# Baltimore County
# **Transit Development Plan**

*December 2021*

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# Chapter 1
# Introduction

A Transit Development Plan (TDP) is a planning process that should be undertaken on a periodic basis by every transit system. The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) requires the Locally Operated Transit Systems (LOTS) in Maryland to conduct a TDP every five years. The LOTS use their TDPs as a basis for preparing their Annual Transportation Plans (ATPs) that serve as the grant applications for transit funding.

CountyRide is the local transit system that serves Baltimore County, providing specialized transportation services as well as some general public transit service. These services are funded by the Federal Transit Administration (FTA) as well as state grant programs administered by the MDOT MTA Office of Local Transit Support (OLTS), as well as by Baltimore County and community partnerships. Baltimore County is responsible for applying for and administering all grant funds, including completing the Annual Transportation Plan (ATP) application and submitting it to MDOT MTA. The County also completes necessary reports for the public transportation program.

This TDP builds upon and formulates Baltimore County's goals and objectives for transit, reviews and assesses current transit services, identifies unmet transit needs, and develops an appropriate course of action to address the objectives in the short-range future. While previous TDPs focused primarily on services provided through CountyRide, this plan represents a greater emphasis on public transit in Baltimore County that was stressed by local officials at the outset of the planning process. As a result the plan recommendations go beyond CountyRide services, and include strategies for expanding locally operated transit and microtransit services. This completed plan for Baltimore County will then serve as a guide for implementing service and/or organizational changes, improvements, and/or potential expansion during the next five-year period.

The TDP process was initiated shortly before the COVID-19 pandemic. Subsequently Baltimore County implemented several changes to CountyRide services to minimize the risks associated with COVID-19. These changes included limiting services to essential activities such as medical appointments, pharmacies, and groceries; allowing a maximum of two passengers on the bus at one time to allow for appropriate physical distancing; and requiring all drivers and customers to wear masks. The information on CountyRide included in this plan was based on services in place before the impact of COVID-19, and the data discussed in this document were from previous fiscal years not affected by the pandemic.

The planning process was guided by a TDP advisory committee that provided input throughout the project, and in particular on current issues, unmet needs, and potential community outreach efforts. The TDP advisory committee offered feedback on interim planning documents, and ultimately approved a final draft that was presented by the Baltimore County Executive and staff through a public input meeting on November 30, 2021. Comments received through the public input period were incorporated into this final version of the TDP.

## OVERVIEW OF THE PLAN

The chapters that follow present the results of the planning process efforts:

- Chapter 2 provides a review of existing transit conditions in Baltimore County, focusing on CountyRide and MDOT MTA services operating within the county.

- Chapter 3 provides an assessment of transit needs in Baltimore County based on input received through outreach efforts, with a particular focus on feedback from current customers, key stakeholders, and the broader community. This chapter also includes a review of recent transportation plans or studies.

- Chapter 4 reviews the land use and demographic characteristics that affect transit needs and services in Baltimore County.

- Chapter 5 presents potential service and organizational alternatives to improve current services, providing a menu of potential transit improvements that fit into a broader overall vision for public transportation in Baltimore County

- Chapter 6 provides information on the microtransit alternative introduced in Chapter 5, outlining the necessary steps towards implementing this service in Baltimore County.

- Chapter 7 provides final recommendations, including budgeting and implementation considerations over the next five years.

# Chapter 2
# Review of Existing Conditions

## INTRODUCTION

This chapter provides a review of existing transit conditions in Baltimore County, focusing on CountyRide and MDOT MTA services operating within the county. Along with the needs assessment and the analysis of demographic and land use patterns presented in the next two chapters, the review of existing conditions will be used to develop possible service and organizational alternatives for improving mobility in Baltimore County.

## COUNTYRIDE

### Overview, Mission and Goals

CountyRide provides specialized transportation services to Baltimore County residents ages 60 or older, persons with disabilities ages 18 to 59, and rural residents of all ages. Destinations include medical appointments, shopping and other general-purpose trips. All current services are operated on a demand response basis through which customers need to schedule their trips.

CountyRide has historically been a program of the Baltimore County Department of Aging. At the outset of the TDP process Baltimore County reported that CountyRide services would be transitioning to the Department of Public Works (DPW) at the end of the fiscal year. DPW is responsible for the maintenance of public infrastructure systems, including county roads. As of July 1, 2020, the entire CountyRide staff and operations were transferred to DPW. This organizational change is further discussed in the Management and Institutional Structure section of this chapter.
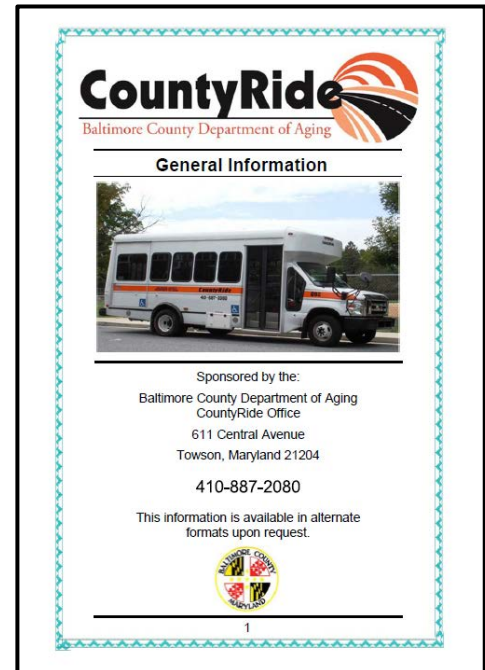
## Description of Existing Services

### *Service Eligibility*

Eligibility for CountyRide services is determined through the following:

- **Seniors eligible for service** are defined as Baltimore County residents ages 60 and older.

- **Persons with disabilities who are eligible for service** are defined as Baltimore County residents ages 18 through 59, pending review of required documentation as requested on the CountyRide registration form. The application process certifies that the customer cannot use public transportation and qualifies them as eligible to be served by CountyRide.

- **Rural Residents eligible for service** are defined as residents of all ages who reside within the rural boundaries of Baltimore County.

### *Service Area*

Specialized transportation services for seniors and persons with disabilities are available countywide. Rural services are provided in areas defined as any part of Baltimore County that is outside of the Baltimore Urbanized Area defined in the 2010 Census.

CountyRide services only operate within Baltimore County, except limited service to the following out-of-county partner hospitals:

- Franklin Square Hospital Center
- Good Samaritan Hospital
- Greater Baltimore Medical Center
- Johns Hopkins Bayview Medical Center
- The Johns Hopkins Hospital
- Kernan Hospital
- Kennedy Krieger Spinal Institute
- The League for the Handicapped
- Mercy Medical Center
- Northwest Hospital Center
- St. Agnes Hospital
- St. Joseph Medical Center
- Sinai Hospital of Baltimore
- Union Memorial Hospital
- University of Maryland Medical Center

### Days and Hours of Operation

CountyRide customers can schedule trips during office hours, which are Monday through Friday from 8:00 a.m. to 4:00 p.m. Services operate Monday through Friday from 7:00 a.m. to 5:00 p.m.

### Service Registration

Customers are required to register for CountyRide before using available services. Registration forms can be found on the CountyRide website or at one of the 20 seniors centers located throughout Baltimore County. Completed registrations can then be submitted in person, through the mail, or by fax.

CountyRide reports that there are more than 14,000 individuals who are registered and included in the rider database. The vast majority are seniors, and about two-thirds of the seniors are ambulatory. Of registered riders, 3,948 are active riders. Active riders are those who have taken at least one trip on CountyRide in the past three years.

### Trip Scheduling

When a Baltimore County resident is deemed eligible for CountyRide services they are limited to two trips in a one-week period. In addition to in-person and phone reservation scheduling, CountyRide offers the option of using Request-a-Trip, which is an Interactive Voice Response (IVR) and Interactive Web Response (IWR) system that is available 24 hours a day seven days a week. IVR allows clients to request a ride using a telephone keypad, IWR has the same functionality as IVR but uses a web-interface that requires a PIN and password to access.

### Types of Trips

CountyRide breaks out demand-response trips through the following process:

- Reservations can be made up to two weeks in advance of the service for rides to medical appointments.

- Arrangements for non-medical trips can be made up to one week in advance. CountyRide notes that these trips would include those to the post office, hairdresser, grocery store, bank, or other location within the County. They also note that for greatest efficiency non-medical trips should ideally be to the closest location to the client's home, and trips provided to senior centers are to the closest center to the customer's residence.

- Same day-reservations can be scheduled on a space-and time-available basis. The previous TDP noted that demand for service typically exceeds available capacity.

- Standing rides are available to customers who regularly go to partner hospital locations for a limited time period to receive medical services such as chemotherapy. Any residents interested in this service must first contact the CountyRide office.

- If there are no openings at the time of booking a trip, customers may choose to be placed on stand-by. This is not a guarantee of a ride but a reservation for an available space caused by cancellations and other occurrences by other riders.

CountyRide also operates a Shopping Shuttle program that allows customers to travel in a group to a pre-selected destination for different types of shopping. The Shopping Shuttle provides transportation to grocery stores, malls or individual stores, and destinations may change from month to month to give participants a selection of shopping experiences. A local shopping coordinator organizes the trips. Shopping Shuttle participants may use the shopping shuttle in their area of the County at least once per month. When they arrive at their shopping destination, they have approximately one and a half hours for shopping.

### Cancellations and "No Show" Policies

The CountyRide brochure states that cancellations must be requested by noon the day before the scheduled trip and can be made 24 hours a day via answering service. Three cancellations or no shows within a 30-day period can result in the suspension of service for 30 days.

CountyRide reports that they experience a 24.75% cancellation rate. This includes all types of cancelations - advance cancels, late cancels, and same-day cancels. Using data from the 2019 calendar they note that there has been a slight increase in the cancellation rate. The following is a breakdown of the different cancellations provided by CountyRide:

- Advance cancels (client cancels before 12 p.m. the day before trip) = 12.81%

- Late cancels (client cancels after 12 p.m. the day before trip without valid reason) = 5.71%

- Same day cancels (client canceled with valid reason) = 5.71%

- No show cancels (bus arrived on location, but rider did not show) = 2.27%

### Fares

CountyRide accepts the following as payment: CountyRide tickets, cash, checks, or money orders. Credit or debit cards are not currently accepted. CountyRide's preferred method of payment is by CountyRide tickets, purchased in advance of the trip. Tickets are sold in books of six for $15.00 ($2.50 per ticket). Books of tickets may be purchased in person at the CountyRide office as well as at any Baltimore County Senior Center, or by mail (paying via check or money order). Tickets must be purchased in advance of travel.

Without a ticket, one-way fares are $3.00 within Baltimore County and $6.00 for travel into Baltimore City to partnership hospitals (with round trip fares being $6.00 and $12.00 respectively). Riders must have the exact fare. Riders making more than one trip per day are required to pay the full day's fare upon boarding the first trip of the day. Table 2-1 summarizes CountyRide's fare structure.

**Table 2-1: CountyRide One-Way Fare Structure Summary**

| Payment method | Trips within the County | Trips that cross the City/County line |
|---|---|---|
| Fare paid with tickets purchased in advance | $2.50 (1 ticket) | $5.00 (2 tickets) |
| Fares without tickets | $3.00 | $6.00 |

The previous TDP also noted that CountyRide would like to streamline their fare payment system and eliminate cash and tickets. This would reduce dwell time now required for riders to count and provide their cash fare or to tear off the appropriate number of tickets from their ticket books to pay the fare. Eliminating cash and tickets would also reduce administrative time to count and reconcile fares with passenger accounts. Progress towards this objective will be further discussed with Baltimore County through the TDP process.

### *Service Hubs*

CountyRide has organized its service into four geographic areas through the following hub locations that are displayed in Figure 2-1:

- Chesterwood
  2200 Chesterwood Road 21222

- Glen Keith
  1801 Glen Keith Boulevard 21234

- Inwood
  7400 Johnnycake Road, 21228

- Jacksonville
  3101 Paper Mill Road, 21131

**Figure 2-1: CountyRide Service Hubs**
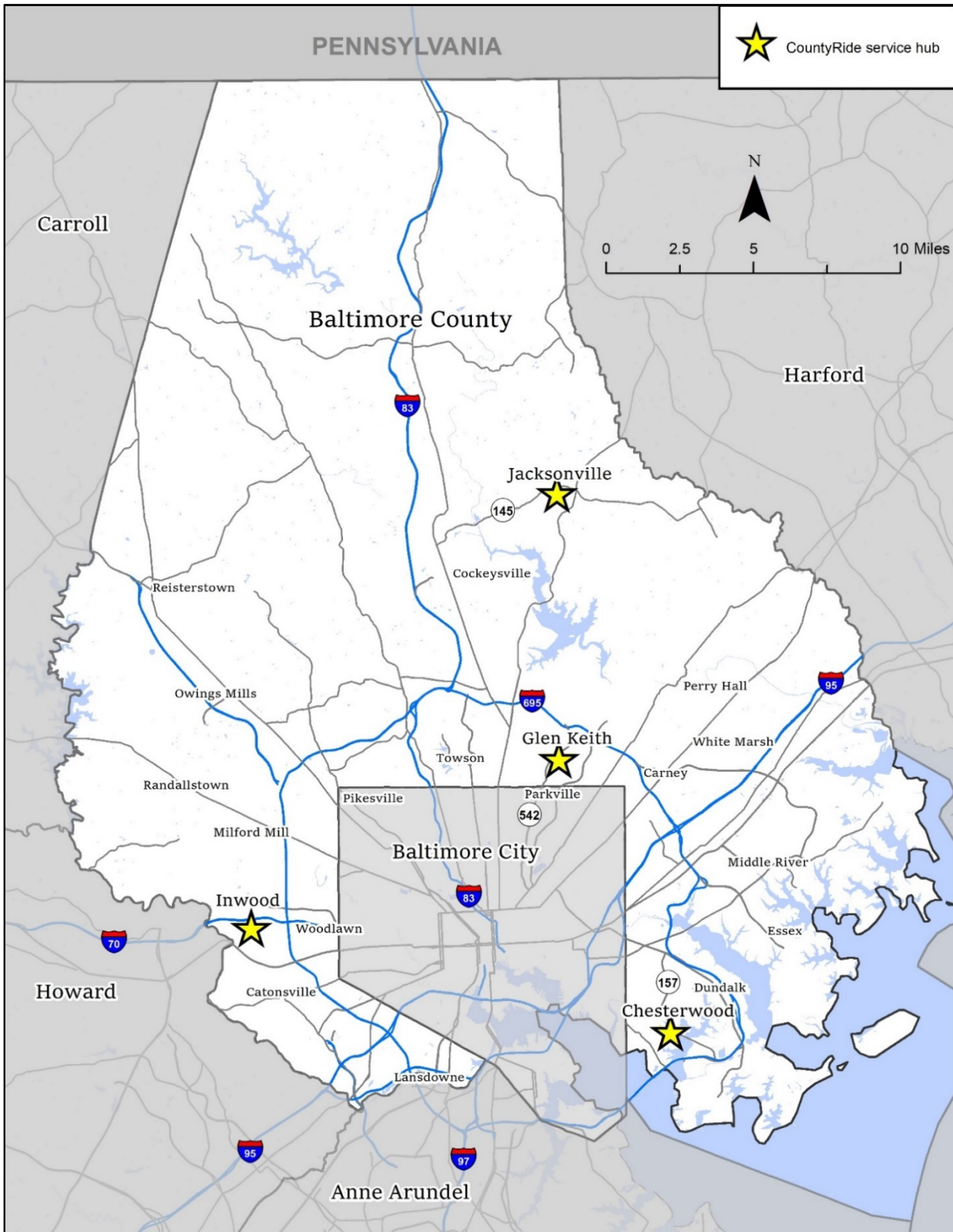
Vehicles are assigned to each hub according to the general demand for service. Drivers start their driver manifests from their assigned hubs. CountyRide schedules trips, to the extent possible, within the general area of the hub to reduce deadhead miles and time. Although given the nature of trip patterns, a large number of medical trips to designated hospitals, and CountyRide's provision of same-day service to fill the capacity created by cancellations, vehicles are assigned trips outside of their hub area.

### *Other Operating Policies*

- **Children**: Children under 12 must be accompanied by an adult. Parents or guardians are responsible for supplying a child safety seat for children under 8 years who are under 4'9" and 65 pounds. Children traveling in the rural area under age 3 ride for free.

- **COVID-19 Essential Services**: To minimize the spread of COVID-19 CountyRide enacted several changes over the course of the TDP process. These changes included only scheduling trips that were deemed essential such as medical appointments, pharmacy pickup, and grocery shopping. Other changes were for only two passengers to be allowed on the bus for each trip to better enforce social distancing and limit the COVID-19 spread. Some restrictions were modified in response to the status of the ongoing pandemic. Driver shields were also used by vehicle operators.

