publications
- External Resources

Date: May 18, 2020


Topics: Coronavirus, COVID, COVID-19

Modes:

#### SUMC Publications

**Status Updates:**


These status updates are part of SUMC's ongoing effort to explore how cities and transportation sectors are impacted by the novel COVID-19 coronavirus. Subsequent status updates on the coronavirus's impact on transit and shared mobility will be published as new information is shared.

METRO PROFILES DEFINITIONS EMISSIONS CALCULATOR ABOUT SUMC LOGIN

## Shared Mobility Benefits Calculator: Portland, OR, USA

### Current Statistics

Population	630,331	Total Commuters	335,088
Vehicles	391,408	Transit Commuters	41,334
Households	260,949	Carpool Commuters	29,758
Transportation CO <sub>2</sub>	1,735,311	Vanpool Commuters	209



### Calculate the potential benefits for Portland

Fixed Setting sets an overall percent reduction target and calculates savings across a set mix of modes.

Mixed Setting allows you to customize the targets for each mode and see the overall impact.

### Set Overall Emissions Reduction by Mode

Select Approach: Fixed Setting Mixed Setting 5% 90%

Emission Reduction Desired: 25%

**1,433,828** CO<sub>2</sub> Reduction tonnes per year

**1,066,955,224** Vehicle Miles Travelled (VMT)

### Reductions by Transit and Shared Mobility

<b>Bikeshare</b> Add 10,794 bicycles	<b>Shared Scooter</b> Add 11,124 scooters	<b>Carshare Cars</b> Add 2,495 shared cars
<b>Transit Commuters</b> Add 114,592 transit commuters	<b>Carpool Commuters</b> Add 53,974 carpool commuters	<b>Vanpool Commuters</b> Add 22,835 vanpool commuters
<b>Telecommuters</b> Coming Soon		

### Additional Reductions Through Electrification

<b>Transit Electrification</b> Replace 100% of transit vehicles	<b>Carshare Electrification</b> Replace 100% of carshare vehicles	<b>Personal Vehicle Electrification</b> Replace 50% of personal vehicles
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### Impacts of Shared Mobility Plus EVs

<b>1,987,034</b> Total CO <sub>2</sub> Reduction including electrification	<b>156.9%</b> Final CO <sub>2</sub> Reduction including electrification
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# MOD On-Ramp Program

# Objectives

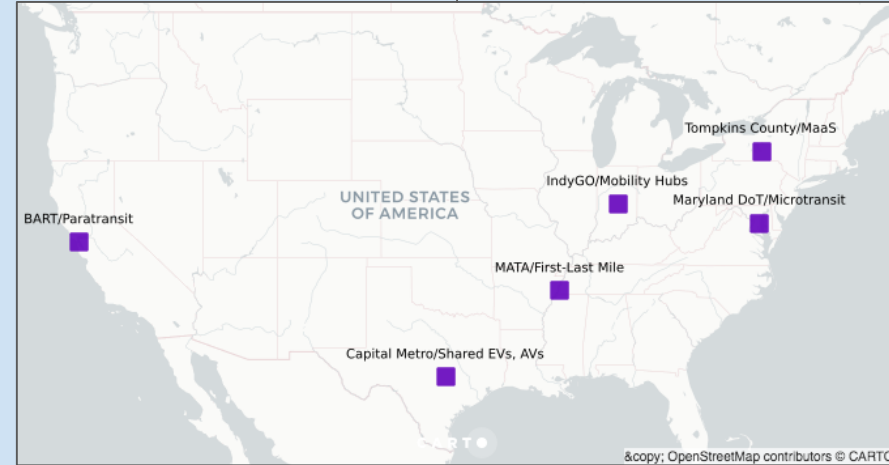
The MOD On-Ramp program serves as an incubator to develop innovative mobility ideas and to convert them into implementable (business) plans

Participate in a community of transit agencies developing MOD projects

Create practical knowledge and lessons learned to disseminate with the transit and mobility industry



## MOD Sandbox Projects





# MOD On-Ramp Project Selection Process

Call for applications and webinar

About 40 applications received

Independent reviewers group

Criteria-based project selection



# Technical Assistance

Applied Research

Community of MOD agencies

Project-Building Strategies

Facilitate Partnership

Community Engagement

Plan Development

Identify Funding



**You are invited to  
attend a **COMMUNITY  
MEETING** to  
learn more about a  
new **BOXTOWN and  
WESTWOOD**  
neighborhood  
**PUBLIC TRANSIT**  
project**

*Join the MATA team on  
Wednesday, November 14  
at 1:30 AND 6 p.m.  
at the Charles Powell  
Community Center  
810 Western Park Drive*





# Activities

Technical Assistance

Monthly calls

Webinars

On-Site Visits

Local Workshops

National MOD Workshops

Industry Events



# Local Workshops



# MOD National Workshops





# Lessons Learned

Projects moving towards Implementation

Transit Agencies becoming Mobility Integrators

Innovative Partnerships

Integration of Technologies

Expanding Mobility Options



# THANKS



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**MEMPHIS, TN**

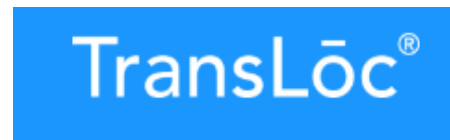


# Memphis Area Transit Authority Mobility on Demand For First/Last Mile Solutions

June 30, 2020

# PARTNERSHIPS

- The University of Memphis
- Innovate Memphis
- TransLoc (a Ford Mobility company)



