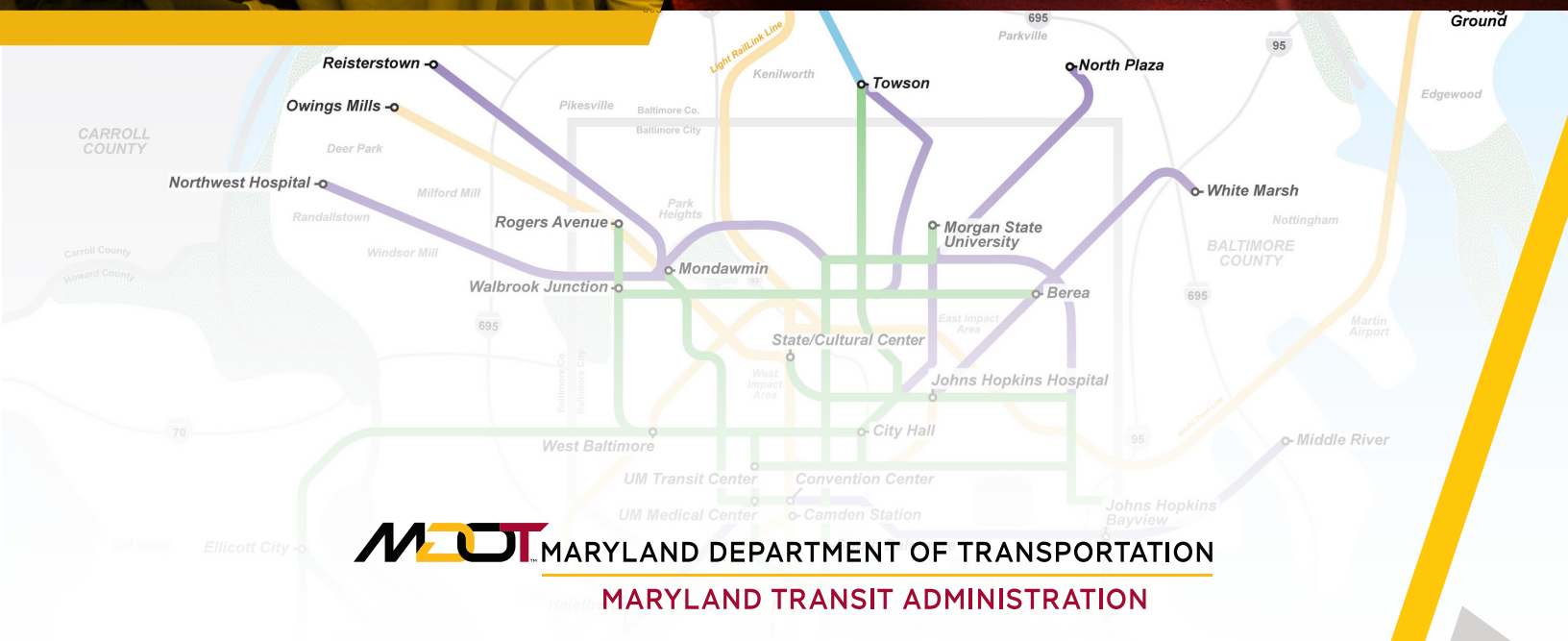
Connecting Our Future

A Regional Transit Plan for Central Maryland

Customer Journey Technical Report



MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION

Table of Contents

Chapter 1 Introduction 4

Chapter 2 The Six Steps of the Transit Journey 6

- Public Feedback 6
- Step 1: Planning a Transit Trip 7
- Step 2: Accessing a Transit Stop 9
- Step 3: Waiting for Transit 11
- Step 4: Paying Transit Fares 16
- Step 5: Riding Transit 19
- Step 6: Making Transfers 23

Chapter 3 Shared Mobility Partnerships 26

- Access Improvements 26
- Private Shuttles 27
- Shared Mobility Companies 28
- Microtransit Partnerships 28
- Transportation Network Company Partnerships 30
- Connected and Automated Vehicles 31

Chapter 4 Paratransit Customer Experience 34

1 Introduction

Transit route alignments and schedules are often top-of-mind when developing and improving transit, but a customer's decision to use transit is based on much more than the availability of a transit route near one's home, work, or school. This Technical Report examines the customer journey when using fixed-route transit, the partnerships with Shared Mobility services that can supplement transit, and the unique challenges present in the customer journey on paratransit.

The public transit customer journey can be described through a series of six steps, each of which can be improved through new technologies, thoughtful design, upgraded infrastructure, and continued attention to customer service:

1. Planning a trip
Comprehensive and timely schedule information helps people take transit with confidence. Integrating all available transportation modes into trip planning tools offers customers convenience and flexibility in their travel.

2. Accessing a transit stop
A transit stop is not useful if a customer cannot physically access it. Ensuring safe, direct, and comfortable access to transit stops and stations for pedestrians and bicycles allows passengers of all ages and abilities to access transit routes.

3. Waiting for transit
Studies show that people perceive a minute waiting to feel longer than a minute riding. Improving the waiting experience with amenities such as seating and shelters, real-time information, and more reliable service can make a big difference.

4. Paying transit fares
New and improved fare payment technologies, including mobile apps and systems that work with contactless credit and debit cards, offer greater convenience and increased efficiency in paying transit fares.

5. Riding transit
Customers want transit vehicles to be accessible, safe, reliable, clean, and comfortable. Accessible vehicles, security systems, regular cleaning, helpful and professional operators, and proper maintenance improve the riding experience.

6. Making transfers
Transfers are a necessary element of an efficient transit network, but they can adversely impact the convenience of a customer's journey. Coordinating signage, scheduling, and fares helps make transfers feel seamless.

Barriers to accessing transit are of particular concern. Transit providers, local governments, and business associations are partnering with Shared Mobility services, such as transportation network companies (TNCs) like Lyft and Uber and microtransit services (mobile app-based on-demand shuttles), to address these gaps.

The paratransit customer journey shares much in common with the fixed-route transit journey but is affected by unique challenges. The paratransit customer experience can be improved through new technologies for booking, routing, real-time information, fare payment, as well as through improved training and coordination.

Throughout these Technical Reports, gray boxes with the red ! will present strategies from the Plan that are related to the previous section.

2 The Six Steps of the Transit Journey

Determining the availability of a transit route near one's home, work, or school is only one aspect of a customer's decision to take transit. For transit to be truly useful and well-used, it must be safe, efficient, reliable, convenient, and comfortable. This technical report examines all aspects of the experience of a "transit journey," divided into the following six steps:

1. Planning a trip
2. Accessing a transit stop
3. Waiting for transit
4. Paying transit fares
5. Riding transit
6. Making transfers

This report will describe strategies that can improve each step of a transit trip and offer some best practices examples from peer regions.

Public Feedback

As part of the public outreach for the Central Maryland Regional Transit Plan (RTP), stakeholders provided feedback about how the experience of using transit could be improved. Figure 2-1 is a word cloud showing the most common words used in public comments about the customer experience, weighted by the frequency with which the word appeared. Many participants expressed concerns about the safety and cleanliness of transit.

What we heard: *"Public transit has an image problem—many see it as undesirable and it needs some positive public relations."*

Commenters asked for more police presence on buses and trains, more conspicuous security cameras, and more frequent cleaning of vehicles and stations.

The feedback about customer experience provided by participants in the development of this plan has informed the development of strategies to improve transit in the region over the next 25 years. More information about the public outreach process for the RTP can be found in the Public and Stakeholder Engagement Technical Report.

This report highlights targeted activities and investments that will enhance the customer journey. The full list of Actions is presented in the Plan report.