## Management and Organizational Structure

The day-to-day management of the program is provided by the CountyRide Manager. Overall, CountyRide has six administrative staff members, 21 full-time drivers, and 1 part-time driver. As of July 1, 2020, CountyRide transitioned to the Department of Public Works. The organization for CountyRide is provided in Figure 2-2, which shows this recent change.

**Figure 2-2: CountyRide Organizational Chart**
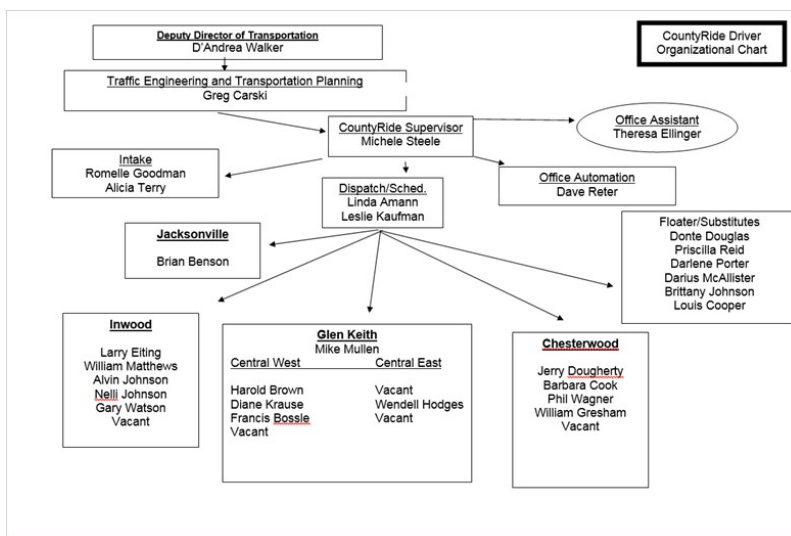
## Agreement with Uber

In May 2020, Baltimore County entered into an agreement with Uber to provide transportation services, particularly to assist with capacity issues. Through this agreement, CountyRide can schedule trips using Uber drivers as needed. This agreement is currently funded by Baltimore County for an amount up to $25,000.

## FUNDING SOURCES

MDOT MTA's Office of Local Transit Support administers federal and state funding for the Locally Operated Transit Systems (LOTS) in Maryland, including CountyRide. Through MDOT MTA Baltimore County currently receives funding through the following programs:

- Federal Transit Administration (FTA) Section 5311 – This federal program provides funds to support public transportation services in rural areas.

- Statewide Special Transportation Assistance Program (SSTAP) – This state program provides funding for transportation services for the elderly and/or persons with disabilities.

In their FY2020 ATP application to MDOT MTA, Baltimore County requested the following:

- $122,712 in federal Section 5311 operating funds
- $40,904 in state funds to support Section 5311 services
- $395,836 in SSTAP operating funds
- $200,298 in federal capital funds for vehicle replacement and equipment
- $25,125 in state funds for vehicle replacement and equipment

Baltimore County also provides funding for public transportation services. The FY2020 ATP application indicates that Baltimore County will provide:

- $122,712 in support of the Section 5311 operating funds
- $406,747 in support of SSTAP operating funds
- $25,126 in support of capital projects

In addition to federal, state, and local sources, CountyRide services are supported through fares collected from customers. In FY2019 CountyRide collected $64,462 in fares through the Section 5311 and SSTAP funded services, a farebox recovery of 6.4% of total operating expenses.

## FY2020 BUDGET

Through the ATP process, Baltimore County submitted its FY2020 operating budget. As shown in Table 2-2, the project budget was $2.1 million, with over 90% of the budget appropriated for vehicle operations.

**Table 2-2: CountyRide FY2020 Operating Budget**

| FY2020 | Total |
|---|---|
| **Vehicle Operations Expenses** | |
| Driver Salaries | $1,010,858 |
| Dispatcher Salaries | $137,342 |
| Fringe Benefits | $255,892 |
| Fuel and Oil | $495,058 |
| Other | $17,650 |
| Subtotal Operations | $1,916,800 |
| **Maintenance Expenses** | |
| Materials and Supplies | $3,000 |
| **Administrative Expenses** | |
| Administrator Salary | $61,802 |
| Secretary Salary | $44,119 |
| Other Salary | $60,268 |
| Materials and Supplies | $19,660 |
| Office Equipment Rental | $1,600 |
| Other | $3,815 |
| Subtotal Administrative | $191,264 |
| **Total Expenses** | **$2,111,064** |

Source: FY2020 Annual Transportation Plan (ATP)

## RIDERSHIP DATA

An overview of system ridership for the last four fiscal years, broken out between Section 5311 and SSTAP program funding, is provided in Table 2-3. As indicated in the ridership data, CountyRide provided 38,533 passenger trips in FY2019, an eight percent decrease from the previous year. Looking at the overall four-year period, ridership has fluctuated each year, with the highest ridership in FY2018.

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**Table 2-3: CountyRide Ridership Data**

| Fiscal Year | Section 5311 | SSTAP | Total | Change from Previous FY |
|---|---|---|---|---|
| FY2016 | 13,332 | 27,954 | 41,286 | - |
| FY2017 | 9,991 | 23,655 | 33,646 | -22.7% |
| FY2018 | 12,239 | 29,752 | 41,991 | 24.8% |
| FY2019 | 11,440 | 27,093 | 38,533 | -8.2% |

Source: Form 2a Service Performance Summaries

## OPERATING AND PERFORMANCE DATA

MDOT MTA has established performance standards for the LOTS in Maryland as a tool for monitoring the effectiveness and efficiency of their services. Descriptions of the performance standards are provided in Table 2-4, and specific measures for the rural and demand response services like those provided by CountyRide are provided in Table 2-5.

**Table 2-4: Description of MDOT MTA Performance Standards**

| MDOT MTA Performance Standards for LOTS | |
|---|---|
| **Performance Metric** | **Brief Description** |
| Operating Cost per Hour | Total cost of operations with respect to total service hours; calculated as the time when the driver pulls out for service until the driver returns from service |
| Operating Cost per Mile | Total cost of operations with respect to total service miles; calculated as miles from driver pull-out to driver pull-in, and includes deadhead mileage |
| Operating Cost per Passenger Trip | Total cost of operations with respect to total ridership, calculated as each passenger boarding counted as one passenger trip |
| Farebox Recovery | Total farebox receipts with respect to total operating cost |
| Passenger Trips per Mile | Total passenger trips with respect to total service miles |
| Passenger Trips per Hour | Total passenger trips with respect to total service hours. The most useful single measure in that it reflects usage in relation to the amount of service provided. The majority of transit operating costs are hourly (wages and benefits), so higher values of trips per hour reflect better use of resources |

**Table 2-5: Description of Specific Standards for Rural and Demand Response Services**

| Rural Transit Service | Revised LOTS Performance Standards | | |
|---|---|---|---|
| | **Successful** | **Acceptable** | **Needs Review** |
| Operating Cost per Hour | < $43.08 | $43.08 - $64.63 | > $64.63 |
| Operating Cost per Mile | < $2.15 | $2.15 - $4.31 | > $4.31 |
| Operating Cost per Passenger Trip | < $7.54 | $7.54 - $19.39 | > $19.39 |

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| Rural Transit Service | Revised LOTS Performance Standards | | |
|---|---|---|---|
| | **Successful** | **Acceptable** | **Needs Review** |
| Local Operating Revenue Ratio | > 50% | 40% - 50% | < 40% |
| Farebox Recovery Ratio | > 15% | 7% - 15% | < 7% |
| Passenger Trips per Mile | > 0.30 | 0.15 - 0.30 | < 0.15 |
| Passenger Trips per Hour | > 5.0 | 2.5 - 5.0 | < 2.5 |
| **Suburban/Small Urban   Demand-Response** | Revised LOTS Performance Standards | | |
| | **Successful** | **Acceptable** | **Needs Review** |
| Operating Cost per Hour | < $64.63 | $64.63- $86.17 | >86.17 |
| Operating Cost per Mile | < $3.77 | $3.77 - $7.54 | > $7.54 |
| Operating Cost per Passenger Trip | < $21.54 | $21.54 - $43.08 | > $43.08 |
| Local Operating Revenue Ratio | > 60% | 40% - 60% | < 40% |
| Farebox Recovery Ratio | > 12% | 6% - 12% | < 6% |
| Passenger Trips per Mile | > 0.20 | 0.10 - 0.20 | < 0.10 |
| Passenger Trips per Hour | > 3.0 | 1.5 - 3.0 | < 1.5 |

Source: FY201 ATP, Performance Standards as of October 9, 2019

Operating and performance data for FY2019 for County Ride is provided in Table 2-6 and then discussed concerning the MDOT MTA performance standards.

**Table 2-6: FY2019 Operation and Performance Data**

| FY2019 Operation and Performance Data | | | |
|---|---|---|---|
| **FY2019** | **Section 5311** | **SSTAP** | **Total** |
| Total Passenger Trips | 11,440 | 27,093 | 38,533 |
| Total Service Miles | 58,049 | 216,234 | 274,283 |
| Total Service Hours | 7,334 | 18,101 | 25,435 |
| Total Operating Costs | $294,133 | $706,764 | $1,000,897 |
| Total Farebox Receipts | $18,336 | $46,126 | $64,462 |
| Other Local Revenue | $112,186 | $265,610 | $377,796 |
| Cost/Hour | $40.11 | $39.05 | $39.35 |
| Cost/Mile | $5.07 | $3.27 | $3.65 |
| Cost/Trip | $25.71 | $26.09 | $25.98 |
| Local Operating Revenue Ratio | 44.4% | 44.1% | 44.2% |
| Farebox Recovery | 6.2% | 6.5% | 6.4% |
| Passenger Trips/Mile | 0.20 | 0.13 | 0.14 |
| Passenger Trips/Hour | 1.56 | 1.50 | 1.51 |

Source: Form 2a FY2019 Service Performance Summary

A review of Section 5311 funded services to the MDOT MTA rural performance standards for rural transit service, and SSTAP funded services to the Suburban/Small Urban Demand-Response standards, indicates the following:

Section 5311

- CountyRide is performing above the MDOT MTA standard threshold for operating cost per hour.

- CountyRide is performing within the acceptable MDOT MTA standard for its local operating revenue ratio and passenger trips per mile.

- CountyRide is below the MDOT MTA acceptable threshold in cost per trip, farebox recovery, and passenger trips per hour.

SSTAP

- CountyRide is performing above the MDOT MTA standard threshold for operating cost per hour and cost per mile.

- CountyRide is performing within the acceptable MDOT MTA standard for cost per trip, local operating revenue ratio, farebox recovery, passenger trips per mile, and passenger trips per hour.

## TRANSIT FLEET, FACILITIES, AND TECHNOLOGY

### Fleet

The current CountyRide fleet includes 24 buses and one sedan. The vehicle inventory provided through the FY2020 ATP is shown in Table 2-7. At that time 15 of these vehicles were described by CountyRide as in excellent or good condition, with another eight in fair shape. One vehicle was described as in poor condition.

Baltimore County's FY2020 ATP included a request for replacement of two vehicles in the current fleet. CountyRide's vehicle inventory will be updated through the course of the TDP so that it can be fully considered through the capital program component of the plan.

## Table 2-7: CountyRide Vehicle Inventory through the FY2020 ATP

| Vehicle (VIN) Number | Status | Model Year | Make | Vehicle Type | Seating Capacity | | Fuel Type | Condition | Mileage |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ambulatory | Wheelchair | | | |
| 1FD4E5P38D09732 | Active | 2008 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Poor | 84881 |
| 1FDFE45P39DA24772 | Active | 2009 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 183212 |
| 1FDFE45P59DA24773 | Active | 2009 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 188429 |
| 1FDFE4FP3ADA05593 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 174596 |
| 1FDFE4PXADA03565 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 162299 |
| 1FDFE4FS9ADB02236 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 149654 |
| 1FDFE4FSOADB02237 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 157907 |
| 1FDFE4FS2ADB02238 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 151235 |
| 1FDEE3FL2DA34432 | Active | 2011 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 97617 |
| 1FDEE3FLXEDA34422 | Active | 2014 | FORD | Bus_Light_Duty | 3 | 0 | Gasoline | Good | 107570 |
| 1FDEE3FL8EDA34421 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 93115 |
| 1FDEE3FL6EDA34420 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 91237 |
| 1FDFE4FS2GDC50253 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 65294 |
| 1FDFE4FS4GDC50254 | Active | 2016 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 65108 |
| 1FDEE3FS4GDC56657 | Active | 2016 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Good | 53385 |
| 1FDEE3FS6GDC56658 | Active | 2016 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Good | 52452 |
| 1FDEE3FSXHDC78552 | Active | 2017 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 27406 |
| 1FDFE4FS0JDC07523 | Active | 2018 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 21047 |
| 1FDEE3FS1HDC78553 | Active | 2017 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 28139 |
| 1FDFE4FS3HDC78581 | Active | 2017 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 21438 |
| 1FDEE3FSXKDC04572 | Active | 2019 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 1560 |
| 1FDEE3FS1KDC04573 | Active | 2019 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 868 |
| 2FABP7BV7BX167357 | Active | 2011 | FORD | Accessible_Car | 3 | 0 | Gasoline | Good | 88217 |
| 1FDFE4FS2KDC46700 | Active | 2019 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 639 |

CountyRide vehicle maintenance is performed by the County's Vehicle Operations and Maintenance (VOM) division, which is responsible for county vehicles under 14,000 lbs. gross vehicle weight, including the CountyRide fleet. The vehicles are maintained at two VOM locations – Hunt Valley and Liberty, depending on the type of vehicle and type of maintenance work that is needed.

CountyRide leases the vehicles from the county and, according to the current arrangement, is charged $1.10 per mile for maintenance and insurance. This cost is paid entirely by the county. The $1.10 per mile also includes an allocation for the purchase of the vehicles; Baltimore County has purchased all but two of the current vehicle fleet with County funds.

CountyRide reports that the turn-around time for maintenance may vary so that there are times when the transit program does not have a full complement of vehicles for service pull-out. Given VOM's responsibility for all county vehicles, there are times when other priorities may affect service scheduling for the CountyRide vehicles.

### *Facilities*

CountyRide's administrative office is located at 611 Central Avenue in Towson, within the offices of the Department of Aging. As noted above the fleet is maintained by VOM at two different garages.

*Technology*

CountyRide currently uses Trapeze PASS reservations, scheduling, and dispatching software. A Request for Proposal (RFP) was issued to replace this system, and bids from prospective vendors were submitted to Baltimore County by September 2, 2020. At the conclusion of the TDP process the County was interviewing prospective vendors.

## TOWSON CIRCULATOR

As noted earlier a 2015 study analyzed the feasibility of a circulator service in the Towson area and a study update is underway. Options in the 2015 study were formulated after a review of previous Towson circulator efforts, an online survey, and a review of peer services like Baltimore's Charm City Circulator. The survey effort generated over 500 responses. Some notable results of the survey process included:

- Ninety percent of respondents did not currently ride MDOT MTA bus services.
- Twenty-seven percent of respondents had used the Charm City Circulator.
- Fifty-one percent indicated that they would ride a circulator service in Towson.
- Many respondents desired evening hours to access downtown attractions.

After determining where MDOT MTA service was limited and which markets desired the most service, nine potential routing options were developed. In collaboration with the steering committee, three of the nine options were selected for further analysis by the study team. Steering committee aided revisions of these options, resulting in two distinct routing concepts:

- East-West Connector 1 – Hospital to Loch Raven
- Downtown to Campus & East-West Connector 2 – Kenilworth to Loch Raven

The Downtown to Campus and Kenilworth to Loch Raven routes were put forth as a paired option. Ridership and pricing estimates were generated for each of these concepts. The Hospital to Loch Raven concept was projected to cost less but have lower ridership than the combined Downtown to Campus/Kenilworth to Loch Raven concept, which was projected to cost more but yield higher ridership.

Baltimore County applied directly to FTA in June 2019 for Section 5309 Bus and Bus Facilities funding to support the Towson Circulator service, through partnership with MDOT MTA and support from the Maryland House of Delegates, Baltimore Metropolitan Council, Greater Baltimore Chamber of Commerce, Baltimore Regional Transportation Board, Greater Baltimore Medical Center, and Towson University. The application requested $1,648,200 in Section 5309 grant funds to implement the project, with a non-federal match of $412,050 from Baltimore County committed to the project. Table 2-8 provides the proposed budget included in the application.