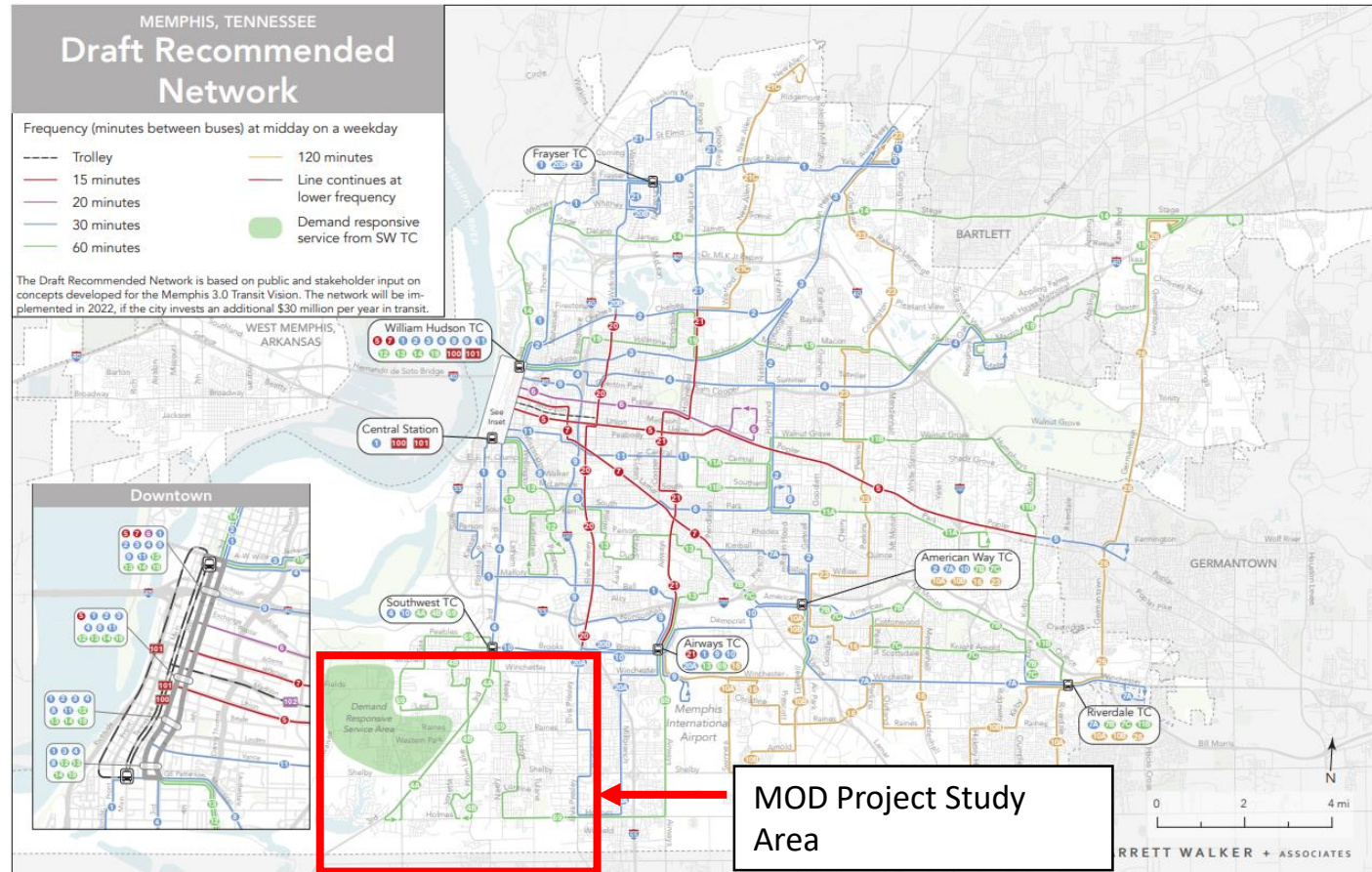


# PREVIOUS ON-RAMP ACTIVITIES

Three Community Meetings to meet with community stakeholders and neighborhood residents:

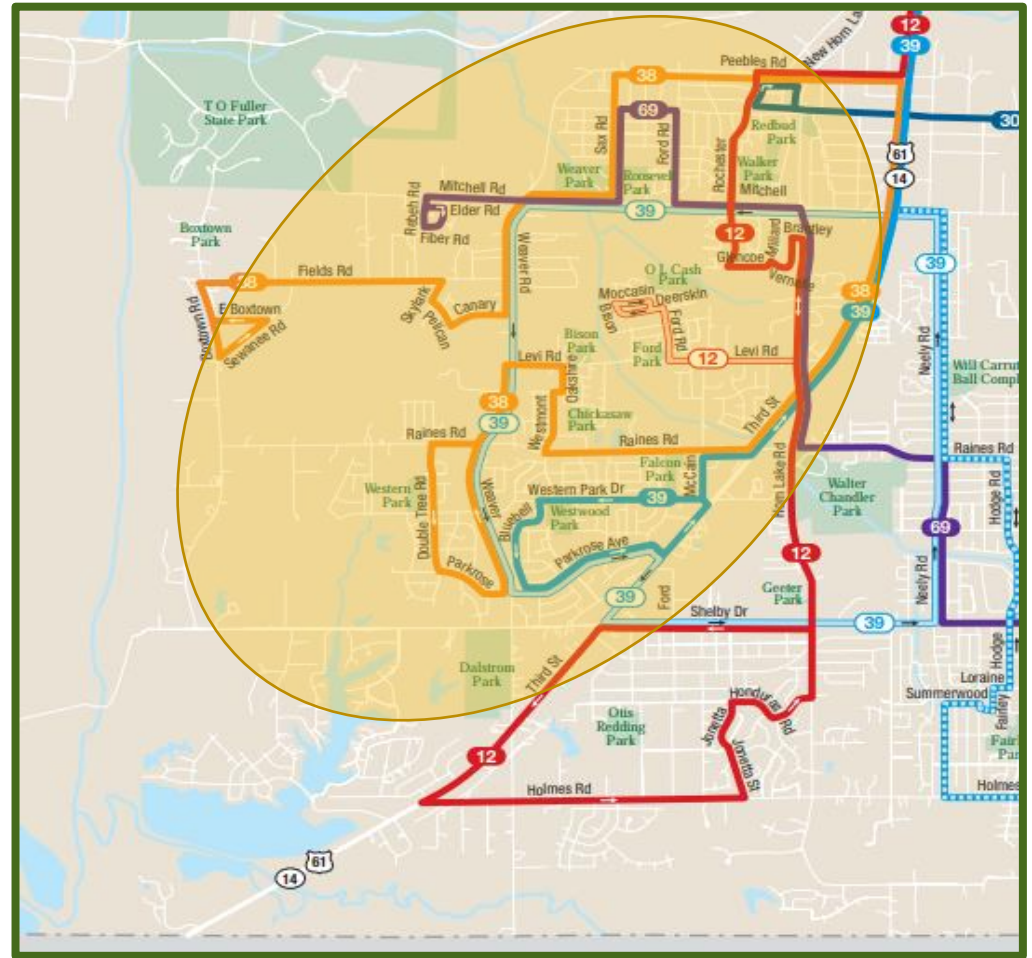
- **November 14, 2018** held at the Charles Powell Community Center
- **July 25, 2019** held at Mt. Vernon Baptist Church
- **August 22, 2019** held at Mitchell Community Center at the request of a community organization
- Completion of the Business Plan

# Memphis 3.0 Comprehensive Plan & Transit Vision



# PROJECT OVERVIEW

- Implement a Mobility-on-Demand Pilot Project in the Boxtown/Westwood Neighborhood of Memphis, TN.
- The Boxtown/Westwood Neighborhood is served by Routes 38, 39, 12, and 69.
- Due to the population demographics and land use patterns, there is low ridership on route 38.
- The Transit Vision identified the Boxtown/Westwood community as an ideal location for Demand Responsive Transit.



# SERVICE SIMULATIONS AND BOUNDARY EXTENSION

Based on the results of the simulations that were performed by TransLoc, the original boundaries of the pilot project service area were expanded to include a larger area of southeast Memphis.

Many of the destinations or points of interest were located in the adjacent Whitehaven community.

By expanding the boundaries, we are better able to serve the needs of the community and improve first/last mile connections.



# PROJECT GOALS

- Provide a new microtransit service that will supplement fixed-route service in the area.
- Provide an equitable, scalable and replicable model service.
- Improve mobility and access by providing first/last-mile connections to fixed-route bus service.
- Decrease average travel time.
- Encourage MATApplus customers to use Microtransit.
- Provide a complete trip.
- Improve accessibility and resident's quality of life.

# PROJECT CHALLENGES

- 30% of the population is over the age of 64.
- 13.8% of the population is school-aged (5-17).
- Low-density land use patterns that are difficult to serve with fixed route transit.
- Limited access to smartphones with data plans.
- Long wait times with fixed-route service preclude many residents from using transit as a viable option to reach employment and other destinations.
- Educating & familiarizing residents with new technology and new service.
- Identifying key destinations and drop-off locations.
- Respond to numerous challenges due to COVID-19 pandemic.



# LESSONS LEARNED

- Residents are highly concerned about receiving service even though the area has low demand and it is difficult to serve.
- Transit Vision and the route system redesign provided microtransit an opportunity to incorporate flexibility into the service while improving mobility and access for residents
- Moving forward required working with the community
- The Transit Vision redesign provided MATA the ability to connect with other partners and expand the pilot project to link with other projects such as the new fare system implementation, website redesign, BRT planning and design as well as other stakeholders such as the Downtown Memphis Commission and Memphis Medical Design Collaborative for a broader systemwide effort.

# LESSONS LEARNED

- Ensure strategic communications with elected officials and the community.
- Engage internal staff early and obtain buy-in and ownership of the project.
- Plan for employee turnover and how to transition from planning to operations.
- Expect the unexpected – COVID-19, which has created a new need for the technology and services offered by the microtransit pilot project.
- Utilize all your available resources – FTA, SUMC, Peer Agencies, Vendors, and Consultants.



