Baltimore Regional Transportation Board
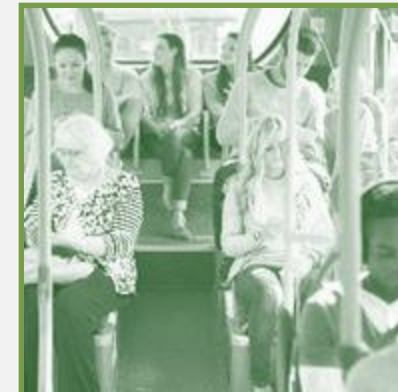
Summary of the Microtransit Solutions Effort

Technical Committee Meeting

January 7, 2025

Prepared by:

Foursquare ITP

Kimley»Horn

Foursquare ITP & Kimley Horn Team

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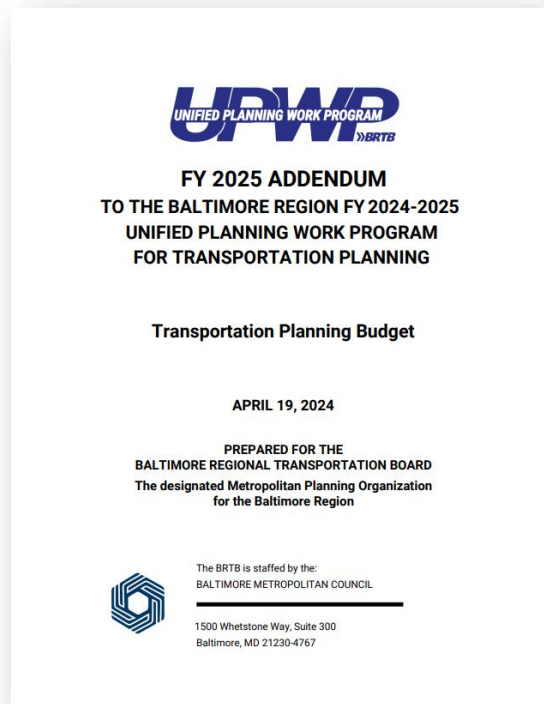**Tyler Beduhn**

Poonam Patel

Today's Agenda

- Project Purpose
- Key Interim Project Deliverables
- The Baltimore Region Microtransit Guidebook
- Q&A

Project Information

- Project was approved as a part of the FY 2024 UPWP

UPWP
UNIFIED PLANNING WORK PROGRAM
»BRTB

FY 2025 ADDENDUM
TO THE BALTIMORE REGION FY 2024-2025
UNIFIED PLANNING WORK PROGRAM
FOR TRANSPORTATION PLANNING

Transportation Planning Budget

APRIL 19, 2024

PREPARED FOR THE
BALTIMORE REGIONAL TRANSPORTATION BOARD
The designated Metropolitan Planning Organization
for the Baltimore Region

The BRTB is staffed by the:
BALTIMORE METROPOLITAN COUNCIL

1500 Whetstone Way, Suite 300
Baltimore, MD 21230-4767

- Steering Committee was comprised of:
  - Anne Arundel County
  - Baltimore City
  - Baltimore County
  - Carroll County
  - City of Annapolis
  - Harford County
  - Howard County
  - MDOT MTA
  - Queen Anne's County

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Project Purpose

To develop **best practices for implementing, operating, promoting, and funding microtransit in the Baltimore region**, including coordination between jurisdictions and agencies.

Looking at a future that's more integrated to give people throughout the region more seamless travel options
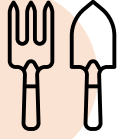
Quick Primer: What is Microtransit?