Figure 2-1
Public feedback about improving the transit customer experience

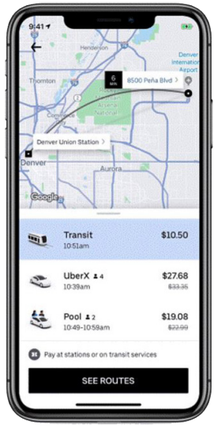
Step 1: Planning a Transit Trip

Multimodal Trip Planners

Every trip starts with a plan. Timely and comprehensive information helps people take transit with confidence. Until recently, printed timetables were the primary—and in some cases only—tool available to plan a trip by transit, but today a variety of tools exist to help customers plan trips that include one or more transportation modes. Many passengers still rely on timetables, so ensuring this information is presented in a simple, comprehensible way remains important. However, an array of new technologies allow customers to plan multimodal trips quickly and easily without relying on printed materials.

The most common trip planning technology today is the multimodal trip planner, an interactive tool that enables a customer to enter an origin and destination, date and time to depart at or arrive by, and see multiple possible itineraries. Each itinerary includes the total travel time and directions for each step of the journey.

Many multimodal trip planners available today incorporate not only walking, bicycling, transit, and driving, but also Shared Mobility options including transportation network companies (TNCs) such as Lyft and Uber and scooter/bike-sharing. Some Shared Mobility providers are also incorporating transit into their own mobile applications. Denver Regional Transportation District (RTD) recently collaborated with Uber to integrate



Uber Partnerships *TNC Uber mobile app transit integration with Denver RTD*

transit trip planning and real-time information into the Uber mobile app. Transit agencies engaging in this type of integration aim to encourage new and infrequent customers to use their services more often.

Some multimodal trip planners serve as platforms for transportation demand management (TDM), which strives to shift the time, route, or mode of people's trips. A new mobile app called incenTrip—to be launched in 2020 as part of the Metropolitan Washington Council of Governments (MWCOG) Commuter Connections program—will incentivize sustainable transportation modes by issuing reward points each time a user plans and completes a trip by transit, carpooling, bicycling, or walking. Reward points can be exchanged for cash.

Real-Time Information
Real-time transit information is one of the most useful tools when planning a transit trip. Through GPS and prediction algorithm technologies, automated vehicle location (AVL) systems track transit in real-time. Arrival times can be shared through mobile apps, text message (SMS), and electronic signage.

Ideally, customers can access real-time information before departing for a transit stop and at each step of the journey thereafter, reducing time spent waiting. Increasingly, service alerts are being incorporated into real-time information feeds, providing customers with helpful information about detours, closures, or other planned or unplanned disruptions in service. The combination of real-time vehicle arrival information and service alerts helps customers to change their plans as needed to reach their destination in a safe and timely manner.

Mobility-as-a Service
Mobility-as-a-Service (MaaS) provides customers flexibility in transportation choice by integrating payment for transit and Shared Mobility services. Many experts believe that the integrated user experience of MaaS is the future of mobility. There are three levels of Mobility-as-a-Service:

Level 1 Information Platform – MDOT MTA has achieved Level 1 MaaS through its partnership with the mobile app Transit, a multimodal trip planner featuring comprehensive real-time arrival information.

MaaS in Finland *Whim Mobility-as-a-Service subscription plans in Helsinki, Finland.*

Level 2 Aggregation Platform – TNCs Lyft and Uber offer Level 2 MaaS in select cities by allowing customers to pay for TNC and transit trips through the apps' multimodal trip planners.

Level 3 Subscription Platform – Mobility apps Whim and Citymapper offer total integration of trip planning and payment for transit and Shared Mobility in select cities in Europe. Residents of London and Helsinki can purchase an integrated ticket or single monthly subscription to pay for travel by public transit, bikeshare, taxi, and carshare.

As transportation options continue to expand in the region, MaaS offers an opportunity to integrate the many options for easy planning and payment for maximum flexibility in travel.

Step 2: Accessing a Transit Stop

A transit stop is not useful if a customer cannot physically access it. The Americans with Disabilities Act requires new or improved transit facilities to be accessible to people with disabilities, but everyone benefits from access improvements. Improvements to transit stops and stations take many forms.

Pedestrian and Bicycle Access
Safe, direct, and unobstructed paths to transit stops in the form of sidewalks and multi-use paths or trails are essential to enable people of all ages and abilities to access transit routes. Curb ramps where sidewalks and paths intersect with streets and

roads are vital for the safety and access of customers with mobility devices or strollers. Bicycle racks increase access to transit in suburban areas where residents may live too far from transit to reach a stop by walking, and help keep bus boarding areas clear of bicycles.

Accessible Boarding Areas
Bus boarding areas and train platforms of an adequate size and made of a solid material make transit much more accessible for people who use a mobility device such as a wheelchair or mobility scooter. By keeping the transit stop out of wet or grassy areas, accessible boarding areas also make a transit stop safer and more comfortable for all customers.

Accessibility Beacons
Sometimes finding a bus stop and its boarding area can be a challenge, particularly for customers with visual impairments. Wireless accessibility beacons are a new technology

What we heard: *"I'm looking for improvements to access and easy-to-use public transportation."*

deployed by Houston METRO to facilitate access to bus stops. As a customer approaches their desired stop, a mobile app receives a signal from a Bluetooth wireless beacon above the bus stop sign to provide audible instructions or tactile directions to reach the boarding area.

Park-and-Ride Facilities
Transit is not always accessed by walking or bicycling to a stop or station. In suburban and rural areas, many customers access transit by driving to park-and-ride or kiss-and-ride facilities. Alternatively, Shared Mobility services also make first mile/last mile connections between customers' origins or destinations and the nearest transit stop or station. These services are covered in more detail in the Shared Mobility Partnerships section.

Pedestrian Improvements for Transit in Portland, Oregon
Portland TriMet has improved access to transit stops by developing a Pedestrian Network Analysis to highlight areas with the most need and opportunity for pedestrian improvements to improve access to transit for people of all abilities. The agency then partnered with local governments to make high-return improvements. (Photo credit: Portland TriMet)

STRATEGIES
Remove Barriers to Accessing Transportation Resources

- Implement measures to ensure that low-income neighborhoods have access to Shared Mobility options such as bikeshare and e-scooters
- Partner with jurisdictions to make stations and stops ADA-accessible
- Support operating policies that enable year-round, obstacle-free (e.g., snow, construction, scooters) access to transit facilities
- Replace all high-floor/lift-equipped bus and light rail transit vehicles with low-floor vehicles
- Work with state and local Departments of Aging to identify the transit needs of older adults
- Identify opportunities for funding and partnerships to meet the transit needs of older adults and people with disabilities
- Coordinate with human services organizations, Centers for Independent Living, and organizations that work with persons with disabilities to expand access to transit
- Educate social service providers on available transit options, including non-emergency medical transportation
- Pilot potential Shared Mobility alternatives to provide cost-effective options
- Implement solutions to improve access to transit for low-income households and households without access to a private vehicle
- Invest in technology that allows more fare payment options (including fare capping)
- Actively pursue partnerships with non-profit, philanthropic, and workforce development organizations to ensure access to transit for their constituents
- Explore options and implement measures to facilitate fare payment for riders without access to a credit or debit card

Step 3: Waiting for Transit

Most transit trips involve some amount of waiting. Studies show that people perceive a minute waiting as longer than a minute riding, so improvements to the waiting experience can substantially improve the transit customer experience.

Amenities
Signage is the single most important element of a transit stop or station. The sign marks the area where passengers should stand while waiting to board a bus or train, provides passengers with essential information about the routes serving that location, and serves as a guide for the operator of where to stop. Although passengers have more access to online stop

location information than ever before, all passengers rely on signage to be certain of where they can board a bus or train.

Beyond the minimum requirement of signage and the accessible boarding and alighting area discussed in Step 2: Accessing a Transit Stop, additional amenities at transit stops and stations make waiting safer and more comfortable. Lighting at or near the boarding area enhances both real and perceived security. Many passengers regularly wait for the bus before dawn or after dusk, especially during late night service and the short days of winter. Security-related improvements reduce perceived wait times and equalize perceived wait times between customers of different genders.