**Table 2-8: Towson Circulator Proposed Project Funding and Budget**

| Funding Source | Federal | Local | Total |
|---|---|---|---|
| **Capital** | | | |
| Twelve 20 Passenger ADA Accessible Vehicles | $1,536,000 | $384,000 | $1,920,000 |
| Bus Shelters and Signage | $96,000 | $24,000 | $120,000 |
| Bus Signage | $8,000 | $2,000 | $10,000 |
| **Total Capital** | | | |
| | $1,640,000 | $410,000 | $2,050,000 |
| **Workforce** | | | |
| Workforce Development | **$8,200** | **$2,050** | **$10,250** |
| **Total** | **$1,648,200** | **$412,050** | **$2,060,250** |

Source: Baltimore County Application to FTA for Section 5339 Funding

The County's application was successful, and in October 2020, Baltimore County ordered the buses that will be used to operate the service and began developing a location at the Carney Park and Ride lot. During the TDP process several virtual public meetings were conducted to obtain community input on the two potential route designs. It is anticipated that the Towson Circulator will begin operations in the fall of 2021.

## OTHER TRANSPORTATION PROVIDERS SERVING BALTIMORE COUNTY

## Maryland Transit Administration (MDOT MTA)

MDOT MTA is a division of the Maryland Department of Transportation and operates one of the largest multi-modal transit systems in the nation. The MDOT MTA service network is comprised of Local Bus, Metro Subway, Light Rail, MARC Train, Commuter Bus, Mobility Paratransit, and Call-A-Ride subsidized taxi and sedan service. Figure 2-3 displays MDOT MTA's local bus and rail services, while Figure 2-4 through Figure 2-8 (shown on pages 2-19 through 2-22) provide a more in-depth look at the MDOT MTA transit services available in Baltimore County's southwest, northwest, northern, northeast, and southeast areas.

As noted earlier, MDOT MTA administers the FTA and State programs that provide grant funding and assistance throughout Maryland to support Locally Operated Transit Systems (LOTS) in all Maryland counties, Baltimore City, the City of Annapolis, and the Town of Ocean City.

### Local Bus

In 2017, MDOT MTA overhauled their local bus system, redesigning and renaming routes to provide more direct, high-frequency service to Downtown Baltimore. The centerpiece of this overhaul are 12 high-frequency CityLink routes that operate on major thoroughfares in and out of Baltimore City. Numbered LocalLink routes provide additional transit connections to CityLink transfer points, as well as Light RailLink and Metro SubwayLink stations. Nine CityLink routes provide service in Baltimore County, these routes are included in Table 2-9. An additional 31 LocalLink routes operate in Baltimore County. Seven Express BusLink routes also serve Baltimore County.

**Table 2-9: CityLink Routes in Baltimore County**

| Baltimore County CityLink Bus Routes | |
| --- | --- |
| **Name** | **Routing** |
| CityLink Blue | CMS-Johns Hopkins Bayview |
| CityLink Brown | White Marsh-Downtown |
| CityLink Green | Downtown-Towson |
| CityLink Lime | NW Hospital-Harbor East |
| CityLink Navy | Mondawmin-Dundalk |
| CityLink Orange | Essex-West Baltimore MARC |
| CityLink Purple | Hopkins Hospital-Catonsville |
| CityLink Red | Downtown-Towson/Lutherville |
| CityLink Yellow | Mondawmin-UMBC/Patapsco |

MDOT MTA Local Bus fares are $1.90 one-way for the general public, and $0.90 one-way for seniors and people with disabilities. MDOT MTA also sells multi-trip passes and a day pass for unlimited rides. The day pass, which is valid on MDOT MTA Local Bus, Light Rail, and Metro Subway routes, is $4.40 for the general public and $2.20 for seniors and people with disabilities.

### Light Rail

MDOT MTA's Baltimore Light RailLink is a north-south connector that connects Baltimore's outlying suburbs to the downtown core. Light RailLink also provides an important transit connection to BWI Airport. Ten light rail stations are in Baltimore County, with most located north of Baltimore City. These stations are shown in Table 2-10.

The Light Rail system operates from 5:00 a.m. to 12:00 a.m. on weekdays, 6:00 a.m. to 12:00 a.m. Saturdays, and 11:00 a.m. to 7:00 p.m. Sundays. Trains operate every 10 minutes peak/15 minutes off peak between Timonium and Linthicum and 20-30 minutes between Hunt Valley and Timonium, Linthicum and BWI Marshall Airport, and Linthicum and Cromwell Station/Glen Burnie.

## Table 2-10: Baltimore County Light Rail Stations

| Baltimore County Light Rail Stations | | |
|---|---|---|
| **Name** | **Address** | **Parking Spaces** |
| Hunt Valley | 98 Shawan Road, Hunt Valley | 85 |
| Pepper Road | 1101 Schilling Road, Hunt Valley | NA |
| McCormick Road | 265 Schillings Circle, Hunt Valley | NA |
| Gilroy Road | 10903 Gilroy Road, Hunt Valley | NA |
| Warren Road | 300 West Warren Road, Hunt Valley | 370 |
| Timonium Fairgrounds | 2379 Greenspring Drive, Lutherville | 851 |
| Timonium Business Park | 11 West Aylesbury Road, Lutherville | NA |
| Lutherville | 124 Ridgely Road, Lutherville | 286 |
| Falls Road | 2 Railroad Avenue, Towson | 75 |
| Patapsco | 751 West Patapsco Avenue, Halethorpe | 216 |
| Baltimore Highlands | 4215 Baltimore Street, Halethorpe | 50 |

### Metro Subway

MDOT MTA operates the Baltimore Metro Subway service, which is a 15.5-mile rail line between Owings Mills and Johns Hopkins Hospital in east Baltimore City. Three Metro Subway stations are located in Baltimore County and detailed in Table 2-11. The Metro Subway system operates from 5:00 a.m. to 12:00 a.m. on weekdays and 6:00 a.m. to 12:00 a.m. on weekends. Trains run every 8-10 minutes during the morning and evening peak periods, 10 minutes during mid-day weekdays, 11 minutes during weekday evenings, and 15 minutes on Saturdays, Sundays, and holidays. The travel time from Owings Mills to the Johns Hopkins Hospital is 29 minutes.

Metro SubwayLink fares are the same as Local Bus fares.

## Table 2-11: Baltimore County Subway Stations

| Baltimore County Subway Stations | | |
|---|---|---|
| **Name** | **Address** | **Parking Spaces** |
| Milford Mill | 4401 Milford Mill Road, Pikesville | 1300 |
| Old Court | 4300 Old Court Road, Pikesville | 625 |
| Owings Mills | 4300 Painters Mill Road, Owings Mills | 3500 |