- A privately or publicly operated technology-enabled transit service that typically uses multi-passenger shuttles or vans to provide on-demand service.
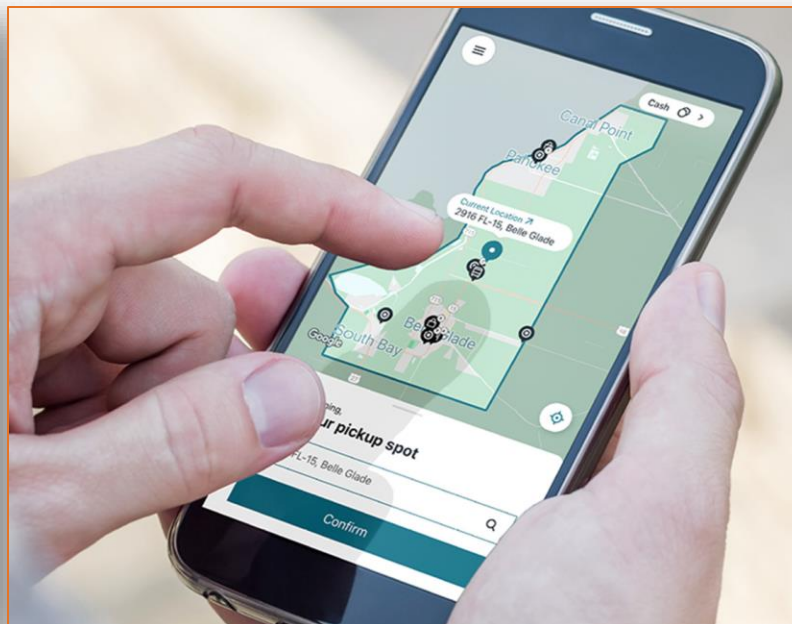
Simplified Project Schedule

April
Project team held project Initiation Meeting with BMC staff and Kickoff Meeting with Steering Committee

June
Steering Committee Meeting #1: Feedback on Microtransit Context report and peer regions to interview.

August
Steering Committee Meeting #2: Feedback on Enhancement Opportunities report and case study interviews.

November
Steering Committee Meeting #3: Feedback on Microtransit Guidebook outline and stylized template.

December
Steering Committee reviewed and provided feedback on draft Guidebook.
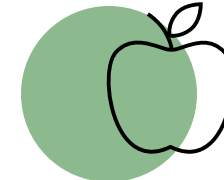
January
Project team finalizes and publishes Guidebook!

Key Interim Project Deliverables

i. Microtransit Context Report

ii. Enhancement Opportunities Report

iii. Case Studies Report

January 2, 2025

Microtransit Context Report

- First-of-its-kind state of the system report, answered questions like:
  - What microtransit services exist today?
  - Who needs microtransit the most?
  - Where do people need microtransit to take them?
  - Where might microtransit be a better solution than fixed-route?
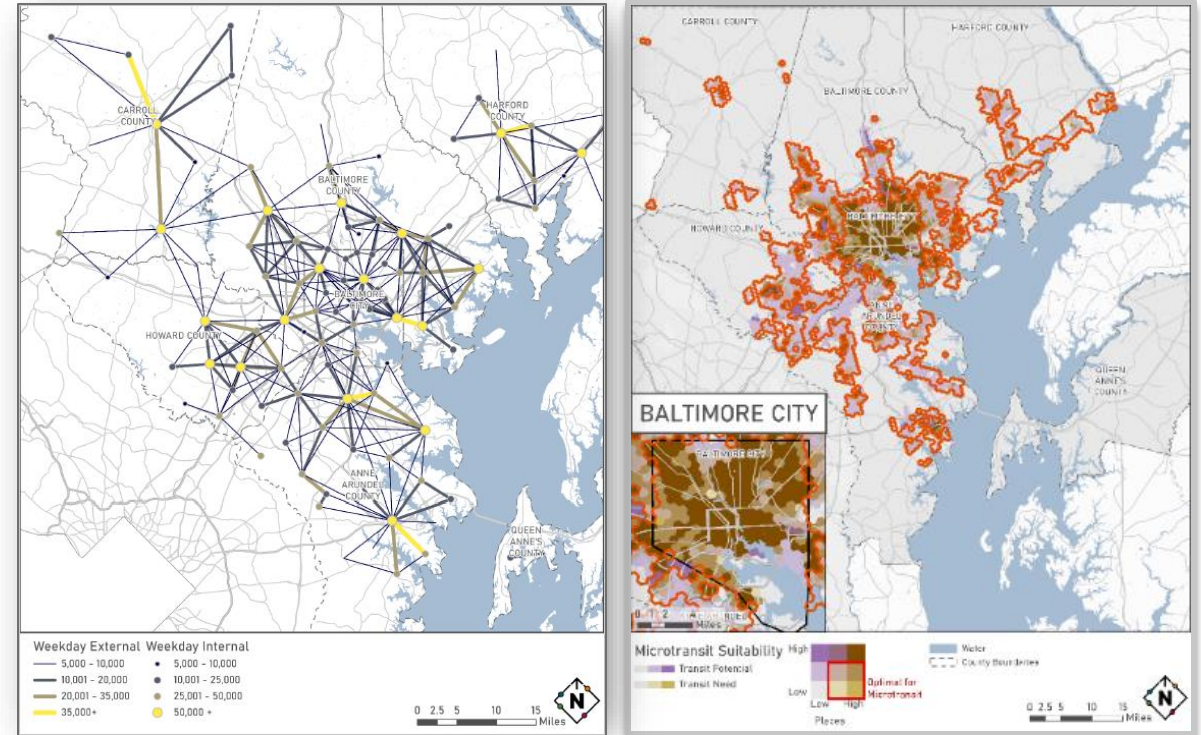
Enhancement Opportunities Report