Having a place to sit while waiting makes transit more comfortable and accessible. Benches provide seating, while shelters provide an area sheltered from rain, sun,

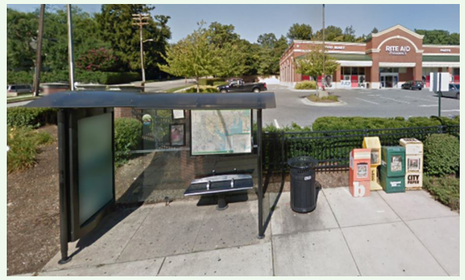
STRATEGIES
Enhance the Station/Stop Environment and the User Experience

- Work with partners to reduce and eliminate trash along routes and to maintain cleanliness of stations, stops, and rights-of-way
- Update training for all transit personnel with increased focus on customer service
- Identify locations near transit that would benefit from improvements to lighting, sidewalks, ADA treatments, crosswalks, and other pedestrian access improvements
- Provide underground cellular service on Metro Subway

What we heard: *"We need more bus stops with a roof and not just signs."*

BUS SHELTERS

An MDOT MTA bus stop shelter with seating



Customers frequently request more bus shelters. To ensure equitable distribution of amenities, MDOT MTA uses a scoring system when siting new bus shelters. The system considers a how many people wait at a stop, how long they are likely to wait, and who is likely to be waiting, including older adults, disadvantaged populations, dialysis and medical patients, and customers carrying groceries. (Photo credit: Google Street View)

Table 2-1 | *Real-time arrival information in Central Maryland*

Provider	Mobile App	Text (SMS)	Open Data
Annapolis Transit	✗	✗	✗
Anne Arundel County OOT	Partial	✗	✗
Baltimore CountyRide	✗	✗	✗
Charm City Circulator	✓	✗	✗
Harford Transit LINK	✓	✗	✓
MDOT MTA	✓	✓	✓
RTA of Central Maryland	✓	✗	✗

snow, and wind for passengers to wait, sit or stand. In the Baltimore region, passengers experience high temperatures and humidity in the summer, occasional snow in the winter, and rain regularly throughout the year. Shelters make transit more comfortable for customers to use year-round in all weather.

At larger transit hubs, additional conveniences such as restrooms, information centers, and food or retail vendors also create a more welcoming environment. These amenities allow passengers to pass time while waiting for the next transit vehicle in a more comfortable manner.

Real-Time Information
As discussed in Step 1: Planning a Transit Trip, real-time information is a useful and popular tool that helps make a wait feel shorter. Real-time information can be communicated by an electronic display at a transit stop or station or delivered to a customer's mobile device. As shown in Table 2-1, four of the region's public transit providers provide real-time information to mobile devices in one or more of the following forms:

- *Mobile App* – Transit agencies may partner with a third-party company to produce a mobile application providing customers with real-time information. MDOT MTA, Charm City Circulator, Harford Transit LINK, and the RTA of Central Maryland have mobile app partnerships. A real-time mobile app may be exclusive to a single transit provider or include many providers.

- *Text (SMS)* – Real-time information can also be made available to customers without smartphones via short messaging service (SMS), also known as text messaging. Within the region, only MDOT MTA provides this service.

- *Open Data* – When a transit provider makes its real-time data feed publicly available, any third-party company can add it to its mobile app at no cost to the transit provider. Open data thereby offers customers the freedom to choose their favorite mobile app and facilitates the integration of real-time information across a region.

As stated in Step 1: Planning a Transit Trip, service alerts are increasingly being incorporated into real-time information feeds, providing customers with helpful information about detours, closures, or other planned or unplanned disruptions in service. MDOT MTA broadcasts service alerts through the mobile app Transit, which automatically sends notifications to customers about their most-used routes.

Accurate real-time information is vital for all transit service, even frequent service, but the customers who suffer the most without real-time information are those who rely upon infrequent bus routes.

Bus Fleet Renewal
To improve reliability and customer comfort, RTA of Central Maryland has replaced more than half its fleet in the last two and a half years.

Public address announcements can also provide updates to customers while waiting. Most rail stations and some bus transfer centers have public address systems to provide audible information about detours, closures, or other disruptions in service. MDOT MTA provides these announcements at its rail stations and offers information through its radio station, WTTZ-93.5 FM.

Reliable Service

Waiting for a bus or train that arrives late or never arrives can be a frustrating experience. Reliability is essential for customers to be able to trust and rely upon public transit. There are several factors that can cause lateness or missed trips, most of which are not visible to the customer, contributing to a perception that a bus or train has arrived late or not at all for no reason.

The quality of transit service provided by different regions may be compared by examining on-time performance, which measures how reliably transit maintains its published schedule. However, there is no national standard for defining on-time performance.

If a transit provider has a fleet that is too small or unreliable or has too few operators available to work a shift, then a customer's bus or train may not arrive at all. Vehicles and supporting infrastructure need to be in a state of good repair to provide reliable service.

Staff and technology to support daily operations and long-term asset management are essential. In a competitive job market, recruiting and retaining transit operators can be a challenge. Some transit providers lack staff to fill all dispatch and operational supervisory roles, and locally-operated transit agencies may need to assign one staff person to several roles.

Technologies for scheduling and tracking buses, such as AVL systems and scheduling, trip booking, and dispatching software, allow transit agencies to provide reliable service to customers, respecting customers' time. New machine-learning technologies can analyze performance and suggest revisions to schedules to improve reliability. These technologies require both capital investments to procure and staff training to use effectively.

Reliability can often be improved through dedicated infrastructure or speeding up passenger boarding. Some of these methods for improving reliability are discussed in the Speeding Up Transit section of this Technical Report, including dedicated bus lanes, signal priority for transit vehicles, and off-board fare collection.

Infrastructure and Reliability
Regular maintenance of infrastructure, like the Light Rail catenary, is essential to providing reliable service. (Photo credit: David Wilson)

STRATEGIES
Improve Speed and Reliability of All Transit Services

- Provide real-time passenger information online, at major transit hubs, rail stations, and on transit vehicles
- Prioritize maintaining all transit vehicles and facilities in a state of good repair

STRATEGIES
Prepare the Transit Workforce for the Future

- Conduct a skills and software needs assessment for all transit providers
- Create training programs to equip the transit workforce with needed skills
- Create a workforce pipeline for transit vehicle operators and mechanics
- Partner with local colleges and educational institutions for internships and apprenticeships
- Deploy new technologies, tools, and software to help transit workers plan and deliver better quality, safe transit service
- Improve fleet planning, facilities planning, service planning, spatial analysis, and scheduling capabilities for the Locally Operated Transit Systems (LOTS)

Step 4: Paying Transit Fares

Customers have more options than ever for paying transit fares. A variety of new technologies provide convenient and efficient methods to pay for transit and integrated Shared Mobility services.

Most public transit providers in the region require customers to pay a fare, with the exception of the free Charm City Circulator. The region's transit providers each have their own fare policies and collection methods. Fares are typically paid and collected through electronic fareboxes, mobile ticketing, or cash (Table 2-2).

Electronic Fareboxes
Electronic fareboxes enable customers to pay by a reloadable electronic farecard. Customers can load funds for a single trip, or add a daily, weekly, or monthly pass. MDOT MTA and Annapolis Transit have adopted this technology (Table 2-2) but use different, incompatible systems. Fareboxes used by MDOT MTA also issue and accept paper magnetic-stripe farecards loaded with a daily, weekly, or monthly pass, and accept cash for a single one-way trip.

The MDOT MTA electronic farecard, called CharmCard, can be reloaded on buses and at ticket vending machines at Light Rail, Metro Subway, and some MARC Train stations. Paying a bus fare with cash on-board can slow the boarding process, so some transit agencies are installing ticket vending machines at bus stops and stations to encourage use of reloadable farecards.

One of the more novel innovations is wearable payment, which transforms the typical reloadable farecard into a wristband or ring. This can be more accessible to customers with visual impairments or physical disabilities that make using a card stored in a purse or wallet difficult. Other than their physical form, wearable payment devices work the same as conventional reloadable farecards. Pittsburgh Port Authority and Los Angeles Metro are currently testing this technology.