**Figure 2-3: MDOT MTA Bus and Rail Routes Service Area**
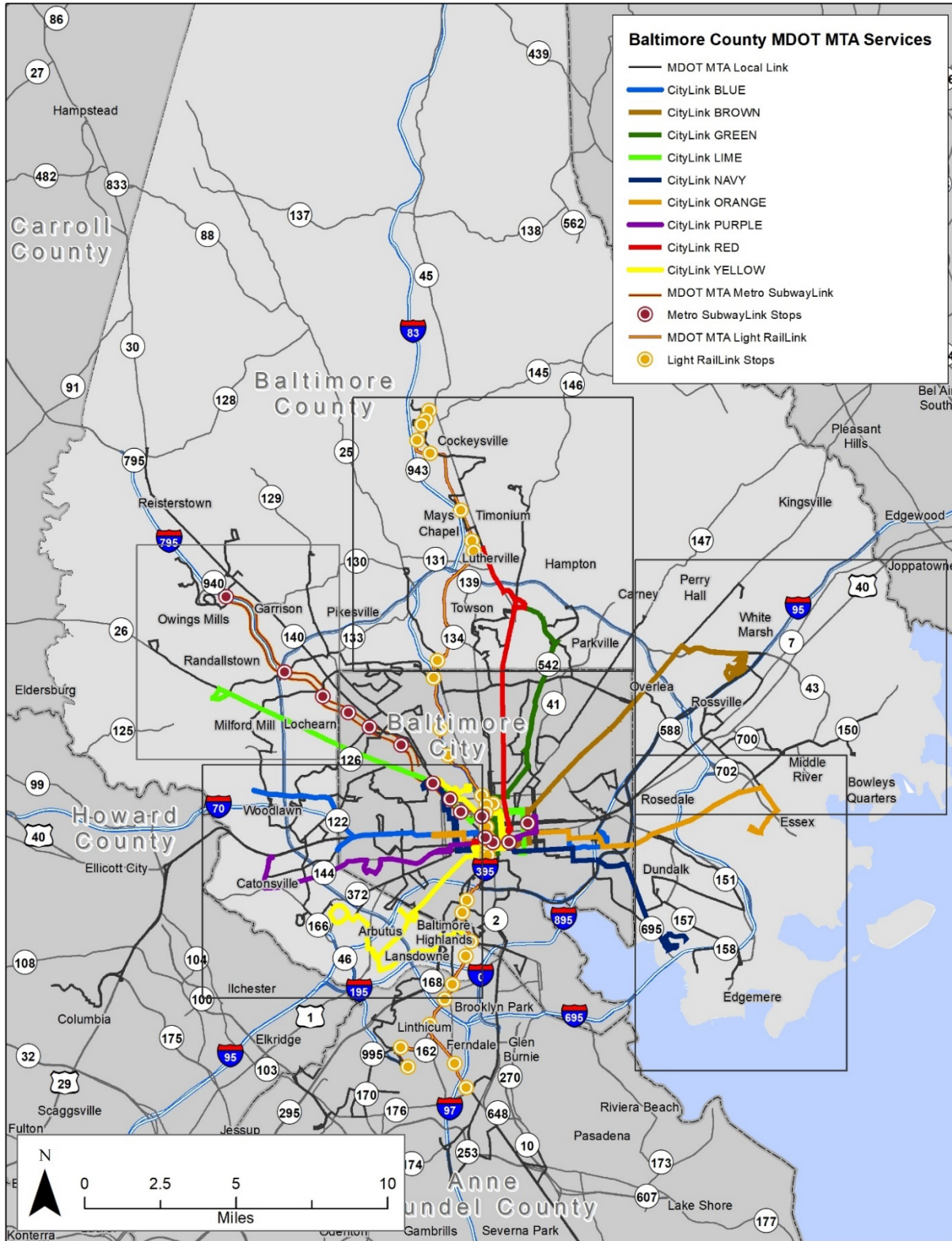
**Figure 2-4: Southwest Baltimore County MDOT MTA Services**
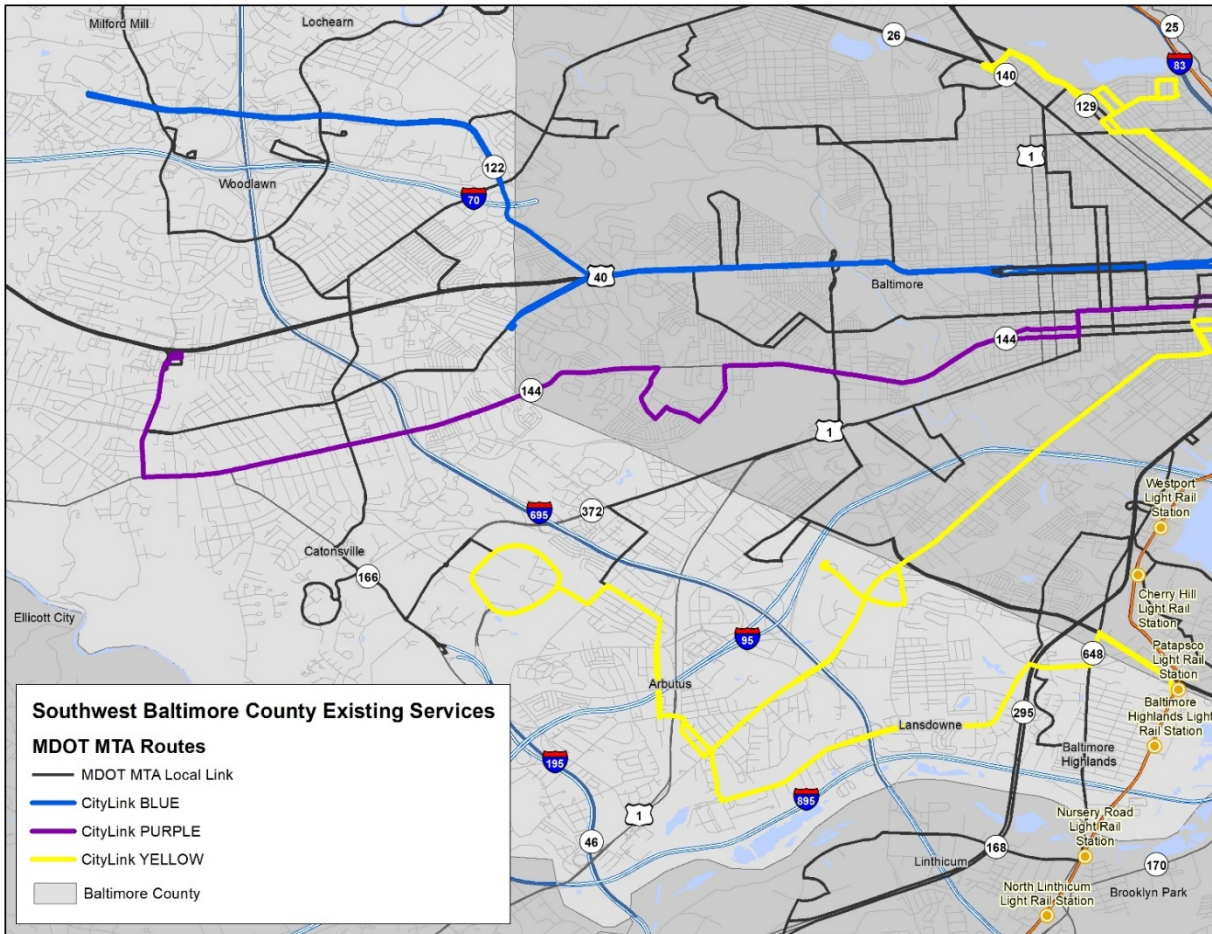
**Figure 2-5: Northwest Baltimore County MDOT MTA Services**
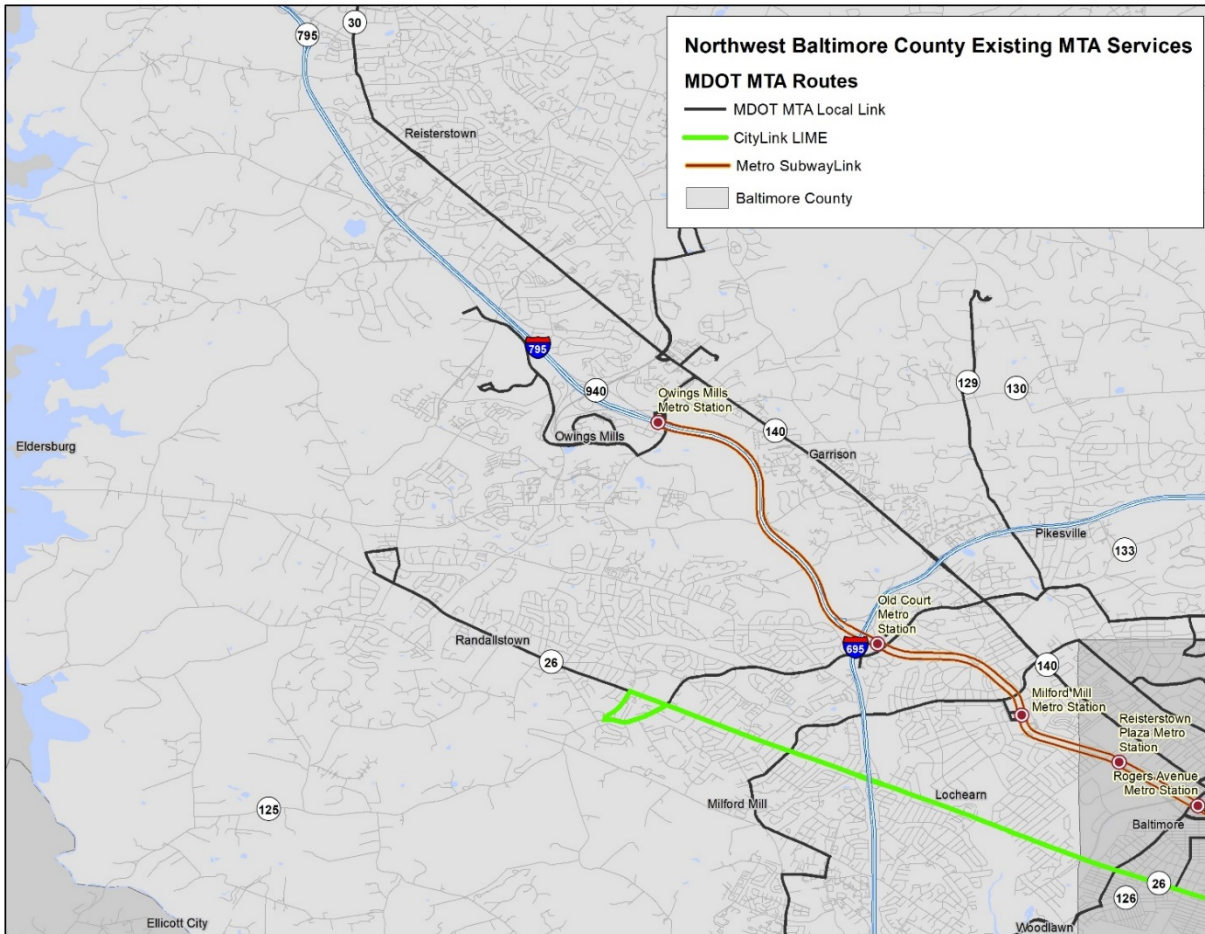
**Figure 2-6: Northern Baltimore County MDOT MTA Services**
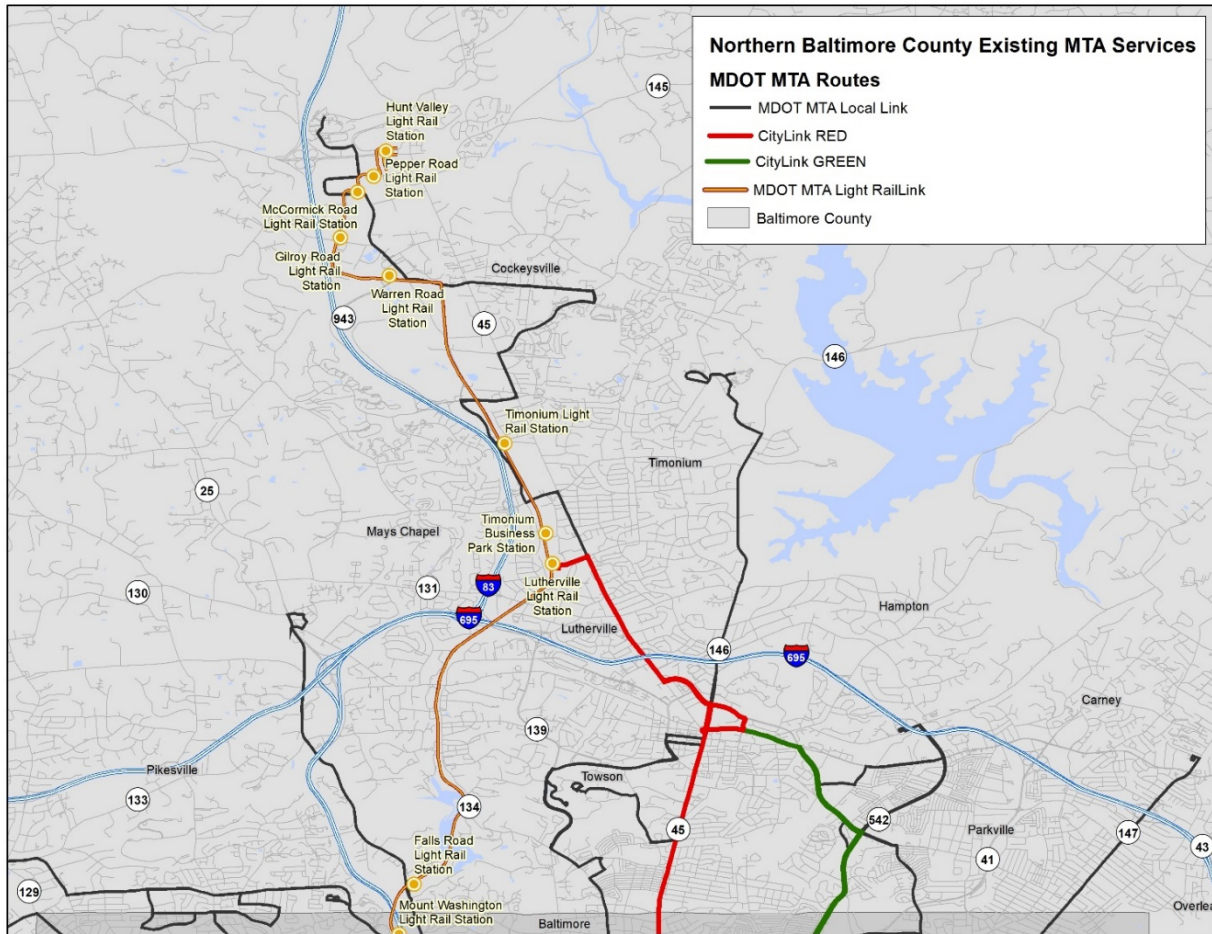
## Figure 2-7: Northeast Baltimore County MDOT MTA Services
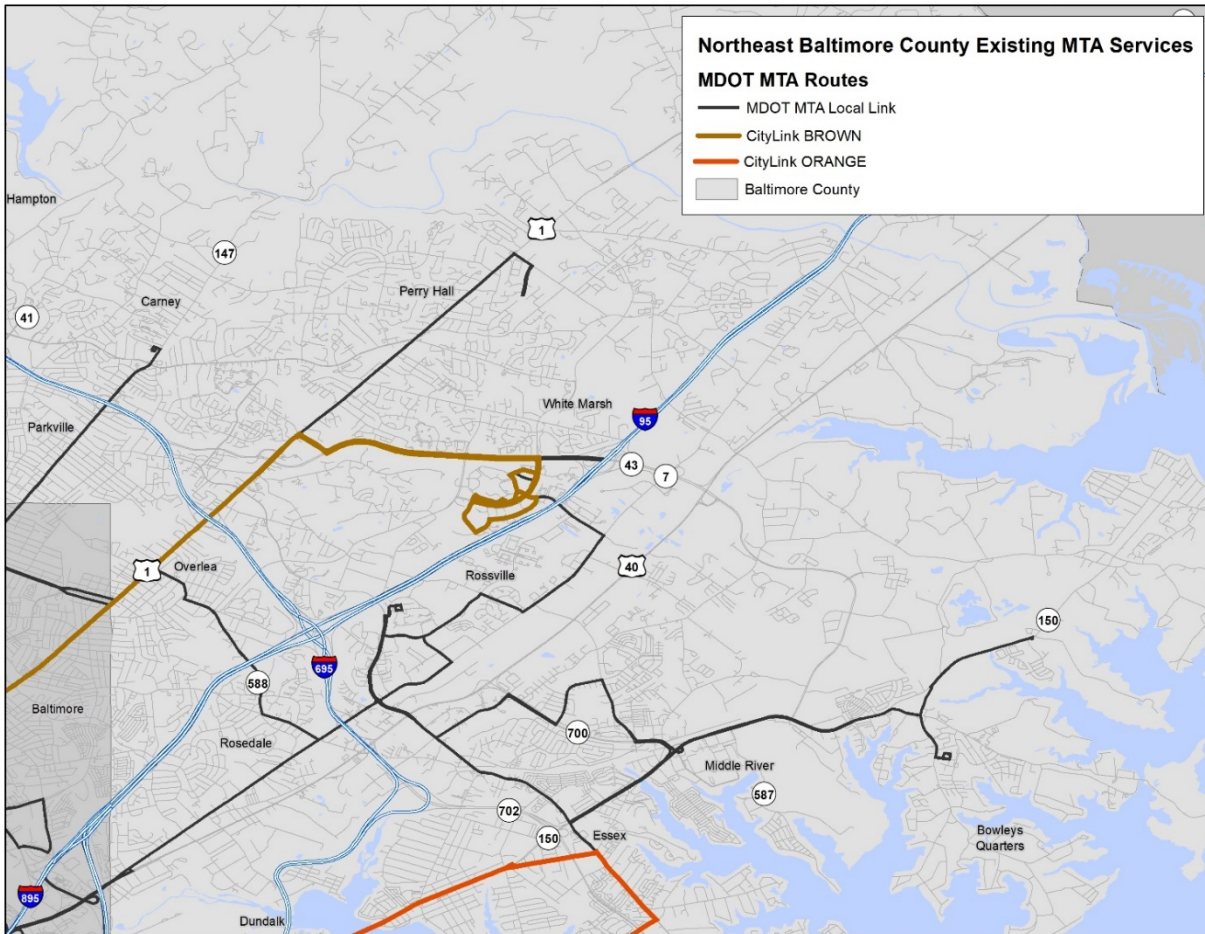
**Figure 2-8: Southeast Baltimore County MDOT MTA Services**
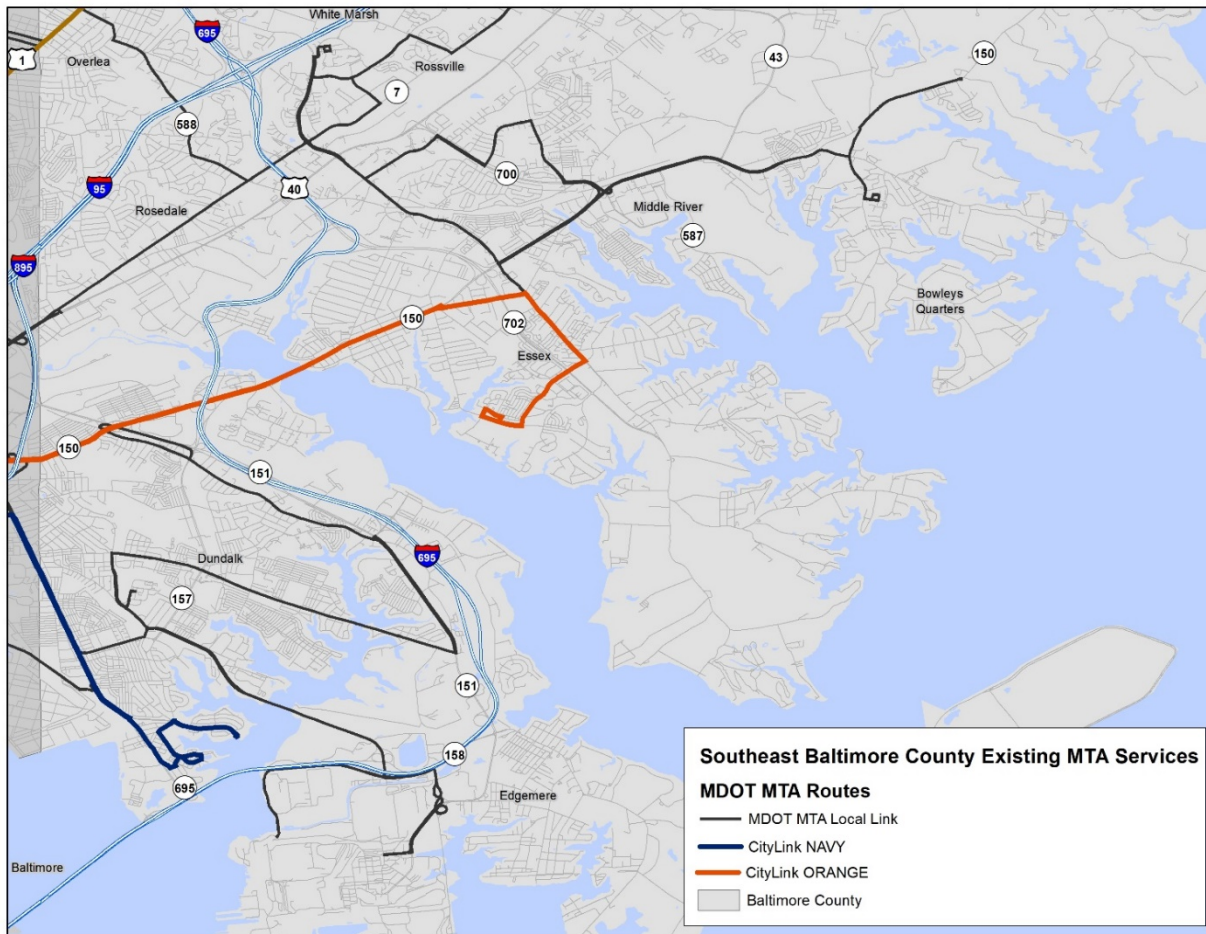


### Commuter Bus

MDOT MTA contracts for the operation of some 37 commuter bus routes designed to transport commuters to jobs in Baltimore, Washington, D.C., and other major employment destinations in Anne Arundel, Montgomery, and Prince George's Counties. The two commuter bus routes that make stops in Baltimore County are:

- Route 411, which stops at the White Marsh Park & Ride lot at 6:00 a.m. on its way into downtown Baltimore on weekday mornings. (No outbound stops are made in Baltimore County on this route)

- Route 420, which stops at U.S. 40 and Ebenezer Rd en route to downtown Baltimore on all five of its weekend morning trips. On the return trips, this route stops at U.S. 40 and Ebenezer Rd and White Marsh Park & Ride in the mid-day (1:34 and 1:40 respectively) and only at U.S. 40 and Ebenezer Rd on the five trips during the P.M. peak.

One-way fares for these Commuter Bus routes are $3.00 general public from White Marsh to Baltimore and $4.00 from Ebenezer Rd to Baltimore. Fares are a dollar off for seniors and people with disabilities. The current contract operator for both routes is Academy Express, LLC.

### MARC Train

MARC Train is a commuter rail system whose service areas span from Perryville, MD to the east, Martinsburg, WV to the west, and Washington, D.C., to the south. Two lines travel through Baltimore County: the Penn Line, which operates from Perryville to Washington, and the Camden Line, which operates from Baltimore to Washington. Three MARC Stations are in Baltimore County, detailed in Table 2-12. MARC service was impacted by the COVID-19 pandemic, though returned to full service on August 30, 2021.

The MARC Penn Line operates weekdays from 4:45 a.m. to 11:55 p.m., providing bi-directional service between Baltimore City and Washington, D.C. (and thus through Halethorpe). Martin State Airport is served by four southbound trips and one northbound trip during the morning peak, one midday northbound trip, and six northbound and three southbound trips during the p.m. peak.

The MARC Camden Line operates weekdays from 6:10 a.m. to 9:12 a.m. and 4:43 p.m. to 8:03 p.m. St. Denis is served by three westbound trains in the morning and three eastbound trains (only dropping off passengers) in the afternoon/evening peak.

MARC fares vary by distance traveled. The minimum one-way fare is $5.00, and the maximum fare from a Baltimore County station (Martin State Airport to Washington, D.C.) is $9.00. Seniors and people with disabilities ride for half fare.

**Table 2-12: MARC Stations in Baltimore County**

| Baltimore County MARC Stations | | | |
|---|---|---|---|
| **Name** | **Address** | **Line** | **Parking Spaces** |
| Halethorpe | 5833 Southwestern Blvd, Arbutus | Penn | 928 |
| Martin State Airport | 2710 Eastern Blvd, Middle River | Penn | 321 |
| St. Denis | 1734 Arlington Ave, Arbutus | Camden | 55 |

### MobilityLink

MobilityLink is MDOT MTA's paratransit service for people who, because of a disability, are functionally unable to use MDOT MTA's Local Bus, Metro Subway, or Light Rail service. To use this service, individuals must go through a certification process to determine to what extent (if

any) the individual would be able to ride fixed route service. Eligibility can be conditional if the individual is able to use fixed route service for some of their trips.

To meet ADA requirements Mobility operates during the same days and hours as the fixed route services. The geographic service area is within ¾ mile of any Local Bus route in Baltimore City and Anne Arundel and Baltimore counties, as well within ¾ of a mile radius of an MDOT MTA Light Rail or Metro Subway station. Reservations are accepted during normal business hours seven days a week.

The one-way fare is $2.10 for eligible riders and their guests. A Personal Care Attendant (PCA) traveling with an eligible individual rides for free with the individual. A maximum of two children under the age of six may ride free of charge; people over six pay the adult fare of $2.10.

### Call-A-Ride

The MDOT MTA Call-a-Ride service is available to MTA certified Mobility customers, but is a separate, premium service provided under contract by participating area taxicab and sedan companies. Through this program, Mobility customers can use taxi and sedan service for a reduced rate. Customer fares are $3.00 for taxi/sedan rides valued up to $20.00. The customer is responsible for any amount over $20.00. Up to three companions may travel with the eligible rider so long as they share the same trip origin and destination.

**Figure 2-9: Call-and-Ride Service Area**

MDOT MTA is not involved in scheduling Call-A-Ride trips. Customers deal with the taxi or sedan company, including calling the participating provider of their choice to request service.



Source: MTA website

Call-A-Ride service is available 24 hours a day, seven days a week. Call-A-Ride can be used for up to two trips per day Travel must begin and end within the MTA Mobility service area (i.e. within ¾ mile of any Local Bus route, Light Rail station, or Metro Subway station), which covers Baltimore City as well as parts of Anne Arundel and Baltimore counties as shown in Figure 2-9.

## Human Service Transportation Providers

Beyond public transit, many regional non-profits and governmental offices provide additional transportation services to eligible individuals. These services help fill gaps in service by providing additional resources to more transit dependent populations like older adults and

people with disabilities. Table 2-13 lists the different organizations that operate human service transportation programs.