- **Identified areas** in the region **where microtransit is likely to be successful** and the use cases for each.

- Prioritization framework works in lockstep with *Resilience 2050* policy and technical scoring.

- Investigated other **enhancement opportunities** in policy, training, data collection and reporting, funding, and procurement.

Potential Enhancements: Jurisdiction-Level Use Cases
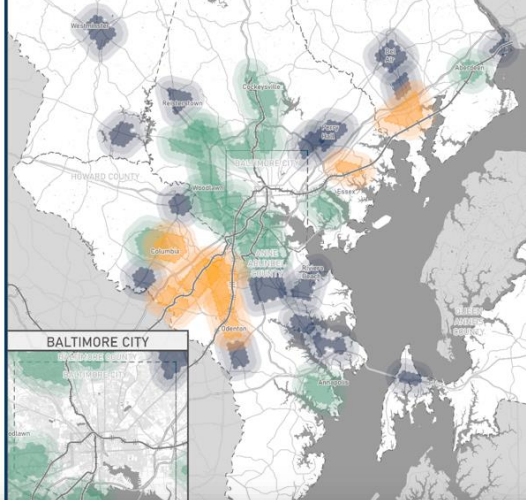
Areas identified in pink in the earlier map were then categorized into three main use-cases based on their interaction with transit service. Categories include:

Internal Circulation: Areas that intersect with lower productivity transit service or no existing regional transit service, as well as serve local points of interest such as retail, medical, and major employment destinations, are identified in dark blue.

First / Last Mile Connection: Areas that intersected higher productivity transit service, providing important connections to transit, are identified in green.

Hybrid: Areas that may have exhibited moderate to low transit productivity, but still provide important connections to regional rail or bus service, are identified in yellow.

Additionally, areas for **potential regional coordination** were highlighted for each county. These are areas where...

BALTIMORE CITY

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Data Collection & Reporting

Establish regional guidance or standards for microtransit data collection and reporting.

Data that can be shared across jurisdictional boundaries can include, but is not limited to:

Trip information such as daily and monthly trips, anonymized origins and destinations, trip distance and duration, and fare media.

Customer feedback such as complaints and satisfaction levels.

Performance such as wait times and subsidy per trip.

50

December 18, 2024

Case Studies Report

- Report covers **12 peer agencies from 5 regions** with similar characteristics to the Baltimore region.

- Developed **agency fact sheets** with system descriptions, and microtransit insights and lessons learned to help the region carry best practices forward.

MICROTRANSIT SOLUTIONS

Microtransit Guidebook

Microtransit Guidebook for the Baltimore Region
DRAFT

December 2024

Microtransit Guidebook for the Baltimore Region

- Through the analysis and case study research, we used our understanding of the local context, the region's challenges, and national microtransit expertise.