# NEXT STEPS

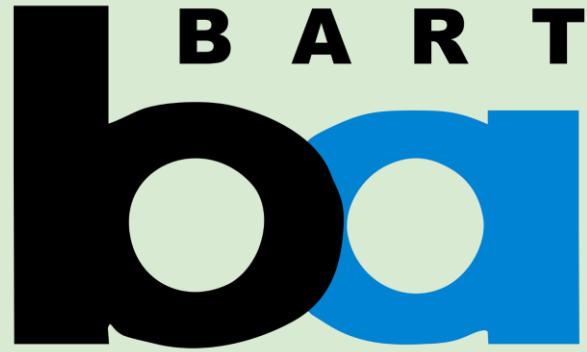
- Continue Community Engagement.
- Acclimate and Train MATA operators, dispatch, and customer service staff.
- Order Vehicles & Equipment.
- Set up Call Center.
- Complete Naming, Marketing, and Branding.
- Interface TransLoc's Software with MATA's existing systems.
- Identify specific Launch Date for service to go live. Current Project Launch Date is late Fall 2020.

# THANK YOU!

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Tiena Gwin, Project Manager  
[tgwin@matatransit.com](mailto:tgwin@matatransit.com)





SAN FRANCISCO BAY AREA, CA



# **MOD On-Ramp Program: First/Last Mile Solutions**

Lessons Learned  
June 30, 2020

**BART's Project:**  
On-Demand Accessible Ride-Hailing



# Original Project Motivation

When a BART elevator is out of service, wheelchair users are prevented from entering or exiting that station.

Currently it takes a long time to get a vehicle to assist this passenger.

On-ramp: use a staged vehicle to transport passengers to adjacent stations with working elevators.

# Project Objectives

## Mission

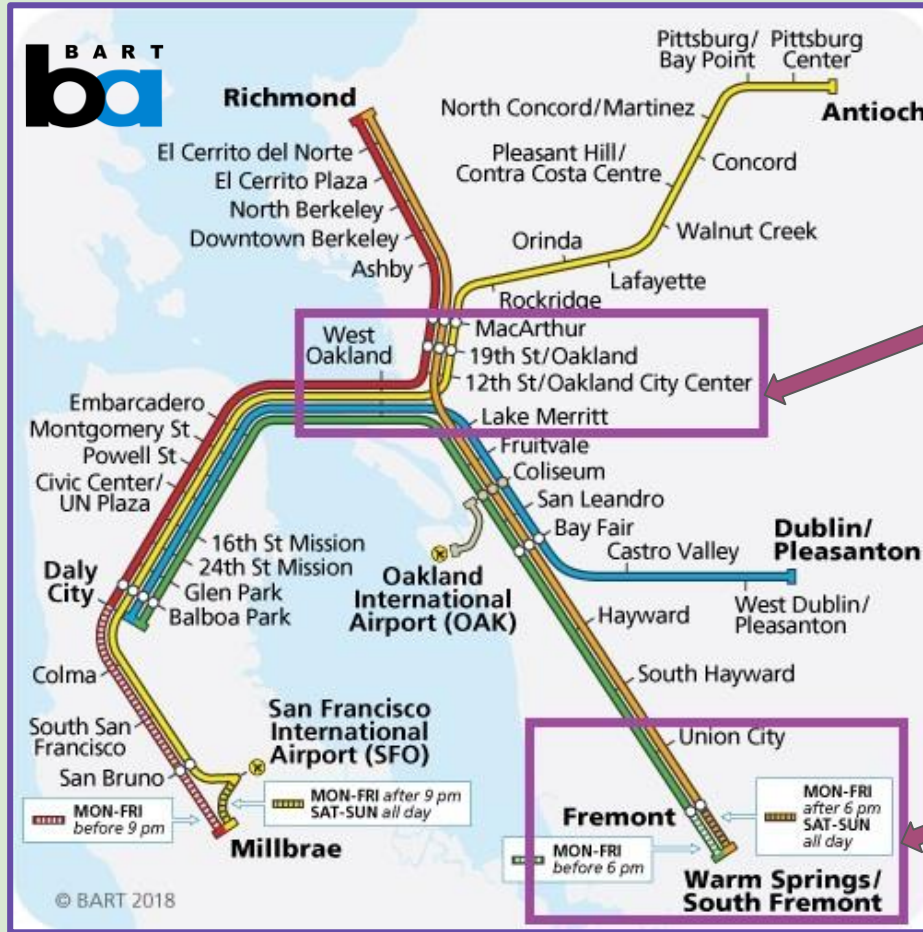
- Improve on-demand mobility options around transit hubs for people using wheelchairs.

## Goals

- Offer an on-demand ride-hailing service with wheelchair accessible vehicles.
- Improve access to an existing public transportation network.
- Provide an accessible first and last mile alternative.



# Pilot Locations: *A test of two environments*



## Urban area

Downtown Oakland, with 5 BART stations in a high density city center.

## Suburban area

City of Fremont, with nearby hospitals and limited transportation alternatives.



# Initial Concept for On-Ramp Grant

- Give pre-qualified drivers access to staged wheelchair accessible vehicles (WAV) at BART stations to transport passengers with wheelchairs.
  - Non-dedicated WAVs removes specialized resources from those who need it.
- Increase fleet size of WAVs at transit hubs.
- For BART elevator mitigation trips only.
- Operated by pre-qualified TNC drivers.



# Evolution of Project

- Public process of the On-Ramp grant began to change and improve initial concept.
  - In-person meetings
  - Workshops
  - Conversations with stakeholders
  - Project Feasibilities

# Pilot Elements

**Riders**: Only for wheelchair users and for short, on-demand trips.

**Where**: To or from transit hubs, hospitals, and city-run service programs.

**Drivers**: Pre-qualified drivers trained to transport passengers with wheelchairs.





**Vehicles**: Wheelchair accessible vehicles staged near transit hubs. Drivers granted access upon trip request.

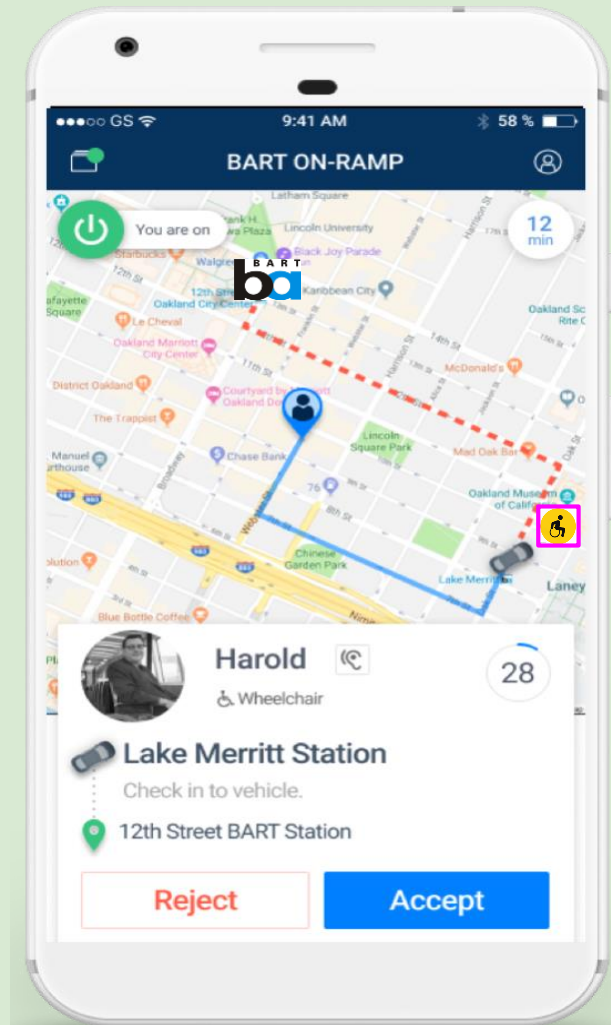
**App**: An app that pairs riders, drivers and vehicles all together.