Mobile Ticketing
The development of mobile ticketing has introduced a new way to pay for transit without paper tickets or an electronic farebox. Customers install a mobile app, connect it with a credit or debit card or other supported form of payment, and purchase fares through the app. To pay for their trip, the customer activates their fare in the app and either displays it to a transit employee or scans it at a validator device. Various codes and animations provide protection against fraud. In the Baltimore region, MDOT MTA and Harford Transit LINK offer mobile ticketing but use incompatible apps from different vendors. The MDOT MTA CharmPass mobile ticketing app has proven popular in its initial rollout.

Many of the LOTS have not adopted electronic fareboxes due to high capital costs, but mobile ticketing has significantly reduced the cost of electronic fare collection. Harford Transit considered a reloadable farecard system that would have cost $14,000 per bus (approximately $400,000 total). Instead, the system leased mobile ticketing readers for all its buses at a total cost of $20,000 per year. The RTA of Central Maryland is also planning to introduce mobile ticketing.

Table 2-2 | *Electronic fare collection in Central Maryland*

Provider	Electronic Farecard	Mobile Ticketing	Open Payment
Annapolis Transit	✓	X	X
Anne Arundel County OOT	X	X	X
Baltimore CountyRide	X	X	X
Charm City Circulator	Free	Free	Free
Harford Transit LINK	X	✓	X
MDOT MTA	✓	✓	X
RTA of Central Maryland	X	X	X

Open Payment
Open Payment is a recent advance in fare payment technology. Rather than requiring customers to purchase and maintain an electronic farecard exclusive to paying transit fares or install a specific mobile app, Open Payment uses forms of payment many customers already use for other purchases. Open Payment has not yet been adopted by any transit providers in Central Maryland, but some peer agencies accept Apple Pay, Google Pay, and contactless credit or debit cards. Customers tap their mobile device or card at a target on the transit vehicle, at the faregate, or on the platform. Newer Open Payment technologies enable customers to use passes in addition to single-trip fares. This technology will continue to evolve, and adoption is expected to increase as more credit and debit cards are issued with built-in contactless technology. During times of elevated public health risk, touchless payment options offer customers convenient and safe methods of payment.

Cash
For the LOTSin the region with none of the prior three options, customers need to pay cash on-board or buy a paper farecard from a limited number of sales locations. Even where these technologies are available, many customers may still pay cash by choice or necessity. For example, customer surveys indicate that 22 percent of Baltimore bus trips are made by people without access to a credit or debit card.

Fare Payment Integration
Regional travel is more convenient when fare systems are integrated across a metropolitan region. As described in the Existing and Future Conditions Technical Report, 45 percent of Central Maryland commuters travel to another jurisdiction for work. Making these trips by transit sometimes requires customers to purchase two types of fares or passes, or to carry exact change for two fares.

Even without transit providers agreeing to honor fares paid to connecting providers, the customer experience can be improved by integrating fare media. Enabling customers to use one electronic farecard or download one mobile app increases convenience and removes a barrier to regional travel. For more information about fare policies and the lack of fare integration in the region, see Step 6: Making Transfers.

Some peers are also integrating transit fare payment with payment for Shared Mobility services. As discussed in Step 1: Planning a Transit Trip, Mobility-as-a-Service (MaaS) fully integrates payment across transit and Shared Mobility services. Open Payment may be the future of fare payment for occasional transit customers, but MaaS may be the most useful solution for frequent customers.

Incentive Programs
The Commuter Choice Maryland program offers a tax credit to Maryland employers that provide the following services to their employees: a monetary subsidy for transit fare; company-sponsored guaranteed ride home; cash in lieu of parking, and vanpools. Employers who participate with qualifying services can claim a tax credit for 50 percent of the eligible cost of providing commuter benefits up to a maximum of $100 per participating employee per month. Many employers are eligible for additional commuter tax benefits from the federal government.

Commuters who ride transit, carpool, vanpool, bike, or walk to work at least twice a week are eligible for the Guaranteed Ride Home program. In the event of a personal or family illness, emergency, or unscheduled work shift, Guaranteed Ride Home will arrange for a free transit ride, taxi or TNC trip, or car rental up to four times each year to transport a participant home.

STRATEGIES
Streamline Trip Planning and Fare Payment

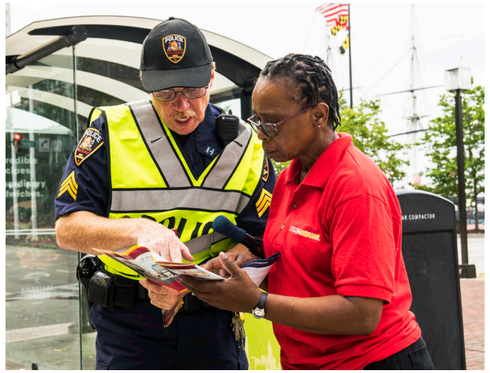
- Implement an integrated payment system for all transit providers
- Establish fare structures that are easy to understand
- Expand fare payment options for all transit providers, including paratransit
- Include information on first mile/last mile options in trip planning tools and on signage and wayfinding
- Integrate transit and Shared Mobility trip planning, including Transportation Network Companies, micromobility, ridematching, and demand-response transit

Step 5: Riding Transit

Customers want the experience of riding a transit vehicle to be accessible, safe, reliable, clean, and comfortable.

Safety and Security
People of all ages and abilities need to feel safe. Operator and station attendant interaction with customers impacts the sense of safety, as does the cleanliness and appearance of transit vehicles, stations and stops.

MDOT MTA has received national recognition as one of the safest transit systems out of the top 12 U.S. transit providers from studies conducted by the Metropolitan Atlanta Rapid Transit Authority (MARTA). However, more conspicuous security cameras and greater law enforcement presence on transit are frequent customer requests. Washington Metro (WMATA) is adding video monitors to buses to clearly communicate that on-board security cameras are functioning and in use.



Peace of Mind
MDOT MTA is one of the safest transit systems out of the top 12 U.S. transit agencies.

STRATEGIES
Promote Safety & Security on Transit Vehicles and at Stops and Stations

- Complete installation of closed-circuit television (CCTV) at all rail stations and transit hubs and on all transit vehicles
- Apply Crime Prevention Through Environmental Design (CPTED) principles into the design of stations and stops
- Maintain MDOT MTA's standing as one of the safest transit systems out of the top 12 U.S. transit agencies and ensure that customers feel safe throughout their transit trip
- Improve interactions between operators and customers and identify actions to reduce assaults on operators
- Incorporate transit's role in responding to and recovering from emergencies (security threats, disasters, and public health emergencies) in plans and emergency protocols
- Eliminate all at-grade pedestrian crossings on MARC service
- Install new flashing light signals at all rail-highway crossings

During the COVID-19 pandemic, MDOT MTA and LOTS implemented various enhanced cleaning techniques, including a daily practice of disinfecting vehicles and high-touch surfaces at stations (such as ticket vending machines and fare gate readers). Interior surfaces of Light Rail and Metro Subway vehicles also received additional mid-day wipe-downs. Maintaining a high standard of cleanliness helps customers feel safe when using transit, even outside of a pandemic.

Reliability
As mentioned in Step 3: Waiting for Transit, transit vehicles need to be in a state of good repair to provide reliable, comfortable service. Good maintenance has positive effects beyond keeping transit vehicles on the road. The reliability of heating and air conditioning systems is a major concern for customers, especially older adults and people more affected by extreme temperatures. Customers want vehicle heating and air conditioning systems to operate properly in all seasons and conditions.

Speeding Up Transit
Once on board, passengers want to travel efficiently to their destination or transfer point. Several investments can help to speed up transit. Some transit providers are experimenting with new ways to improve access and speed boarding and alighting.

Some transit vehicles in the region still have high-floor configurations that require able-bodied customers to climb stairs and customers using wheelchairs or scooters to use a lift, slowing the boarding process. Many transit providers use low-floor buses that enable customers to board and alight without climbing steps. Customers who use mobility devices can board low-floor vehicles more quickly and easily.