- The Guidebook turns that context, challenges, and expertise into a clear and concise Guidebook to aid decision-making processes.
  - ☐ Similar to a "how-to" guide for all things microtransit.

The Guidebook will help local jurisdictions and transit operators answer questions like:

- Is microtransit the "right" service?
- How does my agency select and design a service area?
- How does microtransit integrate with other modes?
- How can residents learn how to use the service?
- How should an agency structure a clear procurement?

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Guidebook Structure

- Six color-coded sections that speak to a concept from planning to implementation to enhancing service.
  - ☐ Topics were informed by Steering Committee questions and input.

- Best practices text is supplemented with:
  - ☐ Sidebar case studies which highlight best practices and lessons learned
  - ☐ Links to other relevant sections
  - ☐ Links to outside resources

A. **Is Microtransit the Right Service?**
B. **How to Plan Effective Microtransit Service?**
C. **How to Implement Effective Microtransit Service?**
D. **How to Enhance Existing Microtransit Service?**
E. **How to Collaboratively Implement Microtransit?**
F. **What Microtransit Resources Exist?**

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Example Layout

Section indicator

Introduction to question/concept at hand

Where possible, translated technical concepts into graphics

Sidebar case study of best practice or lesson learned

Guidebook Content: Spotlights

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Content Spotlight: Support and Complement Fixed-Route Service

- Building upon peer agencies' lessons learned, outlines metrics agencies should evaluate **when replacing fixed-route service.**

- Shares **where microtransit could strategically serve needs and expand the transit network footprint** (e.g., a first- and last-mile solution, or short cross-boundary trips).
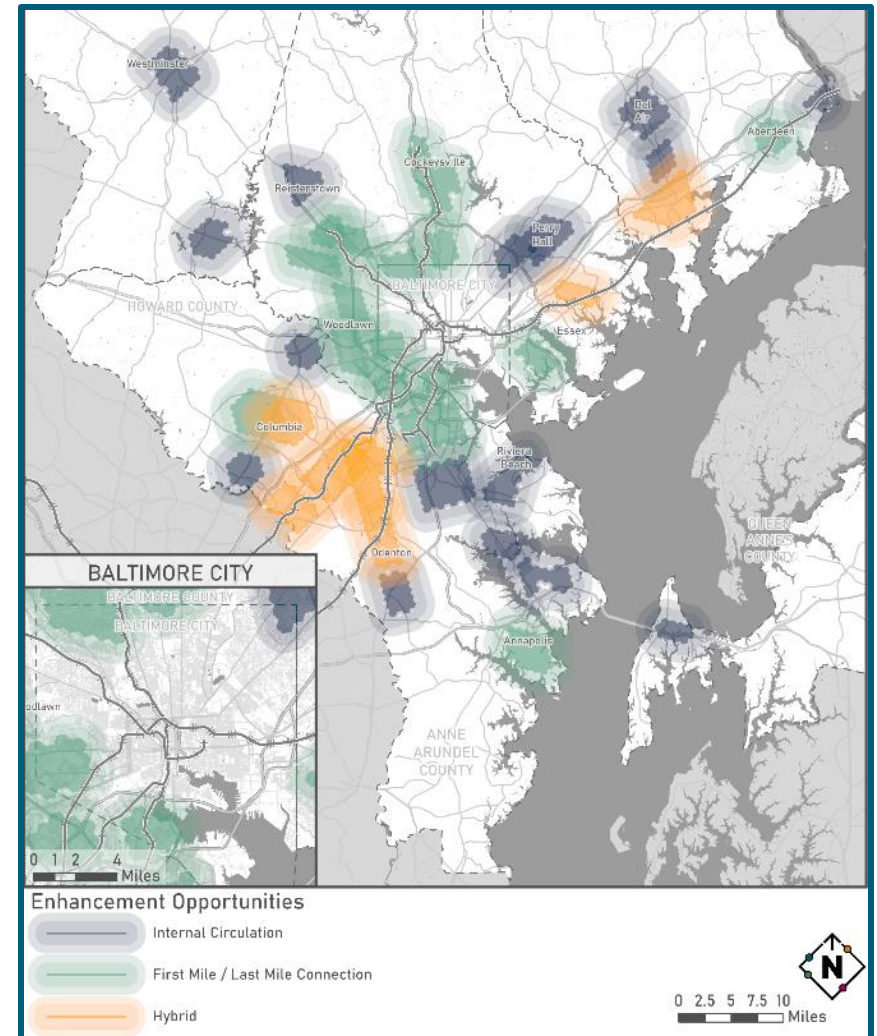
Content Spotlight: Service Delivery Model