*Project partners discussing logistics*

# Sample Trip - Driver View

- Trip request goes out to nearby pre-qualified drivers.
- Driver (  ) accepts ride request.
- Driver picks up shared-use wheelchair accessible vehicle (  ) staged near a transit hub.
- Driver picks up passenger (  ).
- Driver transports passenger to adjacent BART station (  ).



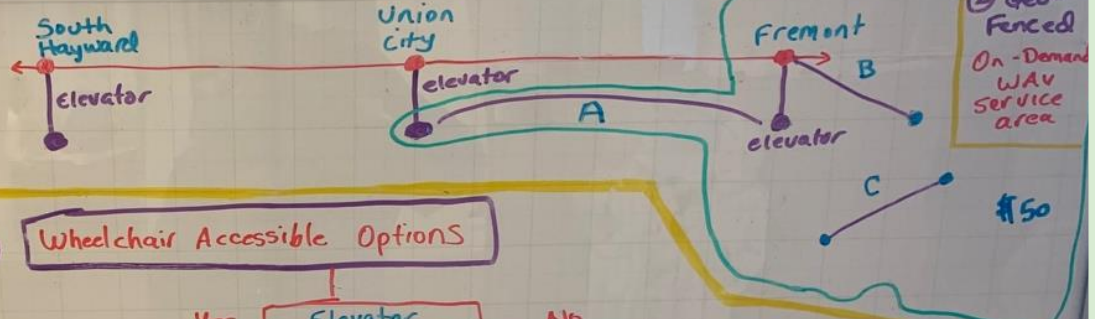
# Key Partners

- Cities of Oakland and Fremont
- East Bay Paratransit, *a paratransit broker*
- Metropolitan Transportation Commission, *a regional MPO*
- Community Resources for Independent Living (CRIL)
- Goin, *a software developer*
- Driver organizations
- BART Accessibility Task Force



# Draft Flowchart

Add "Elevator Required" preference to Trip Planner linked to elevator status



## Support

- 1 CIL
- 2 BART
- 3 BART
- 4 MTC
- 5 GoIn
- 6 Transight
- 7 AC
- 8 ACTC
- 10 Perdeep
- 11 CRIL
- 12 Senior Lift Congress

## Autg

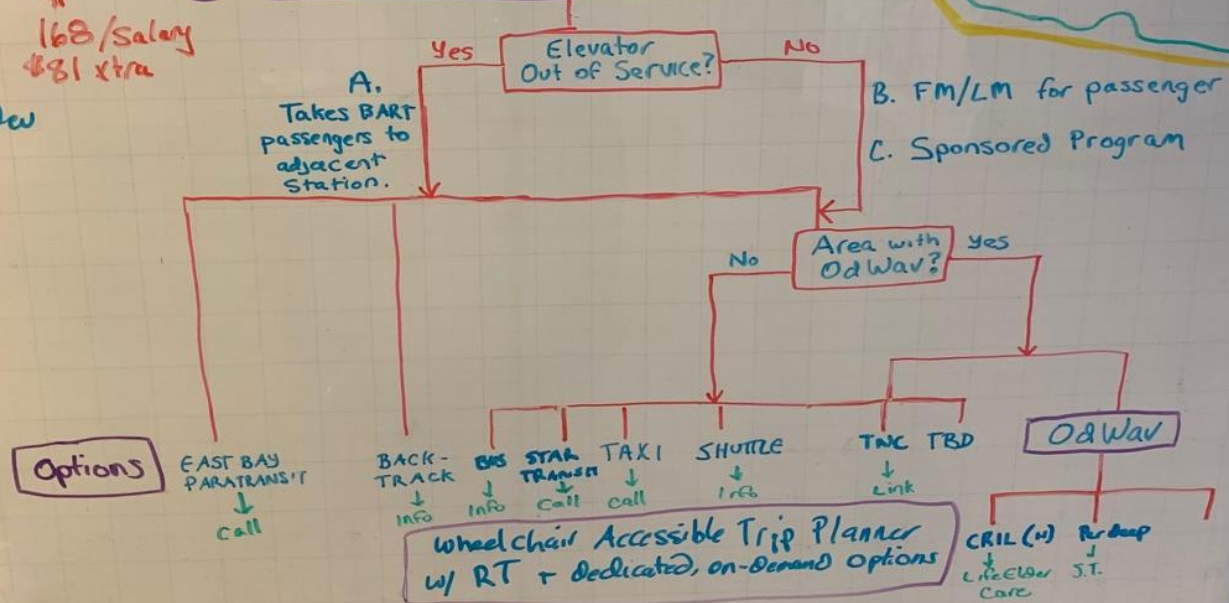
C off F  
C of  
Transden

## 168/salary

\$81 extra

③

## Wheelchair Accessible Options





# Value of On-Ramp Process

Initial concept has been constant: provide on-demand rides for people who use wheelchairs. But implementation tactics have changed.

	Initial Thought	Updated Proposal
Drivers	TNC Drivers	Known Pool of Drivers
Vehicles	BART-managed	Added other interested parties
Trip Purpose	BART elevator mitigation trip only	Anyone with a wheelchair
Use Case	Between 2 BART stations	Anywhere in geofenced area
Ride option	Staged vehicle only	Comparison of all options available



# Upcoming Work

- Create app to provide all options available.
  - Scalable
  - Easy to add new alternatives
- Look for funding to pilot this concept.
  - Grant applications
- Lessons learned
  - Listen to people to help develop initial concept
  - Engage the public, partners and future users



## **Bob Franklin**

BART Director, Customer Access and Accessibility

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MARYLAND DEPARTMENT  
OF TRANSPORTATION™

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MARYLAND TRANSIT  
ADMINISTRATION