Some cities are experimenting with level boarding, where the height of the bus stop is raised above typical curb height to minimize the vertical gap between the pavement and the bus floor. This allows customers to get on and off the bus without a step up or down; customers with mobility devices can roll onto the bus more quickly and conveniently.

Necessity for Regular Maintenance
Vehicles need to be in a state of good repair to provide reliable, comfortable service.

Making Boarding Easier
Low-floor buses and level boarding platforms speed up boarding and alighting.

MDOT MTA's Light Rail system uses a proof-of-payment system called off-board fare payment, where customers pay their fare at a ticket vending machine at the station or through a mobile ticketing app, then board using all doors, speeding the boarding process and improving overall travel times. Some transit providers, including Minneapolis-St. Paul Metro Transit and Salt Lake City UTA are experimenting with off-board fare payment systems for bus services. MDOT MTA's has an opportunity to expand this form of payment from its rail system to the region's bus network.

Dedicated bus lanes facilitate efficient movement through otherwise busy corridors, such as downtown Baltimore. Dedicated bus lanes minimize delays associated with automobile traffic, particularly during rush hours. These lanes offer speed, safety, and reliability benefits. MDOT MTA implemented a 5.5-mile network of dedicated lanes on high volume corridors in 2017 and has continued to collaborate with the Baltimore City Department of Transportation to expand this network.

MDOT MTA and peers have installed transit signal priority in selected corridors, enabling traffic signals to hold a green or shorten a red phase to keep buses moving. Some peer agencies have installed queue jumps, which give buses a green signal a few seconds before other vehicles.

For some customers, the best way to speed their trip is to improve access to their destination from the nearest transit stop. MDOT MTA has added on-board bicycle racks on MARC Train Penn Line cars so that customers can travel by bike at both ends of their trip. Making connections to and from transit is covered in greater detail in the Shared Mobility Partnerships section.

A Lane of One's Own
Dedicated bus lanes speed up buses and reduce delays caused by traffic congestion.

STRATEGIES
Improve Speed and Reliability

- Provide real-time passenger information online, at major transit hubs, rail stations, and on transit vehicles
- Prioritize maintaining all transit vehicle and facilities in a state of good repair
- Implement targeted investments, such as dedicated bus lanes, transit signal prioritization, traffic signal replacement and retiming, curb management, level-boarding, all-door boarding, and off-board fare collection

What we heard: *"Make the bus interior more attractive in little ways."*

Customer Service
Quality customer service depends upon several factors, especially operator helpfulness and professionalism. Excellent customer service by operators and station attendants sets the tone for a positive transit experience and is particularly important for welcoming occasional transit riders and people with disabilities who may need assistance onto transit.

Clean vehicle interiors greatly improve the riding experience and are consistently among customers' top requests. Large windows unobscured by advertisements or other exterior wraps make riding transit more pleasant. Buses and trains designed to accommodate strollers make it easier for families to travel together by transit.

Vehicle Technologies
New technologies are also improving the riding experience. MDOT MTA plans to install cellular infrastructure throughout the Metro Subway system so that customers can make calls and access the internet even in tunnels. Houston METRO is partnering with Microsoft to pilot WiFi on buses.

AVL systems have long enabled buses and trains to make audible announcements when approaching the next stop or station. The next generation of smart displays is expanding these capabilities to include information about transfers and destinations along a route.

Smart Displays
Minneapolis-St. Paul Metro Transit recently installed displays on some buses informing customers of the next few stops and connecting routes, providing customers both extra time to prepare to alight the vehicle and useful information about when they will be able to make a transfer.
(Photo credit: Aaron Isaacs / streets.mn)

STRATEGIES
Implement Family-Friendly Policies to Facilitate the Use of Transit by Customers Traveling with Children

- Implement family-friendly fare policies that provide discounted or free fares for children, depending on age
- Accommodate strollers on transit vehicles, as feasible
- Transition to low-floor vehicles to eliminate the need to climb and descend stairs to board and exit transit vehicles

Step 6: Making Transfers

Transfers make the transit network more efficient, but a confusing or unpleasant transfer experience can significantly inconvenience customers or dissuade them from using transit in the future. Facilitating seamless transfers between transit routes, modes, and providers maximizes a passenger's freedom of mobility.

What we heard: *"Every transfer point should have clear signage and wayfinding and have more amenities and waiting areas."*

Transit Hubs
Transit hubs are locations where amenities are provided to facilitate transfers between modes, routes, or transit providers. When they are situated and designed well, transit hubs can significantly improve the experience of transferring from one system or vehicle to another.

Transit hubs have coordinated signage and other wayfinding to enable customers to make their transfers quickly and easily. They also feature seating and canopies or protection from the weather to make waiting more comfortable. To accommodate customers making transfers to or from non-transit modes, transit hubs may have bicycle or car park-and-rides or a concentration of Shared Mobility or micromobility vehicles. Often, transit hubs are equipped with real-time information displays and ticket vending machines for added convenience. Amenities such as restrooms, information centers, or food or retail vendors further enhance transit riders' comfort, and the installation of security cameras may make customers feel more safe.

Consolidating many transportation modes in one location increases mobility and can even encourage transit-oriented development around stations, introducing transit customers to new places to shop or to access services in the middle of a trip.

Timed Transfers
Beyond improving wayfinding and consolidating many transportation modes in one location, timed transfers can address waiting associated with transfers. Timed transfers are schedules aligned between routes, modes, or different providers. An infrequent local bus route may be scheduled to arrive and depart in coordination with the scheduled arrival of a faster connecting bus or rail mode to offer an alternative to driving to a station. When schedules are aligned, transferring can feel seamless.

Fare Coordination
Fares can present another barrier to transfers between transit routes, modes, or providers. If transit providers do not provide free transfers between their own routes or do not coordinate fares with connecting providers, the extra costs imposed by transfers may limit where or how far people with low incomes can travel.

Table 2-3 illustrates how complicated one-way fare transfer policies are in the Baltimore region. To use the chart, locate the transit provider a customer is transferring from on the left and the provider the customer is transferring to from the top. The applicable transfer policy is in the cell where that row and column intersect. Green cells indicate free transfers, blue cells indicate discounted transfers, red cells indicate full fares required for each ride, and empty cells indicate that the providers do not connect.

Transit providers in Central Maryland provide limited fare coordination between systems, and much of the existing integration relies upon informal agreements. While varying levels of fare technology and incompatible equipment limit fare coordination among transit providers, new fare collection technologies and decreasing fare collection costs may offer opportunities for better coordination in the future.

Table 2-3 | *Fare coordination among Central Maryland public transit providers*

From \ *To*	Annapolis Transit	Anne Arundel County OOT	Harford Transit LINK	MDOT MTA	RTA of Central Maryland	WMATA
Annapolis Transit	Full fare	Free		Full fare		
Anne Arundel County OOT	Full fare	Free		Full fare	Discount	Full fare
Harford Transit LINK			Free	Full fare		
MDOT MTA	Full fare	Discount	Full fare	See note	Discount	Full fare
RTA of Central Maryland		Discount		Full fare	Full fare	Full fare
WMATA		Discount		Full fare	Discount	See note

Note: MDOT MTA transfers are free between Core Bus modes when using CharmPass; MDOT MTA does not offer free or discounted transfers for single trips using MARC Train or Commuter Bus. WMATA bus-to-bus transfers are free; WMATA discounts fares for bus-to-rail or rail-to-bus transfers.