**Table 2-13: Human Service Transportation in Baltimore County**

| Human Service Transportation Providers in Baltimore County | |
|---|---|
| **Provider Name** | **Brief Description** |
| Action in Maturity, Inc. (AIM) | A "senior center without walls" in Baltimore City, AIM provides door-to-door transportation and social services to aging adults and people with disabilities M-Th with limited Friday hours, fares are $10.00 per hour |
| American Cancer Society Road to Recovery | Program reimbursing volunteer drivers who transport cancer patients to and from medical appointments |
| Associated Catholic Charities | Catholic Charities Lifetime Services Division provides services for seniors and people with disabilities, including transportation to adult day services and vocational programs |
| Baltimore County Health Department | Funds non-emergency medical transportation for Medical Assistance (Medicaid) recipients |
| Glen Meadows Retirement Community | Transports residents to and from medical appointments |
| Jewish Community Services Mitzvah Mobility | Reimburses volunteers who transport older adults to medical appointments |
| Lifeline of Baltimore Senior Rides Volunteer Transportation | Reimburses volunteers who transport Baltimore County seniors (60+) and their families to medical-related appointments |
| Mosaic Community Services | An organization dedicated to transforming the lives of individuals with mental illness and addictions, they transport clients to programs throughout the metro region using their own vehicles |
| National Multiple Sclerosis Society | Their Assisted Transportation Program, based in Timonium, provides financial assistance for transportation to medical appointments |
| Comprehensive Housing Assistance, Inc. | Operated by AIM, this program provides free shuttle services for residents of Weinberg Senior Living and members of Northwest Neighbors Connecting. The service is called the Northwest Senior Shuttle |
| Penn-Mar Human Services | Located in Freeland, Penn-Mar provides employment, training, day programs, and support services to individuals with disabilities |
| St. Ann Adult Day Services | Located in Halethorpe, they operate a program for older adults that helps transport those with medical needs to their medical appointments |
| Unified Community Connections, Inc. | Provides transportation to its clients via a fleet of lift-equipped buses and vans that take clients to day programs, employment, medical appointments, recreational outings, and local community sites |

## Intercity Bus

Several intercity bus providers go through Baltimore County to connect major northeastern cities to Baltimore. Despite almost all area intercity providers crossing through Baltimore County, only two providers stop in the County. On Greyhound's FTA-funded intercity bus service between Washington, D.C., and Wilmington, DE, this service makes a stop at the White Marsh Mall Park-&-Ride at 3969 Honeygo Blvd. This service is funded by the FTA Section 5311(f) grant program, which MDOT MTA administers through the OLTS. One round trip per day is operated. Currently, northbound service departs Washington, D.C. at 5:10 a.m., stops in White Marsh at 7:50 a.m., and arrives in Wilmington at 10:15 a.m., while southbound service departs Wilmington at 11:05 a.m., stops in White Marsh at 1:30 p.m., and arrives in Washington, D.C. at 3:50 p.m. There is a 40-minute layover at the Greyhound station in Baltimore City in either direction.

Intercity bus provider Megabus uses White Marsh Mall as its Baltimore hub. Services to and from New York City stop on the south side of the White Marsh Park-&-Ride. All other destinations pick-up and drop-off stops have relocated to the JCPenney's parking lot. Intercity services to the following destinations are offered at this parking lot:

- Washington, D.C.
- Buffalo, NY
- Toronto, ON
- Newark, DE

- Secaucus, NJ
- Boston, MA
- Philadelphia, PA

## Other Private Providers

### *Ride-Hailing Applications*

Uber, Lyft, and other similar ride-hailing applications have become ever-more prevalent since the last TDP. These applications provide a platform where passengers can input a destination and receive a ride from a nearby, non-contracted driver. Ride-hailing services like these do not have a fixed service area but are found more often in higher density areas where there is more demand for this type of service. Using these applications requires an internet-enabled smartphone.

### *Taxicab Companies*

Several taxicab, sedan, and airport limousine companies serve the urbanized areas of Baltimore County. Many of these companies are also members of MDOT MTA's Call-a-Ride Program, these companies are listed below:

- Atwater Cab/Sedan offers rides in East Baltimore County, including Rosedale, White Marsh, Essex, Middle River, and Perry Hall

- County Cab/Bells Taxi provides service in Northwest Baltimore County

- Jimmy's Cab provides service in East Baltimore County

- Valley Cab provides service in Northwest Baltimore County

### *Non-Emergency Medical Transportation*

Non-emergency wheelchair-accessible transportation is provided in Baltimore City and County by numerous private providers, including these which are based in the County:

- FreedomCar

- Pulse Medical Transportation
    - East Coast Ambulance Service Wheelchair Transportation Services in Parkville operates 24/7, providing bariatric and emergency transportation.
    - LifeStar Response of Maryland Medical Transportation in Halethorpe operates 24/7, providing emergency transportation.
    - Van Go Senior Transport in Owings Mills operates private-pay service Monday through Friday, 8:00 a.m. – 5:00 p.m.

- In-home care providers that provide transportation among other services supporting seniors and/or people with disabilities living at home:
    - Comfortcare Home Care Services provides non-medical care to seniors and people with disabilities.
    - Elizabeth Cooney Care Network in Towson provides in-home medical and non-medical care, including transportation.
    - Homewatch Caregivers of Maryland in Towson provides transportation to medical appointments as well as for social outings.
    - Senior Helpers provides transportation to appointments as one of its companion care services.
    - Seniors Helping Seniors West Baltimore County provides non-medical care services, including transportation, for seniors living at home in Owings Mills, Reisterstown, Pikesville, Catonsville, Randallstown, Hunt Valley, Garrison, and the surrounding area.

- Megabus intercity bus service makes two stops on the periphery of White Marsh Mall, as part of its frequent service along the I-95 corridor. Service between White Marsh (which Megabus refers to as its Baltimore stop) and New York City makes at least 18 round trips on a typical weekday. Typical weekday service to and from Washington, D.C. involves at least eight round trips.

# College/University Transportation Systems

### *Baltimore Collegetown Shuttle*

The Baltimore Collegetown Shuttle is a free transportation service for students, staff, and faculty at five participating schools in the Baltimore region. These schools include Goucher College, Towson University, Notre Dame University of Maryland, Johns Hopkins University (Homewood), and Morgan State University. The Collegetown Shuttle operates two routes -Blue and Red – that run Monday through Sunday with varying service times.

### *Towson University – TU Tiger Ride*

Towson University's Tiger Ride provides free on and off campus shuttle services to Towson students. On-campus shuttles only operate during the fall and spring semesters, while off-campus shuttles operate year round, with limited service during winter, spring, and summer breaks. The eight off-campus shuttles are listed below:

- Goucher-Loch Raven
- Kenilworth Avenue
- Lachlan Circle Express
- Lake Walker
- Rodgers Forge
- Tiger in Town
- Timonium
- York Road/Fairmount Ave

### *UMBC Transit*

University of Maryland, Baltimore County provides on-campus and off-campus shuttle and charter bus services. UMBC Transit operates the following shuttle routes

- Arbutus/Irvington Route
- Arundel/BWI MARC Route
- BWI/MARC Route
- Catonsville Route
- Downtown Route
- Halethorpe/Satellite Route
- Route 40/Rolling Road Route

UMBC Transit routes are open to UMBC students, faculty, and staff. The service is funded by student fees.

## Commuter Assistance Programs

Several regional programs promote the use of transit and other alternatives to driving to work alone by commuters who live or work in Baltimore County. MDOT MTA's Commuter Assistance Office administers several programs in the area, including:

- **Maryland Rideshare**: a program offered by the MDOT MTA's Commuter Assistance Office promoting the use of carpooling, vanpooling, and various alternative commute options.

- **Commuter Choice Maryland:** an incentive program that offers employers monthly pass distribution options to encourage employees to utilize transit to complete their commutes. Passes can be used on MDOT MTA CityLink, LocalLink, Commuter Bus, Light RailLink, Metro SubwayLink, and MARC services.

- **Guaranteed Ride Home:** a free commuter program that provides commuters who use public transit and other alternative commuting modes a guaranteed ride home for times when their usual transportation options are less frequent or not available.

Outside of MDOT MTA, the Baltimore Metropolitan Council (BMC) also offers commuter assistance to area residents. BMC's initiative includes:

- Baltimore Metropolitan Council (BMC) participates in the regional **Commuter Connections** network, which offers computerized ride-matching and, for eligible participants, a guaranteed ride home program.

- **BMC's Metro Rideshare** program is a free service to residents, employees, and employers in Baltimore and Carroll Counties that helps commuters find carpool partners, a vanpool, or other transit options. Interested individuals can register online and receive materials about carpools and vanpools in the surrounding area.

## Sidewalks and Pedestrian Access to Transit

A transit service's accessibility is influenced as much by the surrounding pedestrian network as the accessibility measures within the transit vehicle. For fixed-route service, ensuring that transit is safely accessible by foot helps increases a rider's willingness to use transit, especially for choice riders. As Baltimore County considers public transit improvements, keeping pedestrian accessibility in mind is important.

County GIS data shows that more pedestrian infrastructure is found in Baltimore County's more densely populated communities like Towson, Catonsville, and Dundalk. County data had limited information on how much of the existing sidewalk network was inaccessible due to damage and/or narrowness and was not included in the analysis of sidewalk connections in the County.

This analysis determined the amount of MDOT MTA fixed route bus stops that were connected to the broader pedestrian network. Figure 2-10 on the next page displays a map of MDOT MTA bus stops throughout the county by whether they connected to the pedestrian network or not. This information could be used to prioritize future infrastructure improvements that would increase accessibility to the bus stops noted as not having a pedestrian pathway.

Table 2-14 provides additional data about the number of stops in each category and the average ridership numbers at those stops.

**Table 2-14: MDOT MTA Bus Stops with Sidewalk Connections**

| MDOT MTA Stop Pedestrian Connections | | |
|---|---|---|
| Bus Stop on Pedestrian Pathway | Count | Percent |
| No | 290 | 24.5% |
| Yes | 894 | 75.5% |
| Average Boardings per Bus Stop | Mean | Median |
| Not on Pedestrian Pathway | 35.4 | 11 |
| On Pedestrian Pathway | 30.5 | 10 |

**Figure 2-10: MDOT MTA Bus Stops Located on Pedestrian Network**
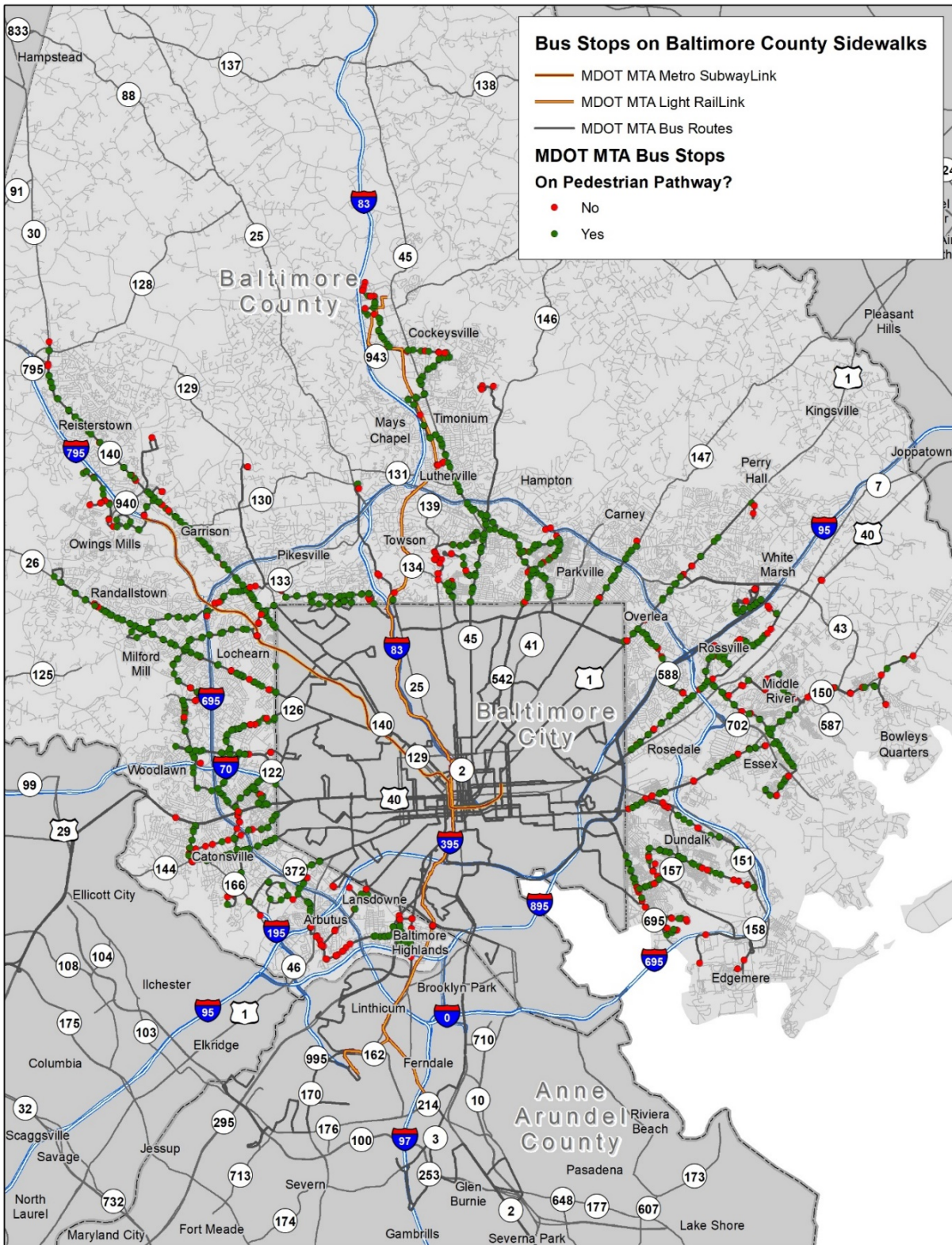
## Park & Ride Lots

The park & ride lots located in Baltimore County are listed in Table 2-15. MDOT MTA serves many of these lots with bus, Light Rail, Metro subway, and/or MARC train service.

**Table 2-15: Baltimore County Park & Ride Lots**

| Baltimore County Park & Ride Lots | | |
|---|---|---|
| **Name** | **Address** | **Parking Spaces** |
| Milford Mill | 301 Milford Mill Rd, Pikesville | 1300 |
| Old Court | 4300 Old Court Road, Pikesville | 625 |
| Owings Mills | 5018 Painters Mill Rd, Owings Mills | 3500 |
| Carney | 2912 Jomat Ave, Carney | 250 |
| Cromwell Bridge | 1198 Cromwell Bridge Rd, Towson | 64 |
| Essex | 2 Easter Blvd, Essex | 225 |
| Franklintown | Security Blvd, Franklintown | 250 |
| Glyndon | 54 Sacred Heart Ln | 0 |
| Gunpowder Falls | 10092 Belair Rd, Kingsville | 45 |
| Hereford | Mt Carmel Rd, Parkton | 123 |
| Hunt Valley | 300 Western Run Rd, Hunt Valley | 30 |
| Liberty | 3440 Brenbrook Dr, Randallstown | 250 |
| Baltimore Highlands Light Rail | 4215 Baltimore St, Baltimore | 50 |
| Falls Road Light Rail | 2 Railroad Ave, Baltimore | 110 |
| Hunt Valley Light Rail | 98 Shawan Rd, Hunt Valley | 85 |
| Lutherville Light Rail | 150 W Ridgely Rd, Lutherville-Timonium | 286 |
| Patapsco Light Rail | 751 W Patapsco Ave, Halethorpe | 216 |
| Timonium Light Rail | 2335 Greenspring Dr, Timonium | 851 |
| Warren Road Light Rail | 300 West Warren Rd, Hunt Valley | 370 |
| Mace Mini P&R | 1199 Mace Ave, Essex | 45 |
| MARC Halethorpe | 5833 Southwestern Blvd, Halethorpe | 345 |
| MARC Martin State Airport | 2710 Eastern Blvd, Middle River | 175 |
| MARC St. Denis | 1734 Arlington Ave, Baltimore | 30 |
| Maryland Line | 21198 Old York Rd, Parkton | 78 |
| Parkton | 18600 Middletown Rd, Parkton | 53 |
| Providence Road | 1001 Providence Rd, Towson | 254 |
| Southwest P&R | 1171 S Rolling Rd, Catonsville | 277 |
| White Marsh | MD-43 & Honeygo Blvd, Nottingham | 409 |

# Chapter 3
# Needs Assessment

## INTRODUCTION

This chapter provides an assessment of transit needs in Baltimore County based on input received through outreach efforts, with a particular focus on feedback from current customers, key stakeholders, and the broader community. The needs assessment also includes a review of recent transportation plans or studies.