- Defines predominant types of service delivery models: directly operated, hybrid, separate providers, and contracted or turnkey.

- Provides **succinct comparison of advantages and disadvantages** between them to **guide agencies in selecting their preferred model.**

Table 2: Comparison of Service Models

SERVICE MODEL	ADVANTAGES	DISADVANTAGES
Directly Operated Service Model	✓ Operational control and flexibility. ✓ As an agency employee, there may be more professional development opportunities available. ✓ In-house staffing and ability to train staff to agency standards.	✕ In some cases, upfront and overall higher costs. Cost is impacted by procuring vehicles if they are not already readily available. ✕ Need for increased internal capacity. ✕ For some agencies, existing collective bargaining agreements (CBAs) could be a challenge.
Contracted Service Model	✓ Least level of staff effort for ongoing management. ✓ Lower cost option. ✓ Ability to specify and enforce performance standards. ✓ Service can sometimes transition more easily to the SaaS model later if desired. ✓ Service can be implemented within a shorter time frame.	✕ Additional training will be necessary for independent contractors which could be costly. ✕ Requires extra consideration and effort to interface with the established CBA terms. ✕ Customer service functions may be subpar if outsourced and not closely monitored for quality.
Separate Providers	✓ Can fit specific agency needs. ✓ Can potentially create more choices for riders. ✓ Can lead to lower costs if negotiated adequately with different providers. ✓ Can leverage specific strengths of different providers, offering high quality service.	✕ Requires greater oversight capabilities for multiple contractors. ✕ Requires additional effort coordinating communication strategies and service changes across providers. ✕ Customer service functions may be subpar if outsourced and not closely monitored for quality.
Hybrid Model	✓ Can be a lower cost alternative. ✓ Can be customized to specific agency needs or circumstances. ✓ Can potentially create more choices for riders. ✓ Can create new or build upon existing partnerships with TNCs.	✕ Independent contractors may not be as well trained or compensated as bus operators. ✕ If more than one TNC participates, riders must choose between providers. ✕ May not be as operationally efficient if multiple providers participate.

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MICROTRANSIT SOLUTIONS

Content Spotlight: Electrification

- **Prompts agencies to consider the following** when planning to launch or move to an electric fleet:
  - ☐ Weather conditions
  - ☐ Existing charging infrastructure
  - ☐ Fleet size and composition
  - ☐ Zone design and avg. trip distance

- Acknowledges that **microtransit electrification is an emerging practice** while building upon initiatives like the Climate Mayors EV Purchasing Collaborative to accelerate electrification.

WEATHER

Locations that experience severe weather like strong thunderstorms and flooding require additional planning to ensure the transit service is weather resilient because electrified infrastructure can be susceptible to damage and decreased efficiency.

Another consideration for weather is battery charge. A colder climate can reduce the battery's charge which would result in more frequent charges. Given Baltimore's relatively temperate climate, this would only be a concern for a few months of the year.

FLEET COMPOSITION

Microtransit programs typically utilize light-duty vehicles. Therefore, an agency considering fleet electrification may find it easier to experiment with a smaller electric microtransit fleet rather than planning for the electrification of its entire transit fleet. Agencies may find the number of electric vehicle models available for microtransit to be limited, although this will likely change as the technology and market mature. Agencies should evaluate current vehicle options and whether the required supporting infrastructure can support other vehicle types in their fleet.