Multimodal Hub in Germany
A transit hub in Hamburg, Germany, promotes bicycle access to transit and connections with carsharing. (Photo credit: Hamburger Hochbahn AG)

STRATEGIES
Facilitate Transfers

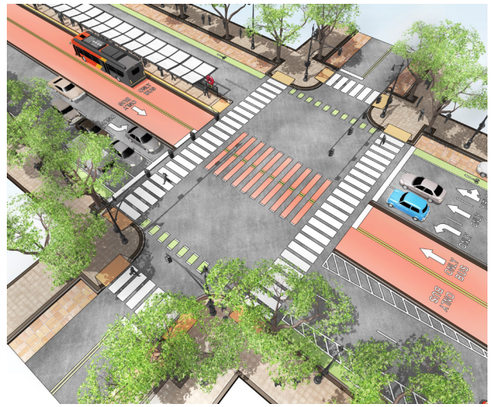
- Co-locate transit stations and stops of different routes and modes, creating transit hubs to minimize walking between transfers
- Coordinate schedules of regional transit providers
- Improve wayfinding and signage
- Implement consistent transfer fare policies across transit providers
- Establish a connection between the MARC Penn and Camden Lines
- Support and integrate with the Penn Station improvements being undertaken by Amtrak and private development to provide better transit connectivity across modes
- Coordinate with Amtrak to facilitate transfer improvements at BWI

3 Shared Mobility Partnerships

Fixed-route transit alone is not always enough to connect people to the destinations they want to reach. Transit can only increase people's mobility when they can safely and comfortably access the nearest stops to their start and end points. Jobs, services, and homes without a safe and comfortable path of travel to the nearest transit stop will be out of reach for transit customers.

Barriers to safe and comfortable access to transit may include missing or disconnected sidewalks, streets that do not connect, dangerous road crossings, and highway interchanges. Reducing barriers that prevent customers from safely accessing a transit stop or station by walking or biking are an ongoing challenge for improving mobility, especially in suburban and rural areas. These barriers form what is called the first mile/last mile challenge.

In addition to pedestrian and bicycling infrastructure improvements, partnerships with the private sector may help to address the first mile/last mile challenge. Shared Mobility services can both facilitate connections to fixed-route transit and improve safety and convenience of the complete trip.



Building Complete Streets
Center-running bus lanes and dedicated bike lanes are just two ways streets can be reconfigured to allocate roads more equitably across all transportation modes.

Access Improvements

Often, the best solution to a first mile/last mile challenge is to improve infrastructure along existing streets and roads. New or improved sidewalks or shared bicycle and pedestrian paths can be used by everyone—not just customers able to access a Shared Mobility or private shuttle service. Sometimes the best access route is evident by an existing trail tread through grass; other times, a pedestrian road safety audit can reveal where existing infrastructure is inadequate. Local jurisdictions can improve access to jobs and housing by coordinating with transit providers to identify areas with the most need and opportunities for high-return improvements.

Developing land in ways that are compatible with transit (transit-supportive development) and developing to maximize access to existing transit (transit-oriented development) can also address the first mile/last mile challenge. These developments often create new street and sidewalk connections, add lighting and landscaping, and increase pedestrian activity, thereby improving the safety and convenience of walking or bicycling to and from transit stops.

Private Shuttles

One of the longest-standing first mile/last mile solutions is the private shuttle. These typically operate like express bus services but are only available to select populations, typically workers of the employer who sponsors the service. A private shuttle route may board passengers at one or more transit stops or stations, travel directly to a large employment center, and then make one or more stops at major employers or service agencies. Many private shuttles provide a vital link between a person's employer and the nearest transit stop or a major transfer center.

Due to federal regulations, most shuttle services are not open to the general public. Private shuttles may be funded by employers or business associations to improve access to an area that cannot be served well by public transit. They are typically available only to employees or affiliates of the sponsor and require identification to board. In some cases, shuttles may be subsidized by local government through a public-private partnership but access is still restricted to certain populations.

Private shuttle services usually operate on fixed schedules with designated stops and schedules, (especially where the route is several miles in length) and are designed to serve people who work on shift schedules for large employers. Only short private shuttle services, where each trip takes only a few minutes, can operate on-demand. Costs for private shuttles vary widely, but shuttles with high ridership cost less to operate per ride than ones with low ridership. Private shuttles are generally most efficient at serving very large employers and at workplaces where many employees start or end work shifts at the around the same time due to economies of scale.

Amazon Fulfillment Private Shuttle
Shuttles sponsored by Amazon Fulfillment and the City of Baltimore and operated by a private company provide employees with a quick trip from Charles Center Metro Subway station, a transfer center in Downtown Baltimore, to Amazon Fulfillment distribution facilities in Southeast Baltimore.

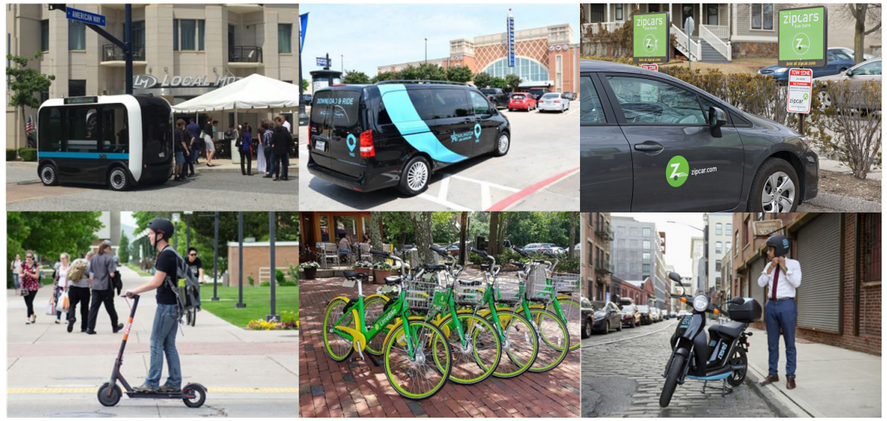
Shared Mobility Companies

Fixed-route transit cannot efficiently serve all origins and destinations, so Shared Mobility companies are innovating to meet customers' expectations for transportation to always be available, convenient, and cost-effective. Shared Mobility services are increasingly helping to bridge first mile/last mile gaps and serve short point-to-point trips. Many Shared Mobility companies offer services on-demand, which increases the convenience of travel and decreases wait times compared to traditional transit. Table 3-1 lists the various types of Shared Mobility services.

Some transit agencies, local governments, and other sponsors are partnering with Shared Mobility companies to offer customers new or improved connections to key destinations. The following sections will describe microtransit and TNC partnerships in more detail, specifically focusing on first mile/last mile solutions.

Microtransit Partnerships

Some transit providers, local governments, business associations, and other sponsors are partnering with Shared Mobility companies to offer microtransit services that make first mile/last mile connections. Typically, a customer within a designated service area requests a ride through a mobile app or phone call, walks to a designated pick-up area, and gets a ride to the nearest transit station or stop.



Shared Mobility Services clockwise from top left: Olli (autonomous shuttle), Via (microtransit), Zipcar (carshare), Revel (moped-share), Lime (bikeshare), Spin (scootershare). (Photo credits: Local Motors; City of Arlington, TX; Brown Daily Herald/David Deckey; Revel; Flickr/Lorianne DiSabato; Spin.)

Table 3-1

Types of Shared Mobility services

Service Type	Description	Examples
Bikeshare	· Short-term bicycle rental, often by the minute · Uses mobile apps for customers to locate, lock and unlock bikes, and make payments	· Capital Bikeshare · Lime
Scootershare	· Short-term electric scooter rental, often by the minute · Uses mobile apps for customers to locate, lock and unlock scooters, and make payments	· Bird · Lime-S · Spin
Moped-share	· Short-term electric moped rental, often by the minute · Uses mobile apps for customers to locate, lock and unlock mopeds, and make payments	· Revel
Carshare	· Short-term car rental by the minute or hour · Uses mobile apps for customers to locate, lock and unlock cars, and make payments	· Maven · Zipcar
Transportation Network Companies	· Passenger vehicle carrying one to seven passengers · Provides trips on-demand from origin to destination · Uses mobile apps for requesting rides, routing vehicles, and making payments	· Lyft · Uber
Ridesplitting	· Passenger vehicle carrying two to seven passengers · Shared ride with customers traveling a similar route · Uses mobile apps for requesting rides, routing vehicles, and making payments	· Lyft Line · UberPOOL
Microtransit	· Small van/bus typically carrying 12 or fewer passengers · Provides trips within defined areas on-demand via flexible routing or scheduling · Uses mobile apps for requesting rides, routing vehicles, and making payments	· Via (Seattle, Arlington, TX) · AC Transit Flex (Oakland) · RideAustin (Austin)
Automated shuttle	· Small van/bus typically carrying 12 or fewer passengers · Utilizes automated vehicle technologies to drive without requiring a human operator · Often operates on a campus or controlled environment · May serve fixed stops or operate on-demand	· Olli (National Harbor, MD) · AAA (Las Vegas) · EasyMile (Utah)

Microtransit may be able to obtain some efficiencies by routing vehicles to serve two or more customers at a time, but these services still typically cost three times more than typical fixed-route bus service. A recent TCRP report found that the cost per microtransit passenger trip has ranged between $10 and $70, with an average of $22. Microtransit costs around three times less than paratransit, but many vehicles in a typical microtransit fleet are not wheelchair-accessible, which may cause longer wait times for customers with disabilities.