Along with the review of demographics discussed in the next chapter of this plan, this assessment provides the foundation for the alternatives and recommendations that will be detailed in later chapters of the TDP.

Overall, this chapter is divided into the following sections:

- **Transit Development Plan Advisory Committee** – Synopsis of input provided during the project steering meetings, including feedback on public transportation needs, key issues, and future opportunities.

- **CountyRide Customer Survey** – Summary of a customer survey that provided information on trip characteristics, typical travel patterns, desired service improvements, and satisfaction levels.

- **Driver Questionnaire Summary** – A summary of a questionnaire distributed to CountyRide drivers to obtain their input on current services and potential improvements.

- **Community Survey** – Summary of a broader community survey that provided the opportunity to gather opinions from the public.

- **Stakeholder Interviews** – A review of the feedback received from local stakeholders regarding existing transit services and priorities for the future.

- **Review of Recent Plans and Studies** – A review of recent surveys, plans and studies relevant to the needs assessment and the TDP process.

## TRANSIT DEVELOPMENT PLAN ADVISORY COMMITTEE

An advisory committee was formed to provide input throughout the planning process, and a TDP kick-off meeting was conducted via videoconference in April 2020. Participants discussed the TDP process, confirmed community outreach efforts, and provided comments on current issues, unmet needs, and possible objectives for the TDP planning process.

While input from the TDP Advisory Committee will be incorporated appropriately throughout the planning process, this discussion included the following key considerations at the outset:

- The committee noted the greater emphasis on public transit in Baltimore County. While previous TDPs focused primarily on services provided through CountyRide, Baltimore County officials stressed the need for a broader planning effort that would support the new County Executive's Baltimore County Enterprise Strategic Plan. This plan includes a strategy to expand the County's transportation infrastructure to promote connectivity, reduce gaps, and promote multi-modal options. Key activities within this strategy include identifying strategies and developing recommendations to expand locally operated and microtransit transit systems, including CountyRide.

- While Baltimore County officials discussed potential transit service improvements to be assessed during the TDP process, they also noted the County Executive's desire for an expanded transit system to be located within the Department of Public Works. Therefore, the TDP will assess potential service options while also assessing the impact of changes to the County's organizational structure on possible alternatives and potential recommendations.

- In 2015 Baltimore County completed a Towson Circulator Feasibility study that is currently being updated. This study was used as the basis for an application directly to FTA in June 2019 seeking federal assistance to support the Towson Circulator service.

## COUNTYRIDE CUSTOMER SURVEY

An important task for the TDP was the administration of a rider survey to receive feedback on CountyRide services from customers and develop a rider profile. Under normal circumstances, this survey would have been provided and collected onboard CountyRide vehicles but was instead distributed by CountyRide staff through the mail to riders using the addresses listed within their registration database. Enclosed in each envelope was a letter explaining the survey, a paper survey, and a return envelope. The letter included a URL link to an online version of the survey as well.

After initial delays, the customer surveys were sent through U.S. Mail in early August 2020 and CountyRide staff received completed surveys later that month. Overall, 738 surveys (707 paper, 31 electronic) were collected, the results of which are discussed in the following section. A copy of the customer survey is provided in Appendix A.

## Trip Characteristics

Riders were asked about how frequently they used CountyRide before and after the COVID-19 pandemic, how long they had been using CountyRide, their trip purposes, and alternative modes if/when CountyRide is not available.

Figure 3-1 charts the frequency of use both before and after the COVID-19 pandemic. Before the COVID-19 pandemic, CountyRide users were most likely to use the service "a few times per month" (29%) or "less than once a month" (27.6%). A little more than 15% of survey respondents indicated using CountyRide 2-3 times a week before the impact of COVID-19.

Since the COVID-19 pandemic began, it appears 27% of respondents stopped using CountyRide, most likely due to health concerns, limited social activities, or changes in service. Of those who continued using CountyRide, the percentage of respondents who indicated using the service less than once a month increased to 37%, and those riding 2-3 times a week dropped to only 4%.

**Figure 3-1: Frequency of CountyRide Use Before and After COVID-19**
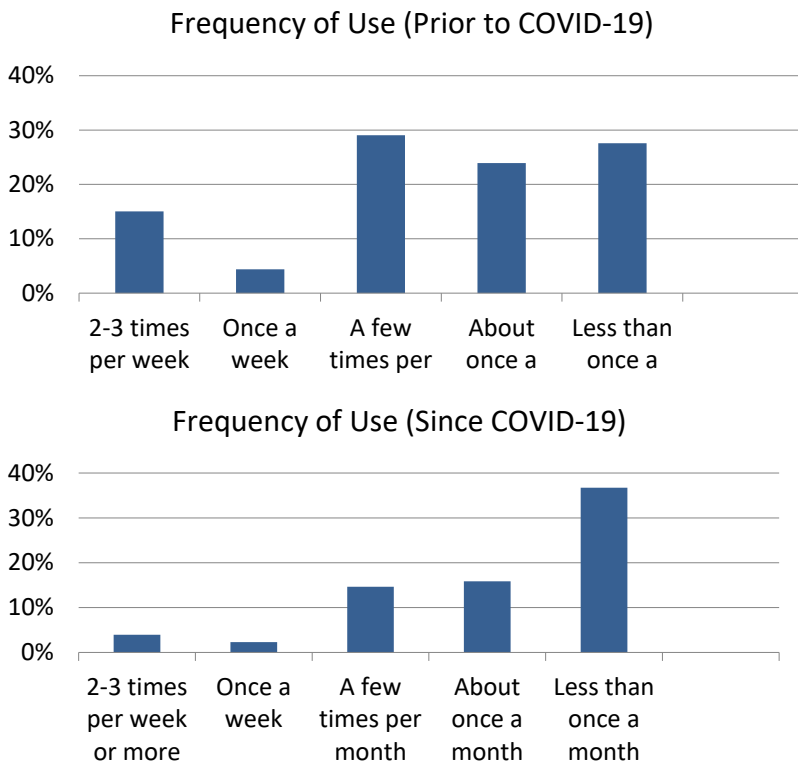
When riders were asked how long they had been using CountyRide, the largest share of respondents (37.7%) had been using the service for between 1 and 3 years. Over 23% of riders have been using the service for over five years, with some respondents writing in the margins that they had been using the service for over twenty years. Figure 3-2 charts how long respondents have been using CountyRide.

**Figure 3-2: Length of Use**



- Less than one year
- Between 1 and 3 years
- Between 3 and 5 years
- More than 5 years
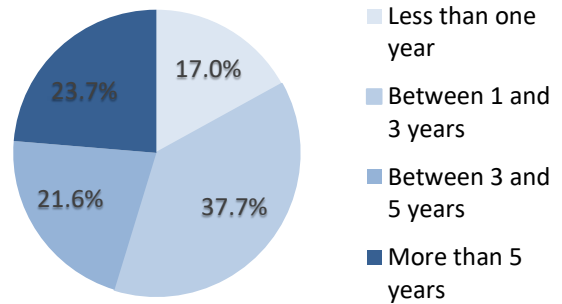
Riders were also asked why they rode CountyRide. The vast majority (85%) of respondents indicated that they use the service for transportation for medical trips. Other common trip purposes were shopping (28%) and going to a senior center (16%). Work trips (1.0%) and school trips (0.3%) were the least common trip purposes.

If CountyRide service was not available, a majority (50.2%) of respondents indicated that they would have family or friends drive them. Other common alternative modes included taking a taxi or Transportation Network Company (TNC) service (32.5%) and MDOT MTA services (13.5%). Over 33% of respondents indicated that they would not be able to make needed trips if CountyRide was not available.

The overall results from these two survey questions are shown in Figures 3-3 and 3-4.

**Figure 3-3: Trip Purposes of CountyRide Users**
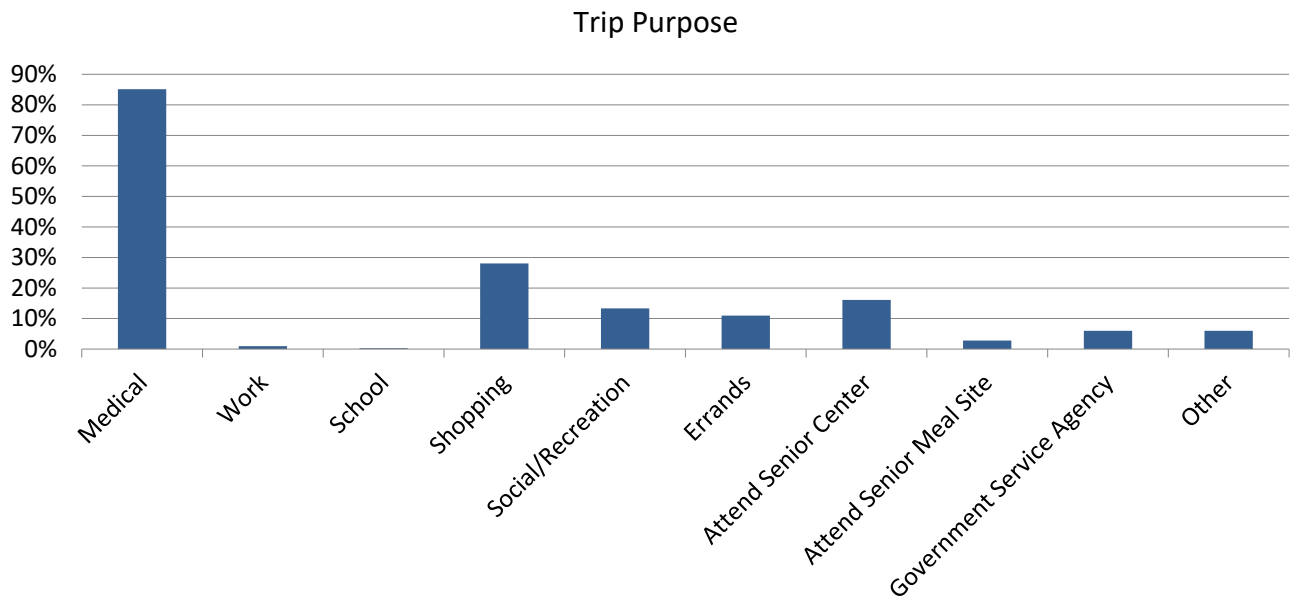
**Figure 3-4: Alternative Modes to CountyRide**

How Trips Would Be Made without CountyRide
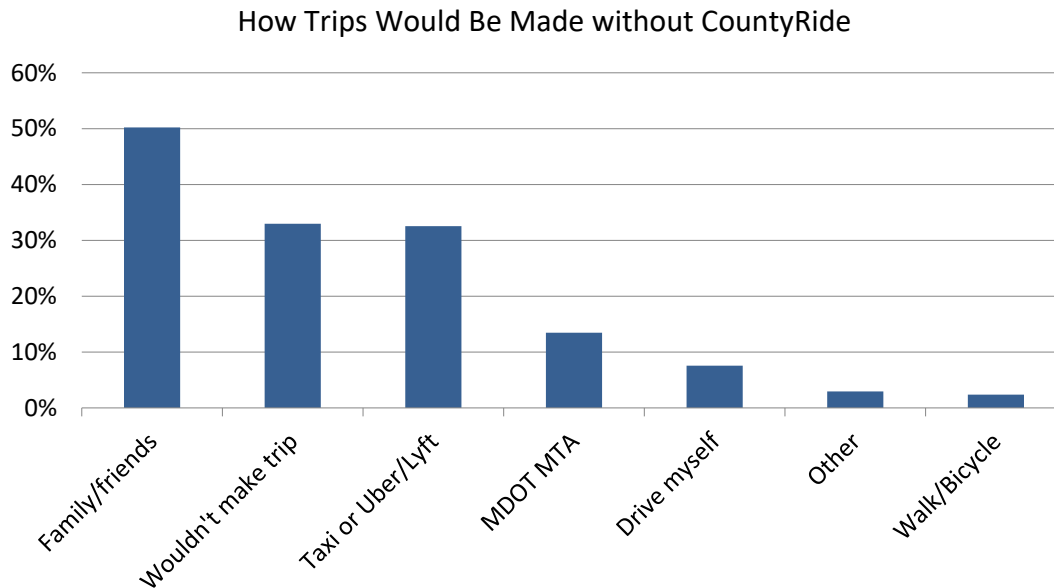


## Satisfaction with Service and Recommended Improvements

Riders were asked to indicate their level of satisfaction with several components of CountyRide service in addition to CountyRide's overall service:

- Over 90 percent of respondents were either "satisfied" or "strongly satisfied" with CountyRide's overall service.

- Respondents were most satisfied with driver customer service (94%) and the cost of services (90%).

- Usefulness of the website (64%) and the trip scheduling process (69%) had the lowest levels of satisfaction. Average satisfaction for each service component was 83.1% "satisfied" or "strongly satisfied."

Figure 3-5 on the next page shows the level of satisfaction for the different components of CountyRide service.

**Figure 3-5: Customer Satisfaction with CountyRide**
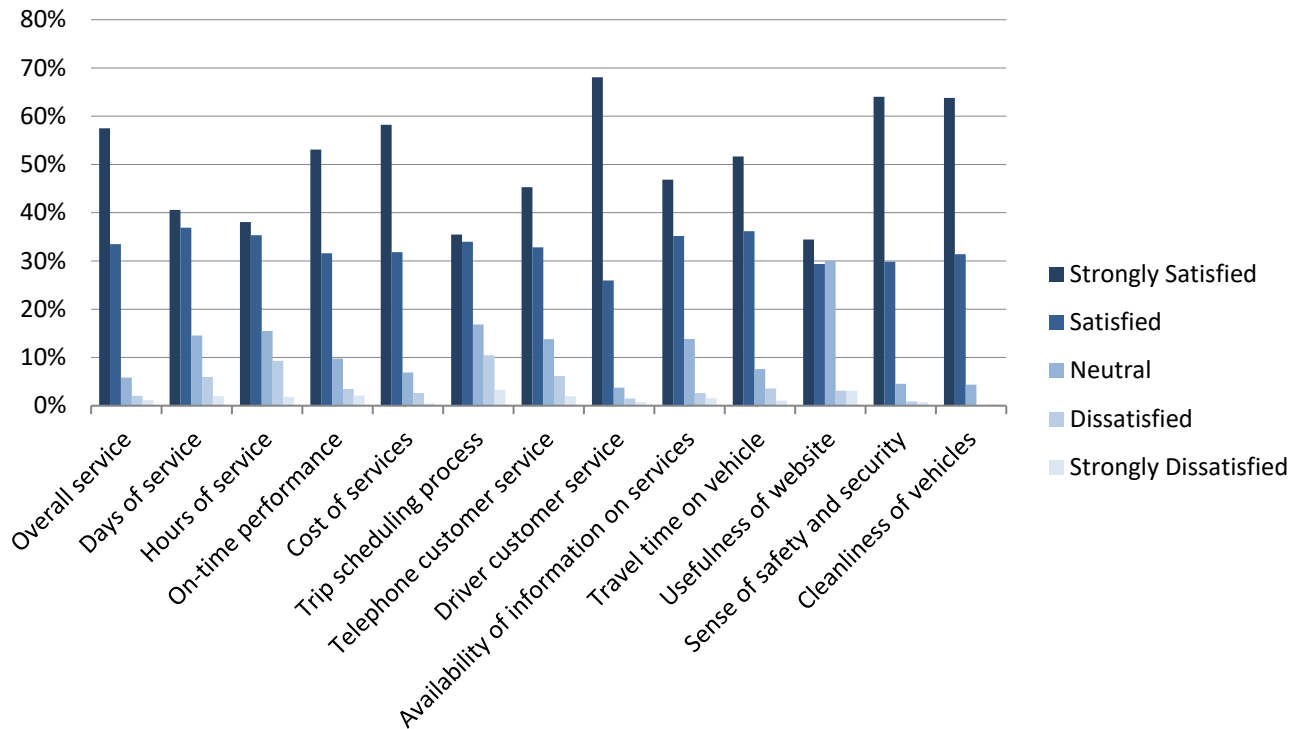


Riders were also asked if there were any locations that were less accessible to them due to a lack of public transportation. As shown in Figure 3-6, over thirty-seven percent of respondents had desired locations that they could not access with CountyRide. These included:

- Non-medical trips into Baltimore City
- Trips to a wider array of shopping destinations (White Marsh Mall, Owings Mills, Hunt Valley), as well as trips to other jurisdictions (Carroll, Harford, Howard, and Pennsylvania were mentioned).
- Some riders who answered "yes" had locations that could not be served due to limited hours, including transportation to weekend church services and evening events.