BALTIMORE, MD

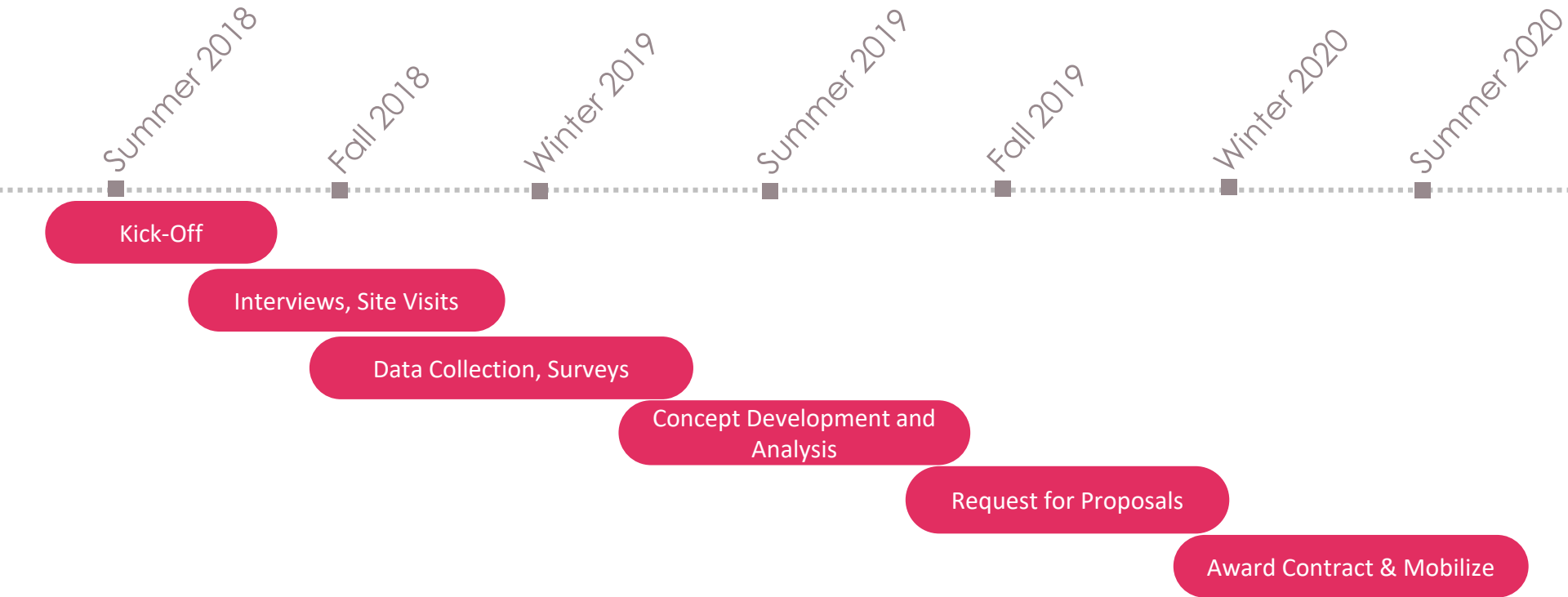


# Access to Opportunity Microtransit Project

June 30, 2020

Lessons Learned from the MOD On-Ramp Program

# Project Overview



# MOD On-Ramp

- **2018** - Applied for On-Ramp
  - Previous studies, stakeholder engagement, data
  - Strong case for third shift workers, persistent need
- **Identified opportunities with LocalLink 75.**

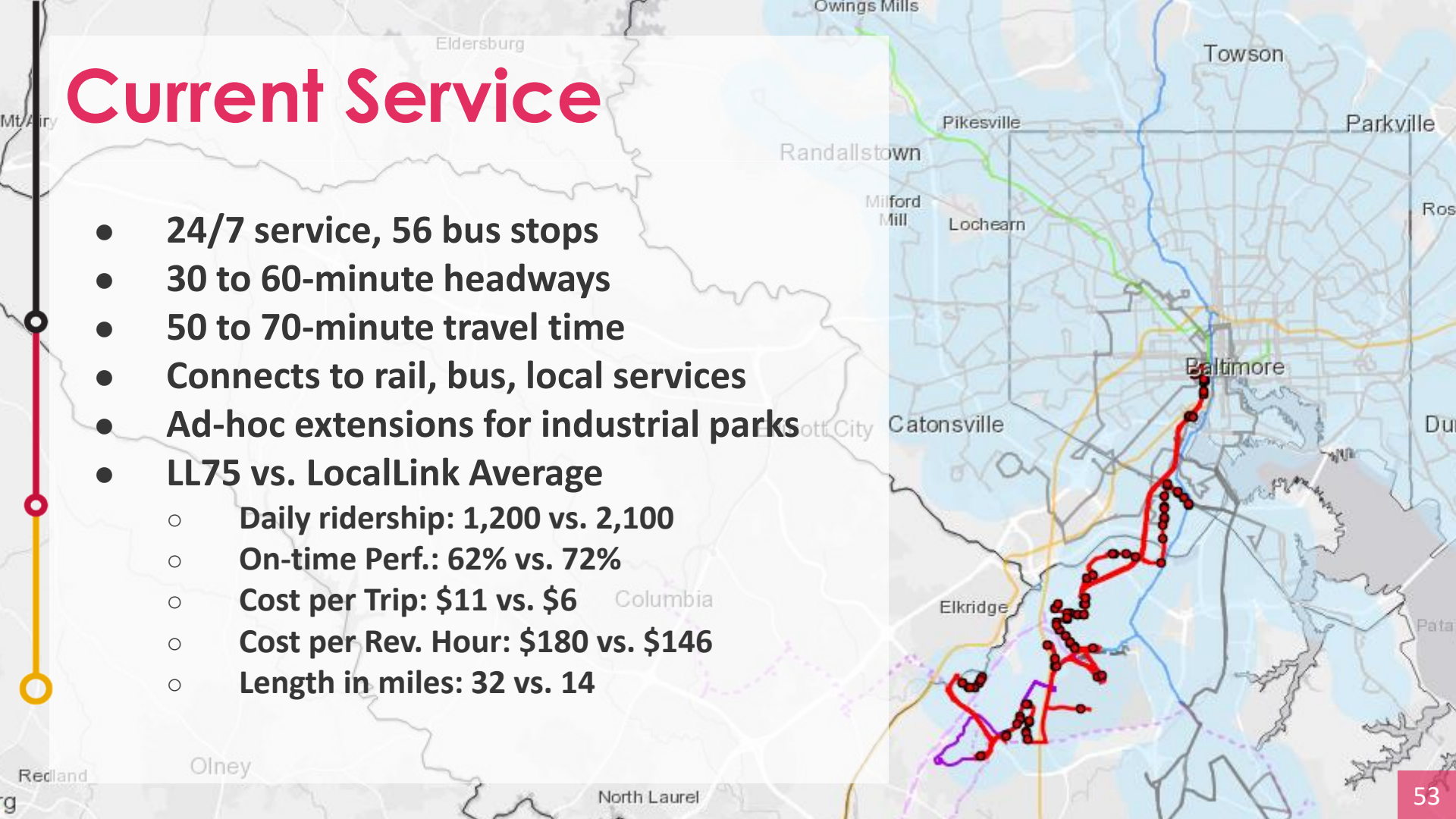


LocalLink 75 and nearby employment centers.

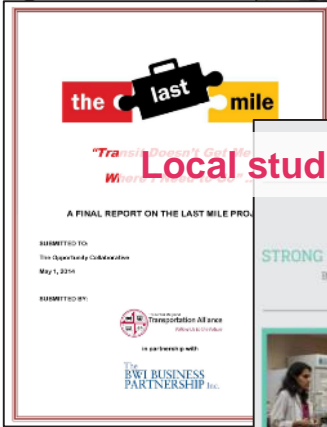


# Current Service

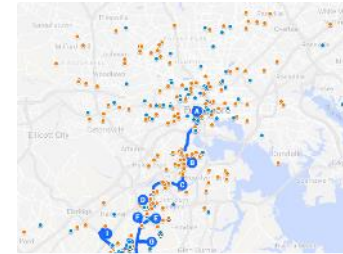
- 24/7 service, 56 bus stops
- 30 to 60-minute headways
- 50 to 70-minute travel time
- Connects to rail, bus, local services
- Ad-hoc extensions for industrial parks
- LL75 vs. LocalLink Average
  - Daily ridership: 1,200 vs. 2,100
  - On-time Perf.: 62% vs. 72%
  - Cost per Trip: \$11 vs. \$6
  - Cost per Rev. Hour: \$180 vs. \$146
  - Length in miles: 32 vs. 14