FLEET

The charging times of electric vehicles and limited battery range may lead to the need for additional vehicles, depending on the vehicle and service design. The size of the microtransit fleet and the type of vehicles used can determine the amount of electric vehicle charging infrastructure to install. Fueling infrastructure that requires large upfront capital investment is not cost-effective for small fleets, while alternative fuels that require a set amount of infrastructure per vehicle can be more cost-effective for smaller fleets. With some alternative fuel sources, like battery electric, infrastructure is implemented on a per-vehicle basis. So, agencies should be aware of how costs scale with fleet size when planning electric microtransit services.

FACILITY

The space and utility capacity of a transit agency's facilities can impact the implementation of electric vehicle charging infrastructure. For example, the agency may need additional space to accommodate the utility requirements and the infrastructure itself. It is beneficial for agencies to assess the space, utility, and installation requirements for electric charging infrastructure during the planning stage to evaluate the feasibility of integrating electric charging infrastructure.

Agencies should speak with utility companies in the area to understand their plans for installing charging infrastructure in the area, planning for the additional load on their electrical grid, and how agencies can best make use of public charging infrastructure.

Content Spotlight: Performance Monitoring

- Recognizes that microtransit performance cannot be measured the same way as fixed-route transit modes.

- Trackable metrics depend on data available and can be negotiated as part of a contracting agreement.

- Benchmarks or standards for each metric help identify what is (or isn't) working well.

Performance monitoring requires several key steps, and is a continuous process:

1	2	3	4	5	6
Identify metrics to be tracked	Inventory available data sources and potential uses	Create a process to develop metrics of interest from available data	Document the process, including data sources, time-periods used for reporting period, reporting frequency, and processing steps	Create benchmarks to evaluate metrics against	Adjust service based on findings

Microtransit typically has several core metrics, including some from the NTD. Below is a list of the performance metrics that can be used to analyze the success of a microtransit program:

- Cancellation and no-show rate
- Complaints per X trips
- Complaint types
- Cost per passenger trip
- Customer satisfaction
- Origin/destination and common trip purposes
- Passenger demographics
- Passenger miles traveled
- Percentage of shared rides
- Revenue miles/hours
- Non-revenue miles/hours
- Ridership (unlinked passenger trips)
- Trip distance
- Trip duration
- Wait time

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Content Spotlight: Retention and Recruitment

- Calls for agencies to understand the current state of their hiring practices.
  - ☐ Is the application process accessible? Smartphone friendly?

- Lists potential partner entities in the region who may be able to help connect job seekers with an agency's opportunities.

Table 9: Useful Performance Indicators[20]

INDICATOR QUESTION	USE
How many outreach events do we attend per month by type, such as career fairs or pop-up recruitment at community events?	Tracking the number and type of recruitment activities and their outputs enables an agency to understand the effectiveness of each activity. For example, if career fairs at technical schools tend to yield fewer applications than at neighborhood events, recruiters can either reprioritize their resources or re-examine their approach to technical school recruitment.
On average, how many applicants do we get per outreach event by type?	
How many hiring actions do we have each month?	
On average, how many hiring actions do we get per outreach event by type?	
How many prospective employees begin an application but do not finish or submit it?	Understanding whether application completion is a factor in recruitment can indicate that the application itself may need revision or additional resources to help applicants complete them.

Table 10: Partner Entities in the Baltimore Region

ENTITY	NETWORK	JURISDICTION(S)
Maryland Workforce Expressway	Workforce Development	Statewide
Train Up	Workforce Development	Baltimore City
Howard County Office of Workforce Development	Workforce Development	Howard County
Lincoln Tech in Columbia, MD	Technical College and University	Howard County
Susquehanna Workforce Network	Workforce Development	Cecil County, Harford County
Anne Arundel Works	Workforce Development	Anne Arundel County
Anne Arundel Community College	College and University	Anne Arundel County
Community College of Baltimore County (several locations)	College and University	Baltimore County
Amalgamated Transit Union Local 1300	Labor Organization	Regionwide
Casa de Maryland	Workforce Development, Immigrant Support	Baltimore City

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Content Spotlight: Outside Resources

- NCATT: Where and Why Guidebook
  - ☐ Key considerations or questions readers should ask themselves while planning and pursuing implementation

- NCATT Microtransit Service Assessment Tool
  - ☐ Uses local census data to generate ridership, vehicle needs, productivity, service hours, and annual cost for transportation agencies.