**Figure 3-6: Riders with Unserved Locations**
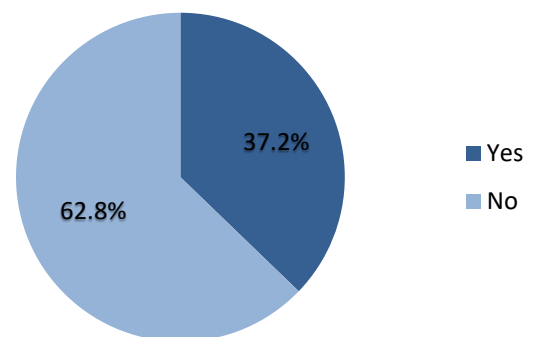


CountyRide customers were asked what they liked most and least about the service. Respondents generally praised the service for its friendly and courteous drivers, on-time performance and availability, the convenience of door to door service, and the low cost when compared to private transportation services. Figure 3-7 highlights the areas that customers most like about the CountyRide service.

**Figure 3-7: Most Liked Word Cloud**

safe Cost professional convenient go friendly pick
courteous use time drive drivers Clean
Convenience Friendly drivers service Everything
helpful pleasant nice pickup ride available drivers nice
take people Availability need Dependable

Conversely, the least liked aspects of CountyRide included the two-week notice required for most medical trips, limited service into Baltimore City and other bordering jurisdictions, the lack of availability in early mornings, evenings, and weekends, and the limited service capacity that has restricted rides per week to two and resulted in occasional cancellations. Figure 3-8 highlights the areas that customers least like about the CountyRide service.

**Figure 3-8: Least Liked Word Cloud**

pick Cost rides use trip early drivers medical appointment
appointment knowing need bus wait wait time
time available ride Limited schedule phone call
late day return hours way go return trip long week take doctor
service

Given the opportunity to list three desired improvements to CountyRide service, improvements that would expand service availability were most mentioned. These improvements included:

- Expanded service hours
- Weekend service
- Increased capacity/more buses
- Shorter timeframe for making reservations
- Guaranteeing rides once they were reserved
- Technology improvements to the telephone system
- More comfortable buses, such as armrests for increased comfort.

Figure 3-9 highlights the potential improvements most often noted by CountyRide customers.

**Figure 3-9: Improvements Word Cloud**

Better wait call return trip week Longer hours service Make
Later hours appointments
Weekend service buses scheduling
Earlier time able ride availability trips drivers
day pick times available medical rides pick Go

## Rider Profile

At the end of the survey, riders were asked several questions about their demographic and socioeconomic status to develop a profile of the typical CountyRide customer. In regard to the respondents' age, the results of this question are in Figure 3-10, though key findings include:

**Figure 3-10: Rider Age**

- Over 95% of respondents were over the age of 60
- Over 42% of all respondents were over the age of 80.

0.3% 0.8%
0.3% 2.8%
21.3%
42.5%
32.1%

- 18-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80+

Since CountyRide had been operated by the Department of Aging for most of its existence, this survey result is not surprising, and further highlights how much older adults, especially those over 80, rely on CountyRide for mobility and access to the community.

Over half of the respondents also noted using some sort of assistive device to help them move around. The most common devices were canes (31%) and walkers (24%). About 6% of riders indicated that they used a wheelchair.

Nearly half of respondents reported not having a valid driver's license (51%) and over 72% responded that they did not have access to a working vehicle, again pointing out rider's heavy reliance on CountyRide services. Less than 40% of respondents reported having an internet enabled smartphone. The results of these questions are summarized in Figure 3-11.
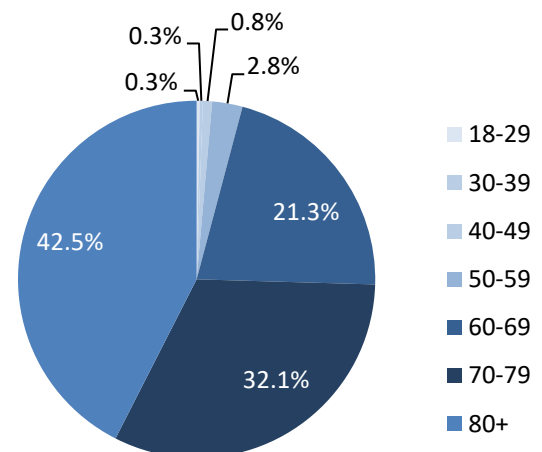
**Figure 3-11: Accessibility Profile**



Assistive Devices used by Respondents



Respondents with Driver's License — 48.9% / 51.1% — Have license / Do not have license

Access to Working Vehicle — 27.5% / 72.5% — Have access / Do not have access

Respondents with Smartphone — 39.2% / 60.8% — Smartphone / No smartphone
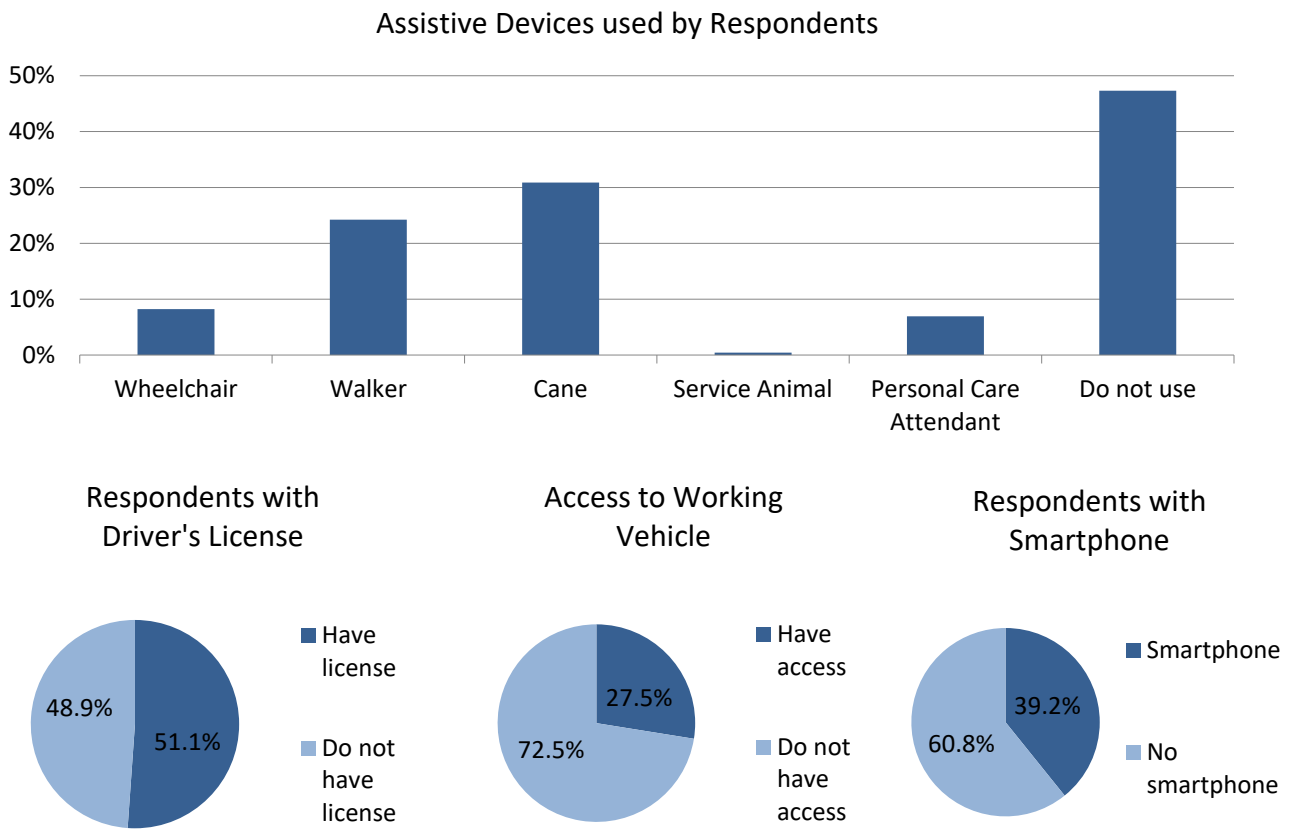
When asked about their race/ethnicity, a majority (62%) of riders identified as white/Caucasian and a sizable percentage (31%) of respondents identified as African-America/Black. Small percentages of respondents identified as Asian or American Indian/Alaska Native, and less than one percent of respondents identified as Hispanic or Latino.

A large majority (83%) of respondents were retired, and over 75 % of respondents had an annual household income of less than $30,000. The socioeconomic profile is summarized on the next page in Figures 3-12 through 3-14.

**Figure 3-12: Race/Ethnicity**
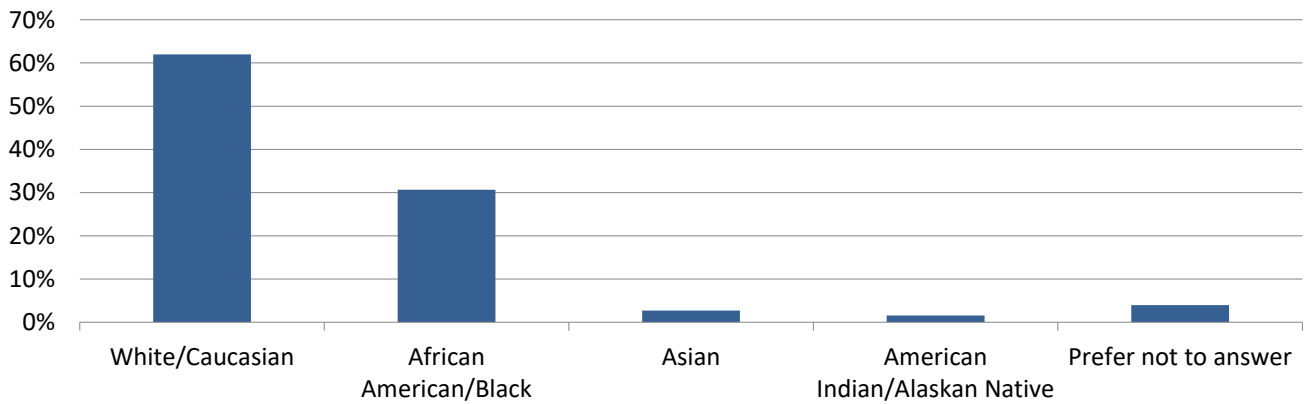


**Figure 3-13: Employment Status**
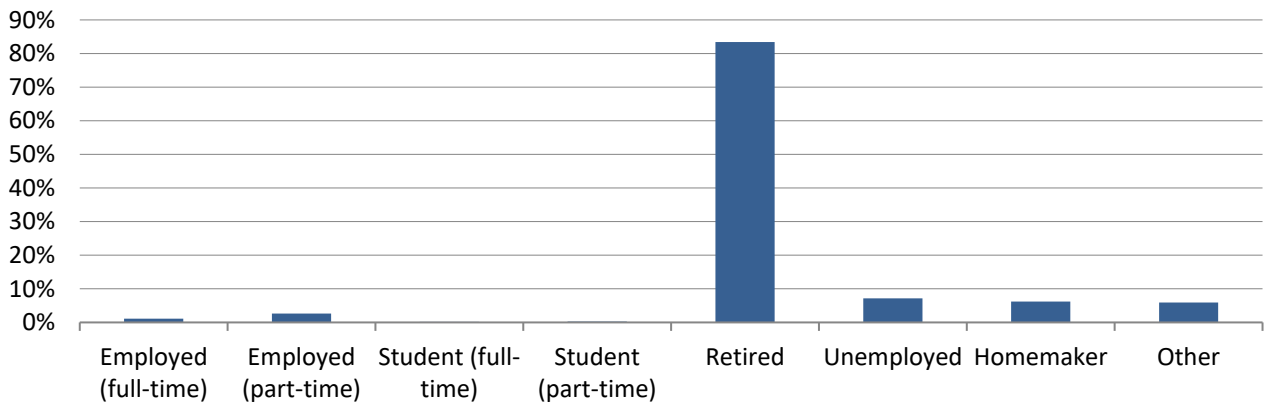


**Figure 3-14: Annual Household Income**
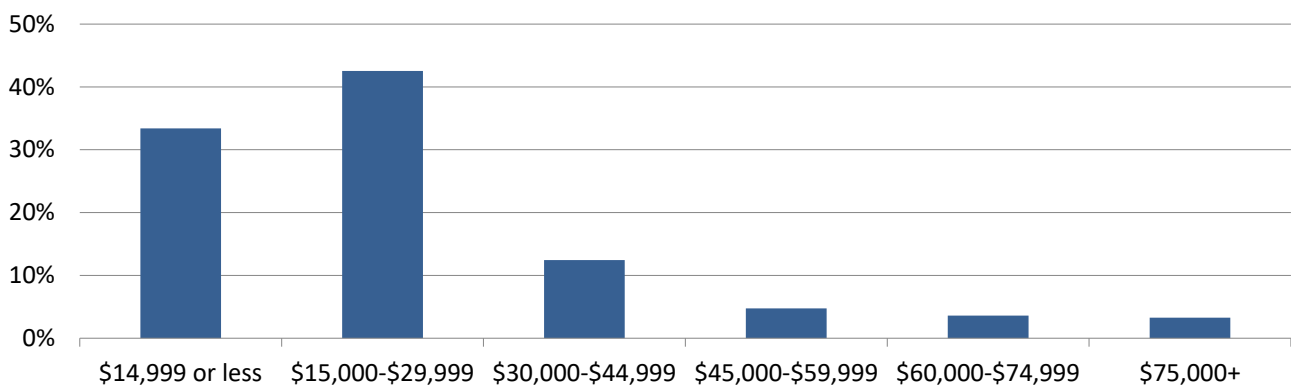
## DRIVER QUESTIONNAIRE SUMMARY

A questionnaire seeking input on current services and possible improvements was distributed by CountyRide to their drivers. Drivers are the most public-facing employees in any transit system, and their position gives them a unique perspective on transit needs. Five drivers provided feedback, and a summary of their comments is included below. A copy of the driver questionnaire is provided in Appendix B.

The questionnaire asked drivers about CountyRide's strengths and weaknesses. Strengths mentioned by drivers included CountyRide's efficient and courteous door to door service, affordable fares, and dedicated staff members. The most mentioned weakness was the lack of drivers, buses, and funds that has made it difficult to provide rides to all who request them. The two-ride weekly maximum was also mentioned as a weakness, along with occasional miscommunications between dispatch, drivers, and riders about pick up times and locations.

When asked whether their riders had expressed any desire for service to currently unserved areas, drivers stated that non-medical locations within Baltimore City, especially for riders living near the city line, were highly desired. Some drivers also said that riders needed more service available in Baltimore County's rural areas. Drivers noted that riders wished for service on the weekends, especially to access shopping and local senior centers.

Drivers were then asked what they believed to be the most impactful improvement for transit services in the County. One driver said that hiring more drivers and retaining existing drivers by raising wages would help CountyRide grow and provide better service. Other drivers believed that improving the trip scheduling process, from cutting down wait times on the phone to providing better routing for pick up and drop off, was the most needed improvement. One driver interpreted the question more broadly and stated that working to increase funding for MDOT MTA Mobility and LocalLink services, as well as for CountyRide, would help improve services for all members of the county.

Regarding specific services to improve CountyRide, one driver suggested a daily trip to BWI, while others thought introducing weekend and evening service would fill a major gap in service.

Queried about their vision of public transportation in Baltimore County, drivers saw a system that provided affordable and accessible trips to older adults and people with limited mobility whenever they need transportation. Drivers mentioned that rising costs of TNC rides have made their service even more vital and assuring that service is available to all who need it was important to each driver who answered the question.

## COMMUNITY SURVEY

In addition to the passenger survey, a broader community survey was developed. This survey provided the opportunity to gather opinions from the general public on transportation in Baltimore County in order to identify strategies and develop recommendations to expand locally operated and microtransit systems, including CountyRide. A copy of the community survey is provided in Appendix C.

The community survey was distributed on-line through the Baltimore County website. The survey was available until August 13, 2020, and there were 273 surveys collected at the end of this period. More than half of all survey respondents lived in zip codes east of I-83, particularly around Towson and adjacent to the I-695 corridor. Figure 3-15 displays the number of survey respondents by zip code in the county.