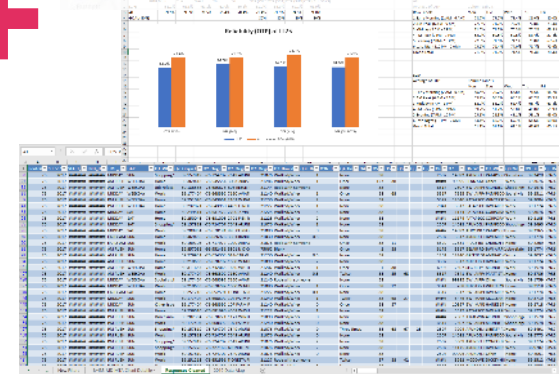
# Problem Identification



Site visits, route tours,  
interviews, rider surveys



Data and spatial analysis

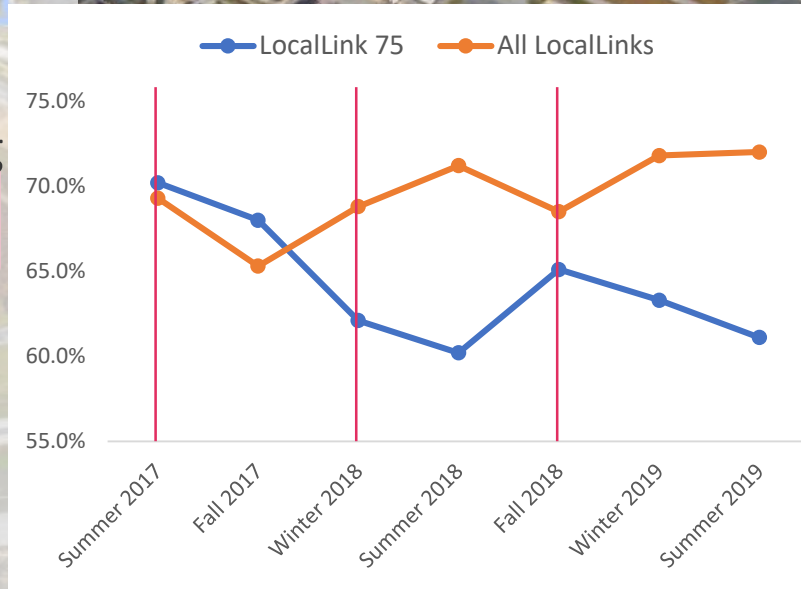




# Problems Identified

## Rapid Suburban Development

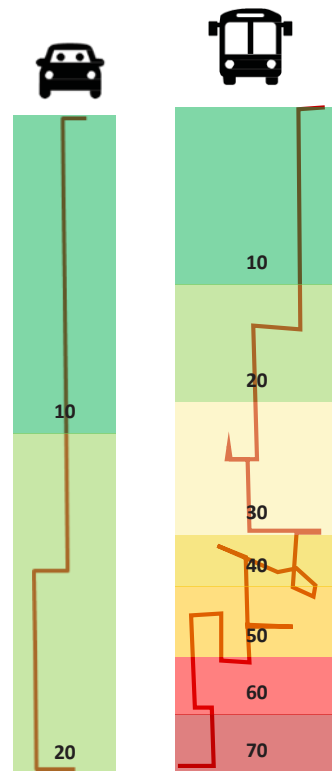
- Employment centers oriented away from existing transit
- On-time performance and frequency falling with each new segment added



# Problems Identified

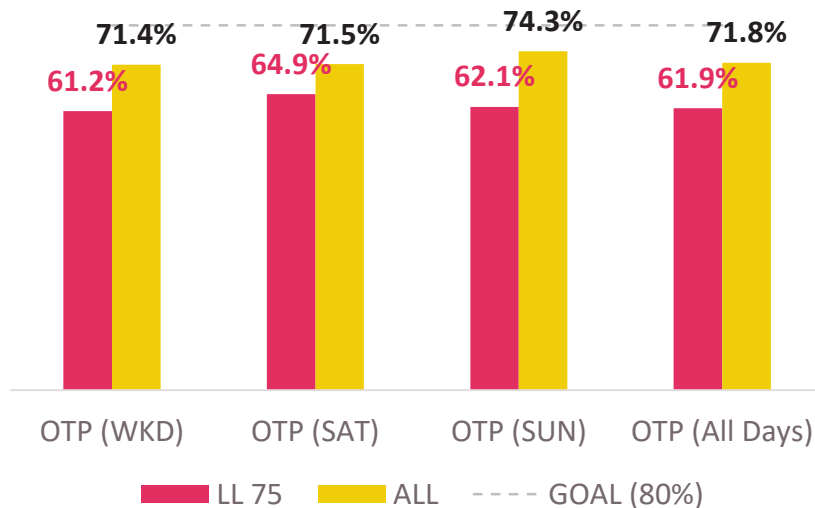
## Transit Travel Time vs. Driving

- Expect commute by bus to take about 1.7x longer than driving.
- On LL75, taking the bus is 3.2x longer than driving
  - 1.6x longer from Patapsco to the airport (northern half)
  - 2.6x longer from the airport to the mall/casino (southern half)

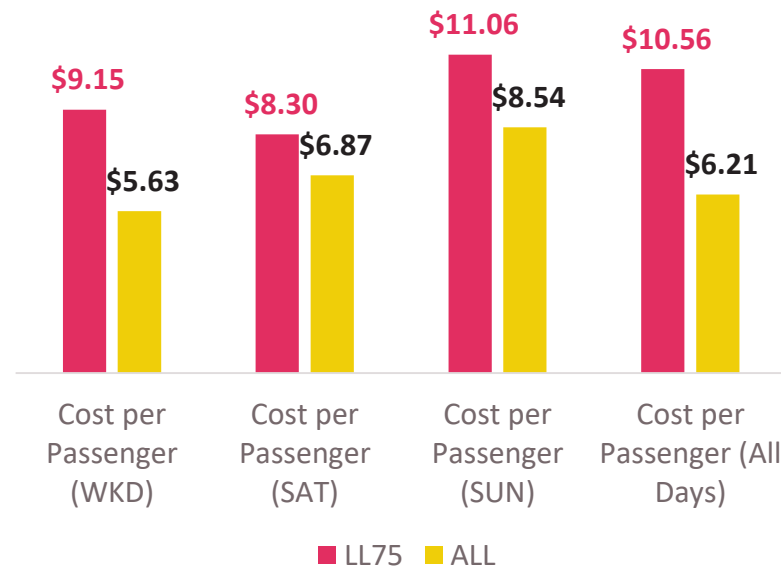


# Problems Identified

LL75 has below average on-time performance (2018)



LL75 costs more per passenger than other LocalLinks (2018)



# Problems Identified

## More learned from surveys

- Total of 310 complete responses
- **70% transfer more than once**, 32% transfer twice to complete their trip
- **93% walk** to/from the bus stop.
  - “long, lonely walk” around/across parking lots, near busy traffic, etc.
- **74% pay cash**, 14% pay cash for one-way fare
- Few riders **have data plans**, and **fewer use credit cards or mobile payment apps**
- Fewer than 25% use Uber or Lyft

Unsignalized  
Entrance

MTA Light Rail

CSX Rail

Desire Line

Start

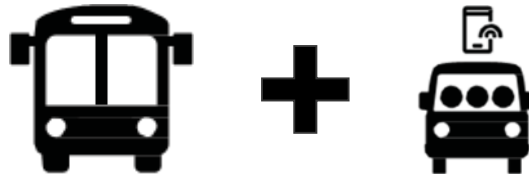
Start

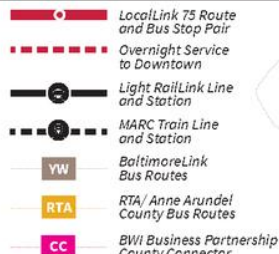
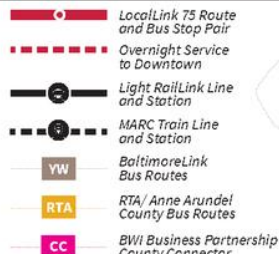
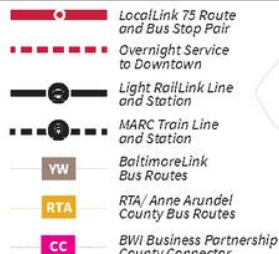
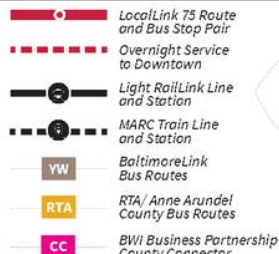
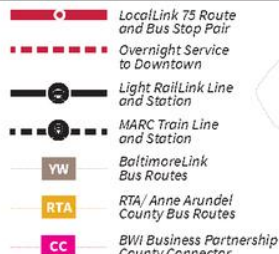
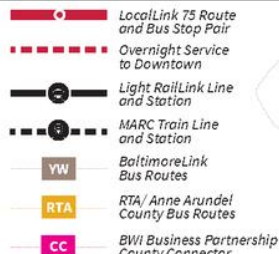
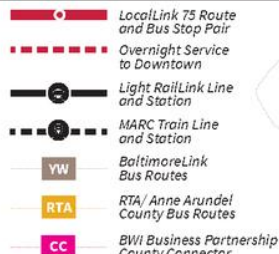