Content Spotlight: Outside Resources

- **TCRP reports**
  - ☐ **Synthesis 141:** Literature review of 22 transit agencies with microtransit experience.
  - ☐ **Report 141:** Resources for providing guidance on selecting performance measures and identifies peers to contact for additional research if needed.
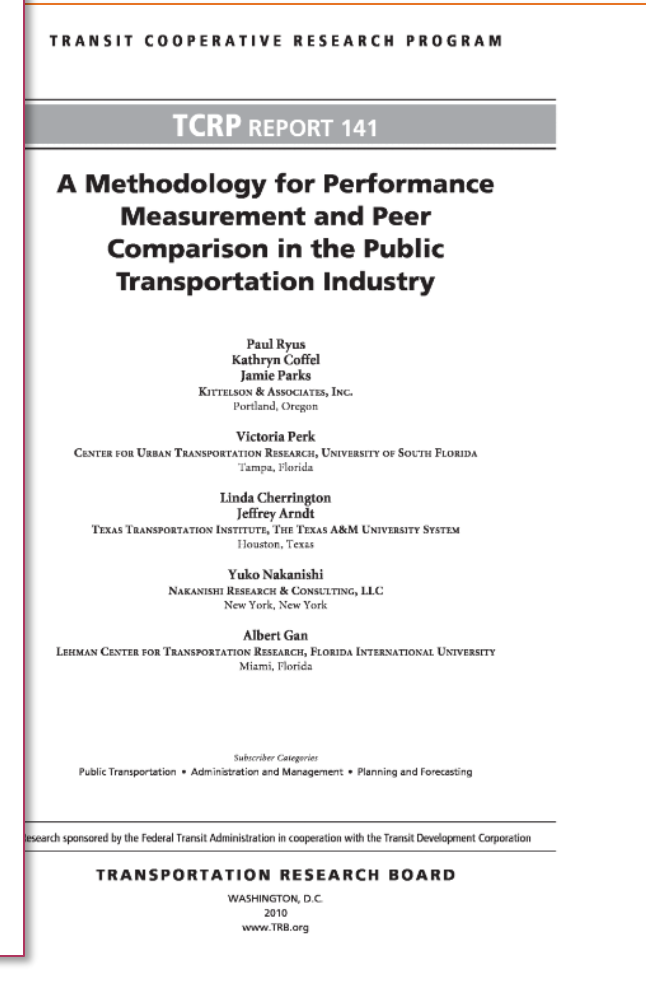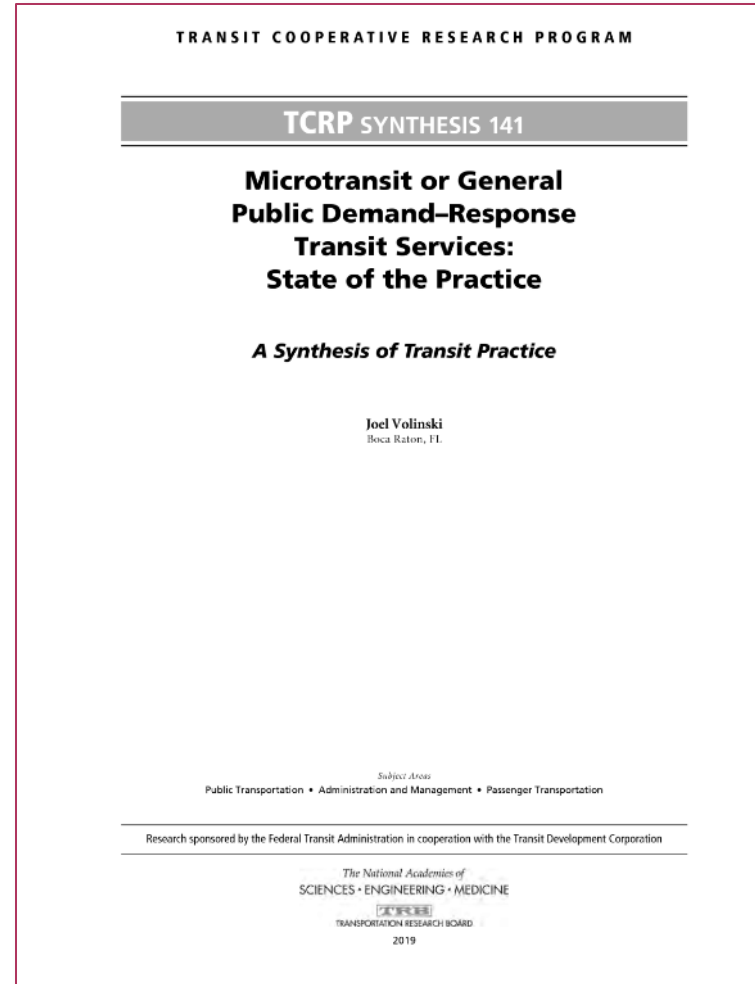
The Guidebook, in summary...