Many microtransit partnerships have not succeeded and their sponsors have chosen to discontinue or redesign them. Automated vehicles may be required to achieve more acceptable per-trip costs.

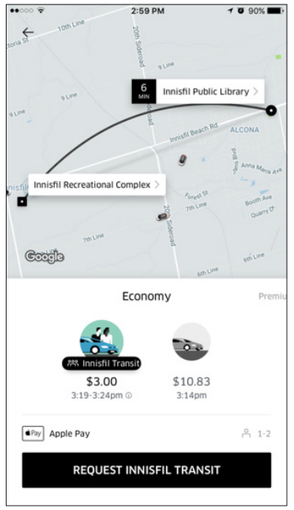
Microtransit in Seattle
Via to Transit is a microtransit service that connects customers with five Sound Transit Link light rail stations in the Seattle region. It is widely viewed as one of the more successful microtransit services to date, but only 50 percent of Via microtransit trips in the Seattle region have more than one passenger on board.

Transportation Network Company Partnerships

Some transit agencies, local governments, and other sponsors are partnering with TNCs to address first mile/last mile challenges. Like microtransit partnerships, TNC partnerships provide on-demand rides within a designated service area or to and from select destinations. Unlike microtransit partnerships where customers typically pay a fixed fare, rides provided through TNC partnerships may have variable fares based on the length and duration of the trip. Sponsors generally provide a subsidy in the form of a discount or voucher toward each ride.

TNC Partnerships in the United States

- Austin CapMetro partnered with local TNC RideAustin to provide unlimited free rides from an area without transit service to the nearest local bus stops.
- WMATA, in greater Washington, D.C., plans to partner with a TNC to provide late-night employees with up to 10 discounted trips per week after its Metrorail service is closed. WMATA would pay the first $3 of the fare.



TNC Partnerships in Ontario, Canada
The Town of Innisfil, Ontario, in exurban Toronto, partnered with Uber as a substitute for creating a fixed-route transit system. Fares range from $4 to $6 if you are traveling to or from an approved location such as the nearest bus stop or train station or the town's business park. The town provides a $4 discount on all other rides. Faced with high costs, the town has capped usage to 30-50 rides per person per month.

Some transit agencies are partnering with TNCs to provide paratransit trips. Potential barriers include accessible vehicles, insurance, drug and alcohol testing, child seats, and prohibition of using federal funds. TNCs are also one possible mode of transport home under the MWCOG Guaranteed Ride Home program.

TNCs are also being used for last-mile connections to secure facilities. For example, a Fort Meade employee can get certified as a TNC driver and then transport other employees with security clearance from a MARC train station to their workplace on the base.

The cost of each TNC ride is unaffected by the number of people who use the service and may require limits to control costs. In contrast with public transit or private shuttle services, partnerships with TNCs only grow more expensive as they grow more popular. The long-term viability of TNC partnerships remains to be determined.

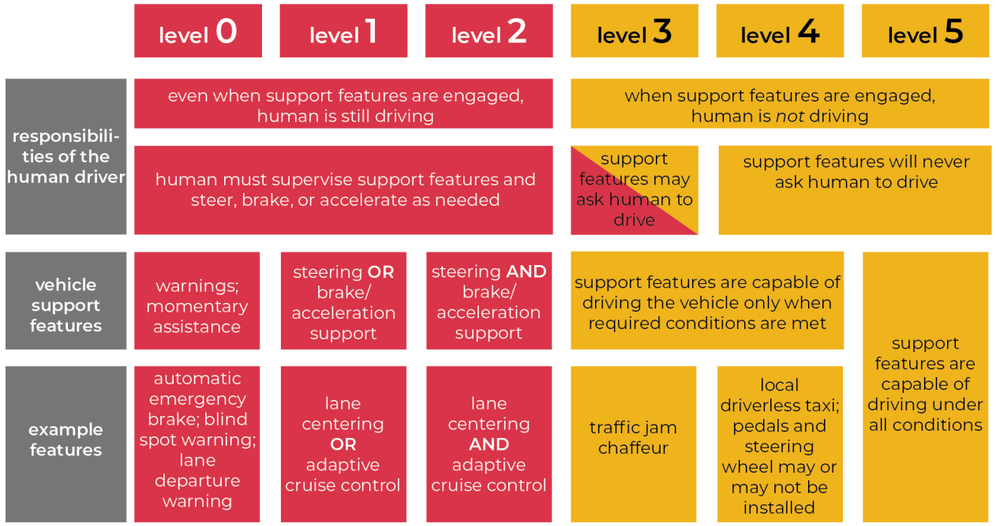
Connected and Automated Vehicles

In recent years, automobile manufacturers and companies have been developing technologies to connect and automate passenger and freight vehicles. SAE International has developed a system of six levels to describe the several degrees to which driving can be automated, listed below and described in Figure 3-1 on the next page:

- Level 0 – No Automation
- Level 1 – Driver Assistance
- Level 2 – Partial Automation
- Level 3 – Conditional Automation
- Level 4 – High Automation
- Level 5 – Full Automation

The full effects of connected and automated vehicles (CAVs) are not yet known. Uncertainty remains about a wide range of factors, including cost, human behavior, technological development, real-world deployment, and government regulations.

Figure 3-1 | *Levels of driving automation (adapted from SAE International)*



Unanswered questions about the effects of CAVs include whether they will:

- Increase highway capacity and speed
- Increase average vehicle occupancy
- Improve safety
- Lengthen average trip distances
- Increase trips by populations currently without access to a vehicle
- Reduce needs for driving-related occupations
- Increase development densities
- Spur redevelopment
- Reduce or increase transit trips

Autonomous Revolution
An autonomous vehicle operated by Waymo in Mountain View, California. (Photo credit: Grendelkhan)

Typical CAV may resemble automobile use today, where most people traveling by automobile use a vehicle they own or lease. Alternatively, many CAV trips may be shared rides in vehicles owned by a third party. Many experts believe that autonomous vehicles will cause automobile vehicle miles traveled (VMT) to increase and transit trips to decrease. If 50 percent of CAV trips are shared rides, then automobile trips could stay constant, but transit trips would still decline.

The effects of replacing human-operated buses with connected and automated buses are also difficult to predict. Level 4 connected and automated buses capable of operating fixed routes in mixed traffic on public streets do not yet exist. Many experts believe that transit agencies would be able to provide more frequent service if the labor costs associated with operations are reduced, however autonomous buses may create alternative staffing demands not yet known. On-demand microtransit operations costs are expected to improve with automated vehicle technology but would still be more expensive to operate than a fixed-route automated bus service.

Experts will be paying close attention to new developments in CAV technology development and deployment to continually assess its possible effects on transit use.