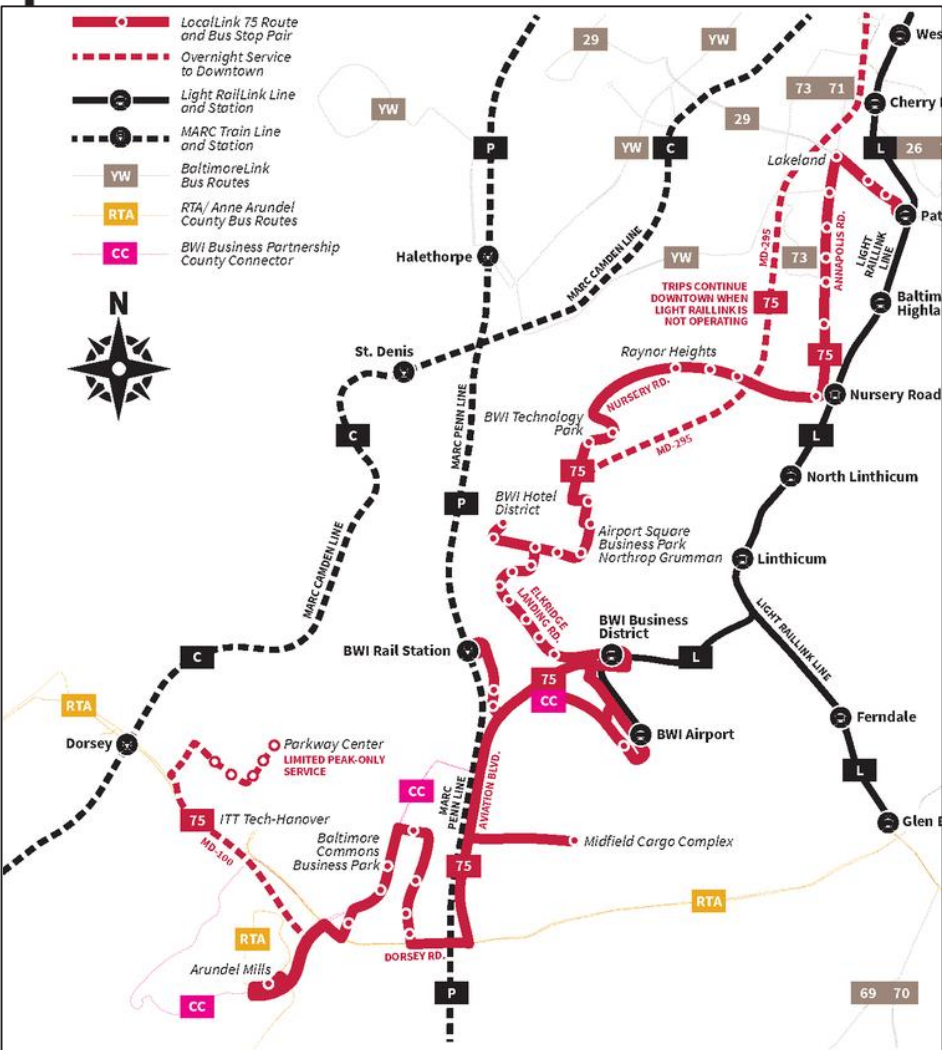
# Proposed Solution

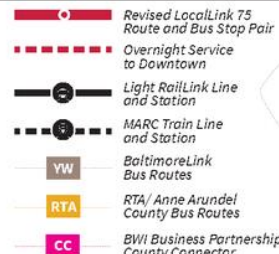
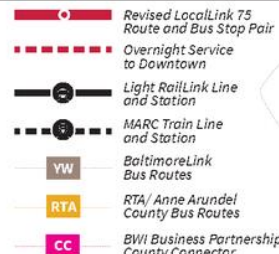
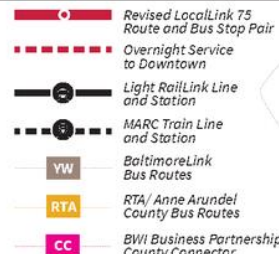
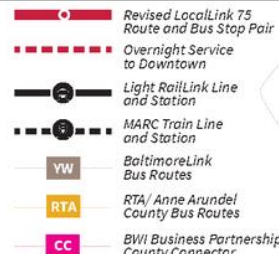
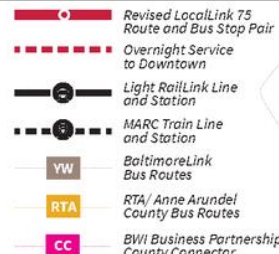
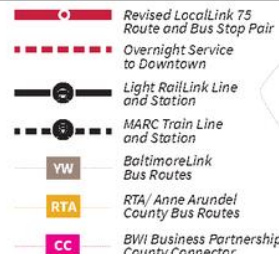
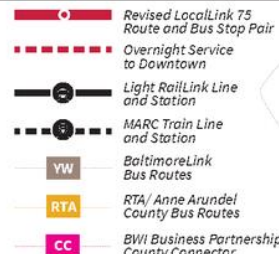
**Why:** Improve the reliability, flexibility, and overall quality of service for existing riders and potential new riders.

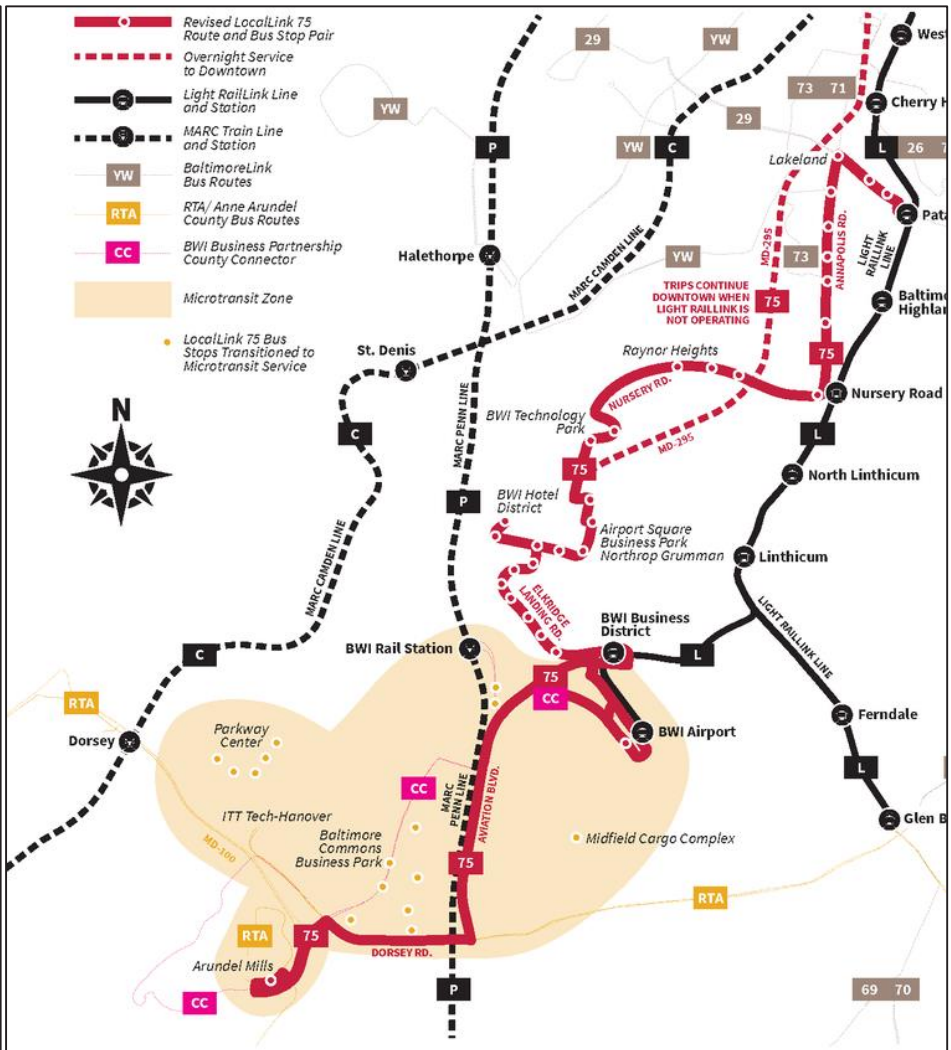
**How:** Leverage available technology, vehicles, and service models to enable on-demand, right-sized, flexible service.