- Walks local agencies through the "how-tos" of microtransit planning, implementation, and enhancements **using real world examples and proven methods.**

- Agencies are starting from different places and have various interests. This resource will help them understand **what can work best for them** and the region, creating a tailored and **context-sensitive approach.**

Microtransit Guidebook for the Baltimore Region *DRAFT*

December 2024
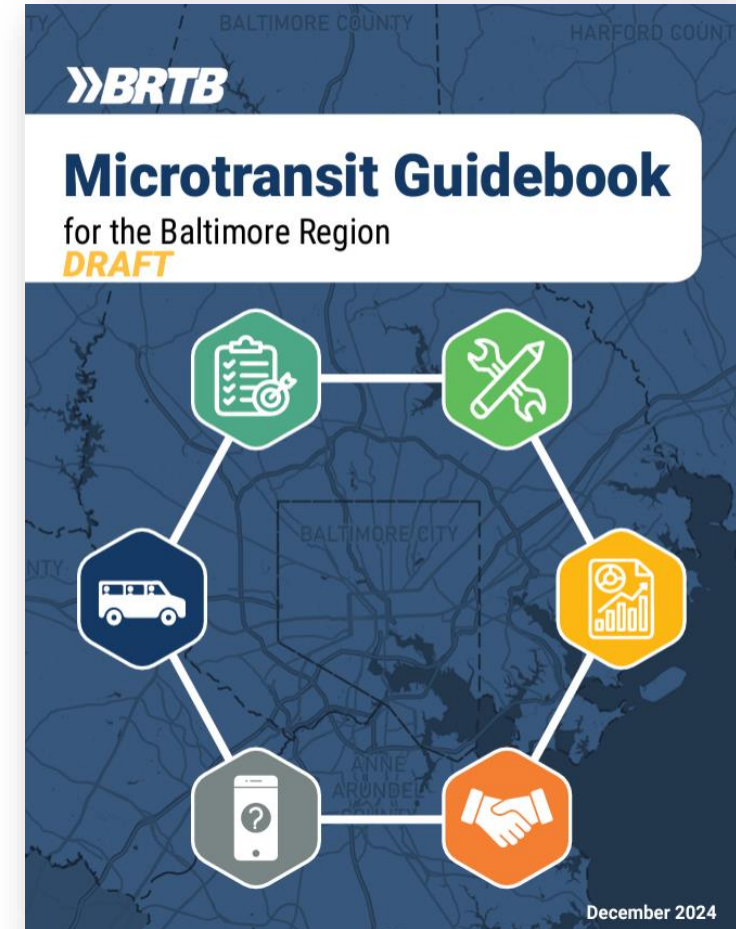
Q & A

Thank you!

Learn more at **FoursquareITP.com**

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Office Manager & Project Manager

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