STRATEGIES
Improve First Mile/Last Mile Access

- Improve conditions to create safer, more comfortable pedestrian and bicyclist experiences, including wider and ADA-compliant sidewalks with greater physical separation from motor vehicle traffic and protected or separated bicycle facilities
- Provide bike racks on all transit vehicles in the region
- Integrate Shared Mobility options (e.g., microtransit, scootershare, bikeshare, carshare, and TNCs) to complement existing services
- At key transfer locations, coordinate signal timing to provide longer pedestrian crossing times

STRATEGIES
Prepare for Emerging and Future Technology

- Monitor and evaluate new and emerging technologies for opportunities to enhance transit mobility
- Implement a connected and automated vehicle (CAV) pilot project, collaborating with the CAV workgroup
- Prepare all transit providers for MaaS
- Assess curbside management practices and policies
- Identify and develop Shared Mobility hubs (where walking, biking, transit, and Shared Mobility come together to better connect transit to origins/destinations)

4 Paratransit Customer Experience

While the paratransit customer journey shares much in common with the fixed-route transit journey, paratransit is affected by unique challenges related to certification, booking, and vehicle location information. The Maryland older adult population is growing, and so is demand for paratransit. This growth allows providers the opportunity to introduce new customers to an excellent customer experience.

To use paratransit a customer must complete an application, have a medical professional certify their disability or health condition, and fulfill any other qualifications to become certified. Generally, trips may be booked only by phone and at least 24 hours in advance of a trip. Through more advanced booking systems, some paratransit providers are moving toward online booking and shorter advance notice. Automated arrival notifications have also been made feasible.

In the Boston region, MBTA is running a pilot program with three TNCs (Uber, Lyft, and Curb) to offer an on-demand alternative to traditional paratransit. Customers are allocated a limited number of on-demand trips per month based on their historical paratransit use. Like typical TNC trips, pricing varies according to demand,

Paratransit's Role in Central Maryland
A passenger is assisted aboard an MDOT MTA paratransit vehicle.

but after the customer contributes a $2 minimum fare the MBTA will subsidize up to $40 of the cost per trip. Trips can be requested by mobile app or phone call, and customers can request a wheelchair-accessible vehicle. Ideally, an on-demand paratransit program would offer a greater level of service at an equal or lower overall cost to the transit provider.

Salt Lake City UTA recently created a new service that notifies paratransit customers when their paratransit vehicle is five minutes away from their pick-up location, providing time to get to the curb, reducing time waiting in inclement weather, and increasing on-time departures. Harford Transit uses a similar notification system for its paratransit customers.

Paratransit providers have been slower to adopt electronic fare payment. Customers typically pay cash on-board or pre-purchase a book of vouchers at a transit store or human services provider's office. Advances in fare payment create opportunities to introduce reloadable electronic farecards, wearable payment, and mobile ticketing for paratransit. Merging paratransit and fixed-route transit fare payment systems may also encourage paratransit users to try taking fixed-route transit more often.

The daily operations of some paratransit services, including MDOT MTA Mobility, are contracted to multiple private companies. In practice, this means that a paratransit customer may be picked up by operators employed by different companies depending on when and where they are traveling. Regardless of how transit providers operate their service, customers expect a consistent experience. Coordination between service providers in training and standard operating procedures is necessary to provide a consistent customer experience.

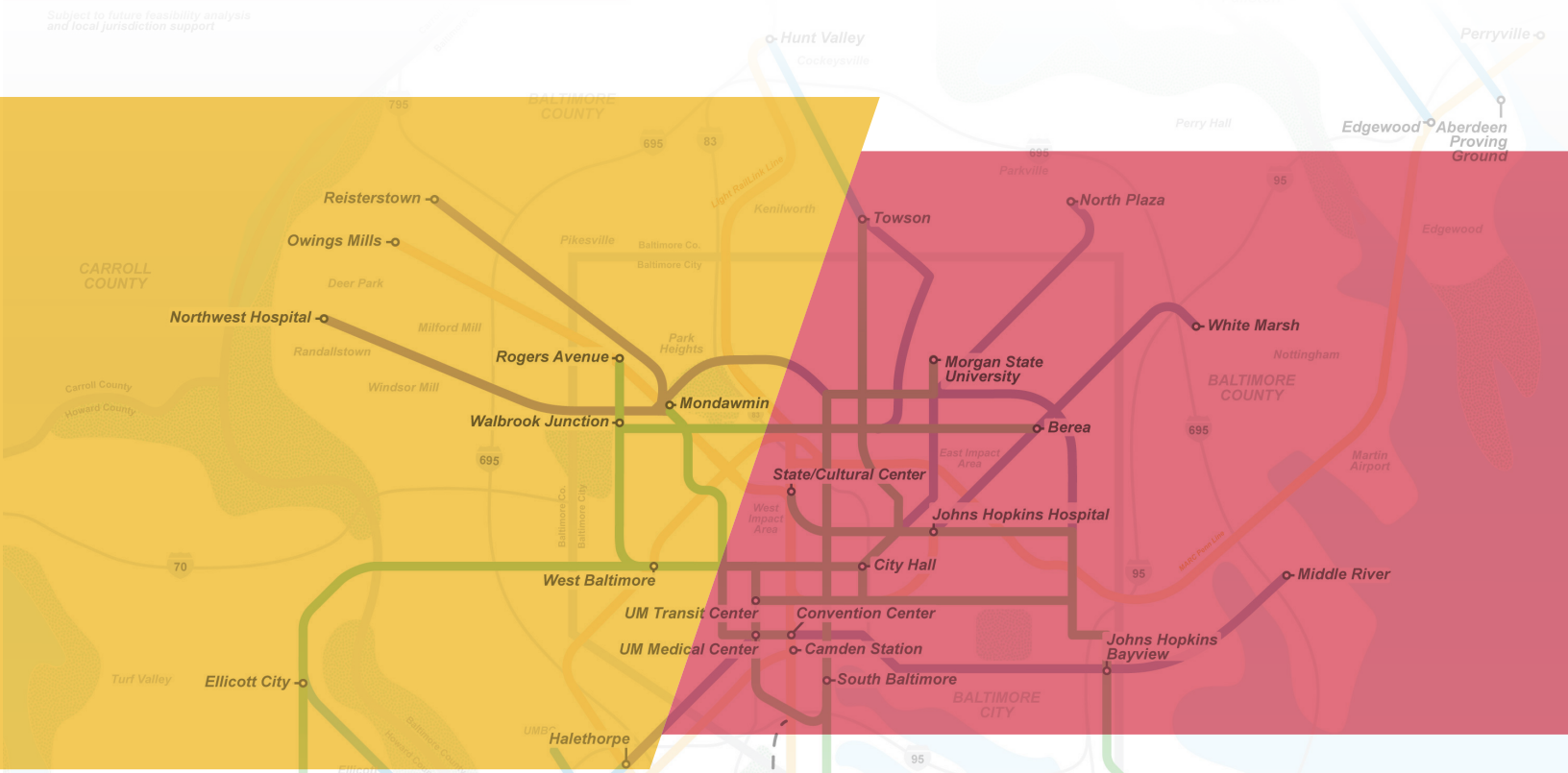
As the region grows, paratransit use is expected to increase, and paratransit customers will want to travel farther distances. Currently, many paratransit customers' travel is limited to the jurisdiction where they live. Coordination between paratransit providers across the region can help improve the mobility of paratransit customers, offering equal access to life's opportunities for paratransit and fixed-route transit customers. New trip planning tools, fare coordination systems, and transfer centers should be designed to benefit all transit customers.

STRATEGIES
Improve the Paratransit Trip

- Maintain vehicles and facilities in a state of good repair
- Implement electronic fare collection
- Increase subscription trips
- Implement trip-by-trip eligibility, whereby paratransit riders will be eligible for some services, but not others, depending on their abilities and the trip they are trying to make
- Synchronize paratransit span of service with local bus service
- Improve trip scheduling
- Improve coordination with non-emergency medical transportation providers
- Incorporate disability sensitivity training for front-line transit employees
- Incorporate travel training programs for customers

Connecting Our Future

A Regional Transit Plan for Central Maryland



For more information, or to request this document in an alternate format or translated into another language, please contact rtp@maryland.gov// 443-475-0687 // TTY 410-539-3497 // Maryland Relay users dial 7-1-1

MARYLAND DEPARTMENT OF TRANSPORTATION

MARYLAND TRANSIT ADMINISTRATION