-  LocalLink 75 Route and Bus Stop Pair
-  Overnight Service to Downtown
-  Light RailLink Line and Station
-  MARC Train Line and Station
-  BaltimoreLink Bus Routes
-  RTA/ Anne Arundel County Bus Routes
-  BWI Business Partnership County Connector

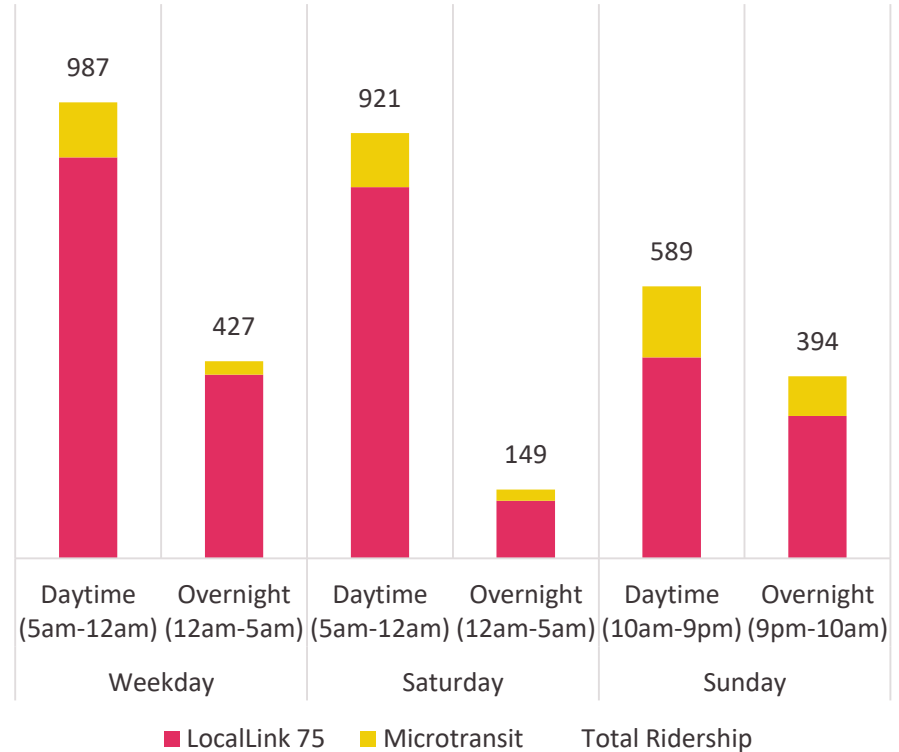


-  Revised LocalLink 75 Route and Bus Stop Pair
-  Overnight Service to Downtown
-  Light RailLink Line and Station
-  MARC Train Line and Station
-  BaltimoreLink Bus Routes
-  RTA/ Anne Arundel County Bus Routes
-  BWI Business Partnership County Connector



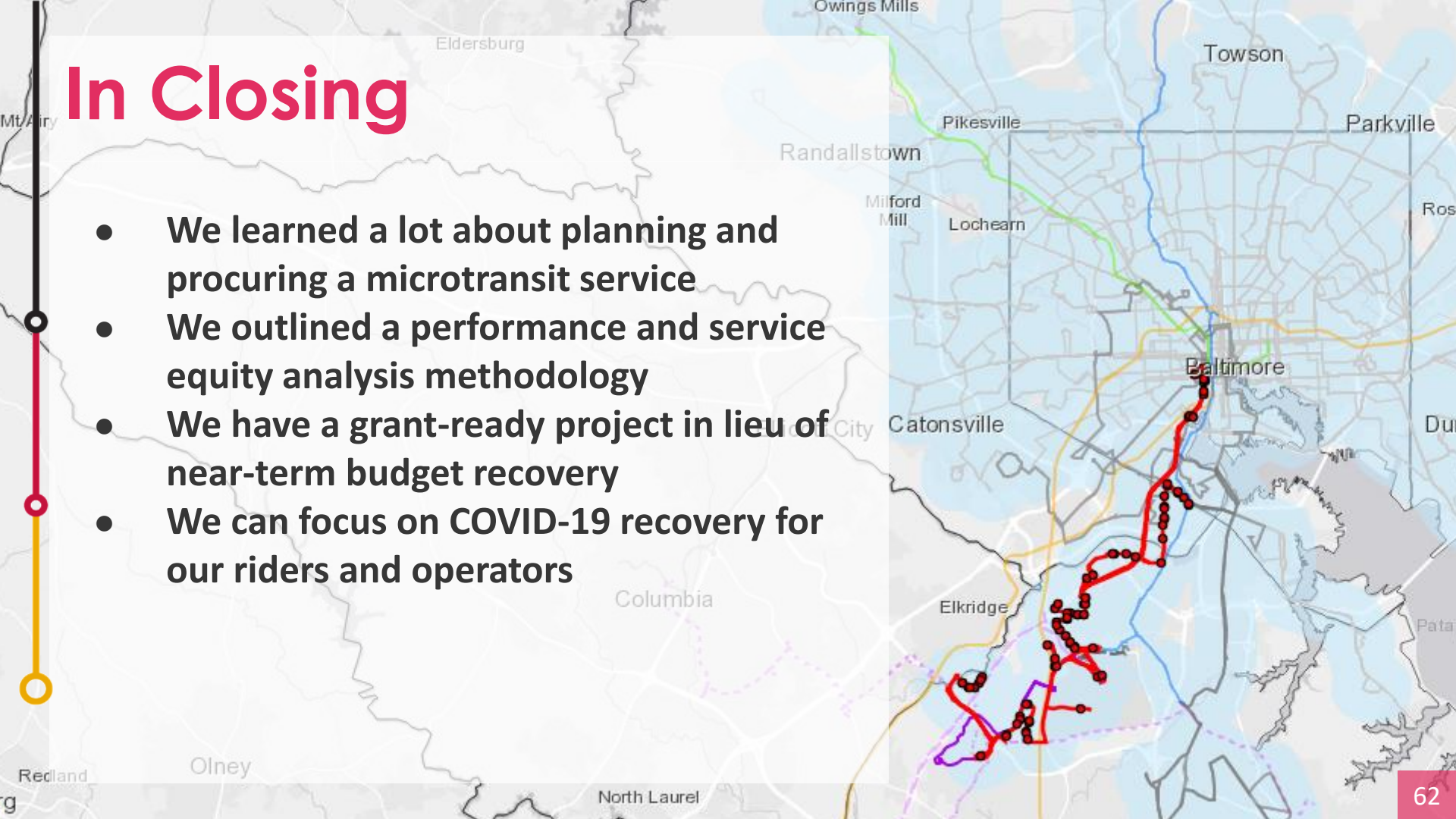
# Impact on Riders

- LL75 riders will experience
  - higher on-time performance
  - shorter travel time
- Riders on microtransit will experience
  - shorter wait time and travel time
  - additional transfer for some
- LL75 improvements may attract new riders to core service



# In Closing

- We learned a lot about planning and procuring a microtransit service
- We outlined a performance and service equity analysis methodology
- We have a grant-ready project in lieu of near-term budget recovery
- We can focus on COVID-19 recovery for our riders and operators



# Thank you!



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