**Figure 3-15: Community Survey Respondents by Zip Code**
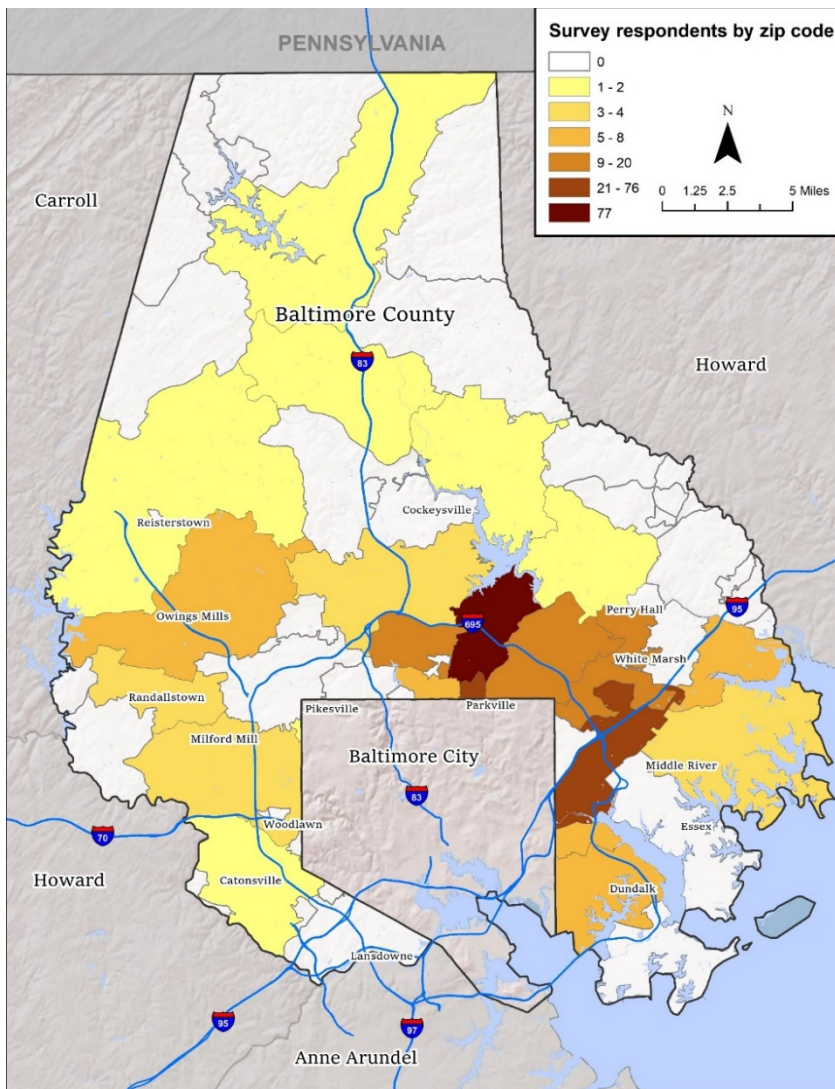
## Use of Public Transportation

The results of the community survey contrasted significantly with those obtained through the CountyRide customer survey. When community survey respondents were asked what their primary mode of transportation was, 94% said that the car was their primary mode of transportation, while only 2% said public transportation. Only 12% used any of the public transportation services that operate in Baltimore County.

As shown in Figure 3-16, when asked if they were aware of CountyRide, 58% of survey respondents reported that they were not aware of this service. About 31% were aware and had an overall positive impression, while 11% said they were aware and had a negative impression.

**Figure 3-16: CountyRide Awareness and Impression**



Respondents were also asked their reasons for not using public transportation. The most common reasons were that they preferred to drive (66%), needed their car before/after work or school (21%), or needed their car for emergencies/overtime (18%). However, many others listed reasons unrelated to needing their car. Over 37% said that trips on public transit would take too long, 28% said they did not feel safe, and 16% said public transit trips are unreliable.

Others said that no service was available near their home/work/school or they did not know if service was available (16%) and that they have to wait too long for the bus or train (15%).

Table 3-1 displays the overall reasons respondents did not take public transportation.

**Table 3-1: Reasons for Not Using Public Transportation**

| Reason | Percent of Respondents |
|---|---|
| I prefer to drive | 66% |
| Trips via public transit take too much time | 37% |
| I don't feel safe using public transit | 28% |
| Need my car before/after work or school | 21% |
| Need my car for emergencies/overtime | 17% |
| Don't know if service is available and/or location of transit stops or stations | 16% |
| Public transit services are unreliable | 16% |
| No service is available near my home/work/school | 16% |
| I have to wait too long for the bus or train | 15% |
| Other | 10% |
| There is not adequate pedestrian infrastructure for me to access public transportation from my home | 10% |
| Using public transportation is confusing | 10% |
| The hours of operation are too limited | 7% |
| I have limited mobility and it is hard for me to use transit | 4% |
| Public transit is too expensive | 2% |

When asked if they would use public transportation if there was a service that met their travel needs, 47% of respondents said yes.

Respondents were then asked if there were specific factors that would encourage them to use public transportation (marking all that applied). The top answers were similar, respondents wanted more convenience, safety, and faster service to/from their residence and destination. The least-selected factors include "lower fares" and service between specific destinations of their choosing. A full summary of responses can be found in Table 3-2 on the next page.

**Table 3-2: Reasons for Using Public Transportation**

| Reason | Percent of Respondents |
|---|---|
| Service to my desired locations | 42% |
| If I felt safer riding | 36% |
| Service near my home | 35% |
| Shorter wait / pickup time | 31% |
| On-demand service similar to Uber/Lyft in my neighborhood | 30% |
| Shorter travel time | 24% |
| Other (please specify) | 21% |
| Better sidewalk infrastructure to access transit stops and stations | 18% |
| If I understood how it works | 16% |
| More reliable service | 16% |
| Lower fares | 8% |
| Other (typically noted in their comments) | 7% |

## Profile of Community Survey Respondents

At the end of the survey, community survey respondents were asked about their demographic and socioeconomic status, access to a vehicle, and language preference to develop a profile of the typical Community Survey respondent. Regarding the respondents' age, the full results are in Figure 3-17, though key findings include:

- Over 31% of respondents were between the age of 35 – 54.
- Over 65% of respondents were over the age of 55.

**Figure 3-17: Community Survey Respondent Age**



Legend: 18-24, 25-34, 35-44, 45-54, 55-64, 65+

<1%, 3%, 11%, 20%, 27%, 38%

Most respondents reported having a valid driver's license (98%) and 96% responded that they had access to a working vehicle, significantly different from the CountyRide Customer Survey riders (more than half of whom did not have a working vehicle or a driver's license). The results of these questions are summarized in Figure 3-18 on the next page.

**Figure 3-18: Community Survey Respondent Access to a Vehicle**

Respondents with
Driver's License

2.2%

97.8%

■ Have
license

■ Do not
have
license

Access to Working
Vehicle

4.1%

95.9%

■ Have
access

■ Do not
have
access
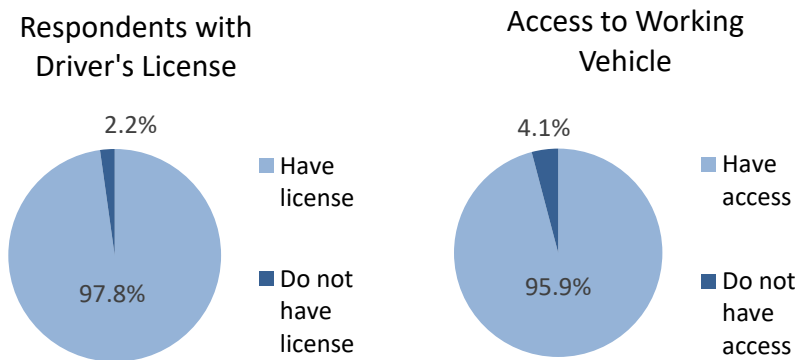
When asked about their race/ethnicity, a majority of riders (79%) identified as white/Caucasian, while 16% identified as African American/Black and 2% identified as Asian. Two percent of respondents said they were of Hispanic or Latino origin.

Most (48%) respondents were Employed, full-time (48% of total), while the next highest were retired (36%), and Employed, part-time" (14%). Only 3% were unemployed or temporarily unemployed due to the COVID-19 pandemic.

Most (44%) respondents had a household income of more than $100,000. The next highest income bracket was $41,000 to $60,000 (17%), followed by $81,000 - $100,000 (16%). The socioeconomic profile is summarized on the next page in Figures 3-19 through 3-21.

When asked about their ability to speak English, a vast majority of riders (84%) said they spoke English "very well," while 16% said "well." Ten percent of respondents said they spoke a language other than English at home. Languages spoken include Spanish (3), Thai (2), Igbo, French, Italian, Greek, Swahili, and Hausa.

When asked how they would like to receive information about public transportation, the top choices were via website (60% of total), e-mail (34%), social media (21%), and direct mail (20%). Eight percent did not want any information.

**Figure 3-19: Race/Ethnicity**
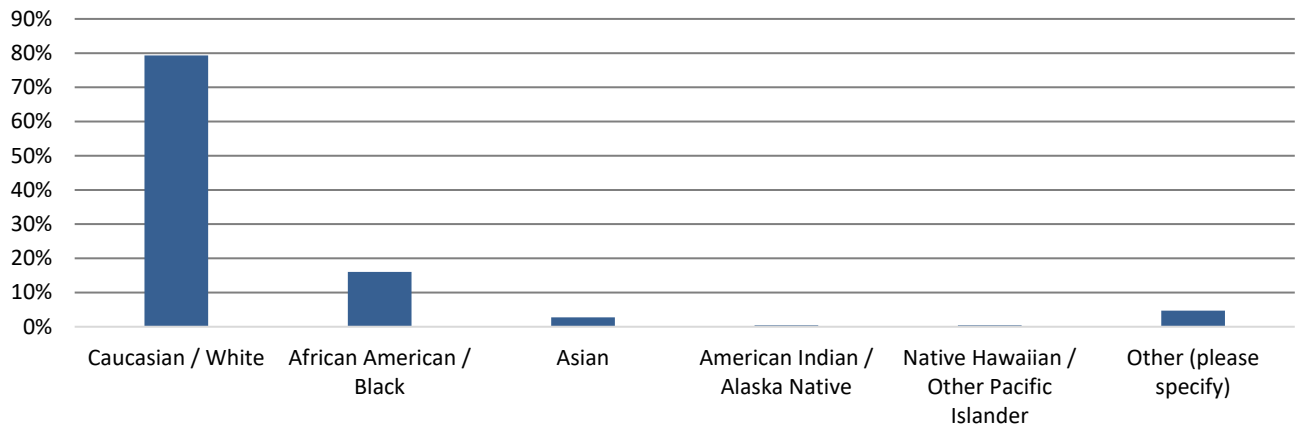


**Figure 3-20: Employment Status**
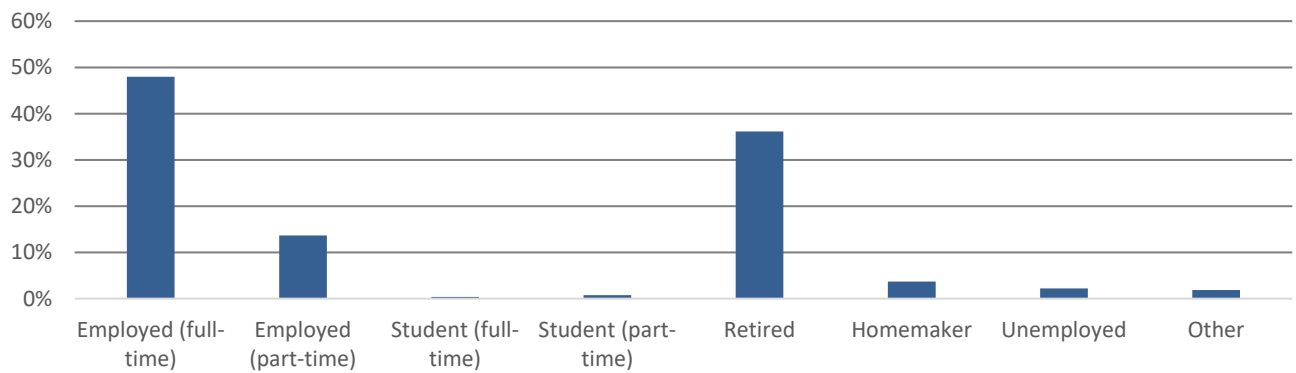


**Figure 3-21: Annual Household Income**
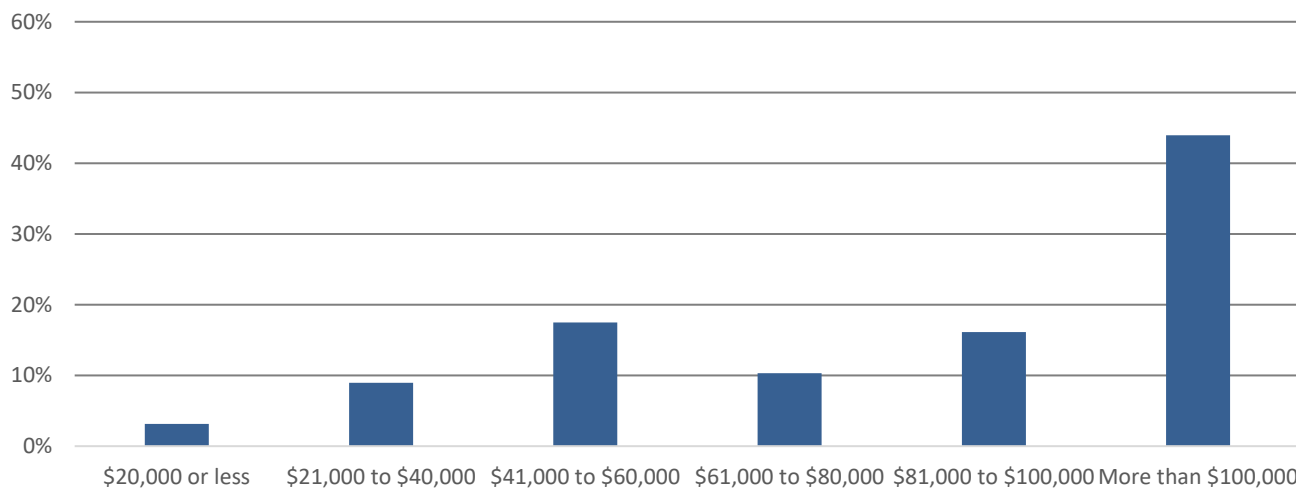
## Comments from Community Survey Respondents

Overall, 60 respondents provided general comments at the end of the survey. Comments ranged from showing support of greater public transportation and bicycle/sidewalk infrastructure in specific areas, to comments showing opposition or concerns over safety. Some comment highlights:

- "I would like to see bus stops better maintained benches, trash receptacles. Seems as though there are few East-west routes."

- "Few bus routes go between neighborhoods. For example, if you live in Randallstown and you are not off of Liberty Road and need to catch a bus, you have to walk a ways to get to Liberty Road where one bus comes up this way. This is inconvenient and causes more people to need cars."

- "I have been riding public transportation in Baltimore County for over 25 years. I need it to get to and from work. I could not function without the bus line."

- "Real bike lanes will enhance the quality of life in Towson and improve traffic and safety."

- "It's difficult and dangerous getting to the transportation on the main streets when you don't have sidewalks to walk on."

- "For a metropolitan region extending south to BWI and west to Ellicott City, public transit really needs to be rail-based. But reliable Towson-area communication would be useful."

- "I'm very concerned about the growing development in downtown Towson. Please focus on plans that make downtown as pedestrian friendly as possible, include bike lane, and provide parking outside the core and encourage visitors to walk, bike, or scooter. A downtown circulator minibus route would be very helpful as well. The Towson Circle will need to be improved – there's a huge new apartment complex right on the circle that has access to its underground parking garage within 100 feet of the circle on Dulaney Valley Rd. That circle is already a nightmare to drive through and will only get worse when that building is fully occupied. The crossing on Joppa Rd between the movie theater and the mall is VERY dangerous. A pedestrian bridge would help avoid disasters."

- "Improving public transport in Baltimore County has to involve the interface with Baltimore City. My son, pre COVID, had great success using public transport to get from Towson to the train station in Baltimore and on to the MARC line to head toward DC. But, again, getting home from the train station was difficult late at night. Buses on Charles St. were scarce. The Red line was more reliable but required a late-night walk to Greenmount. An Uber became the default. Bicycle access should be developed with the public transportation system."

## STAKEHOLDER INTERVIEWS

Individual interviews were conducted with a variety of stakeholders to obtain input on unmet transportation needs, issues or concerns, and possible transit improvements. Interviews were conducted with the following stakeholders:

- Baltimore County Commission on Disabilities
- Chesapeake Realty
- Chimes Family of Services
- Greenberg Gibbons
- Kimco Realty
- Klein Enterprises
- MFI Realty
- Whalen Properties

In addition, the following stakeholders completed a questionnaire that sought their input:

- Northwest Hospital – LifeBridge Health
- Dundalk Renaissance

The following section provides a summary of the input received through these interviews:

## Need for Expanded Services

- Stakeholders noted the need to increase mobility options that allow people greater access to employment opportunities, particularly to the various retail and restaurant locations throughout Baltimore County. This need was highlighted since these jobs are typically lower paying, and require work shifts that occur when public transit options may be limited.

- The need for expanded transportation options that allow customers to access retail locations, especially grocery stores, was mentioned. It was noted that in many shopping centers in Baltimore County a grocery store is the anchor, so the planning for new public transit should provide service to these key locations.

- While stakeholders who work with people with disabilities stressed the importance of CountyRide for access to the community, they also noted the geographic and service span limitations that impact accessibility. They suggested expansion of CountyRide service to ensure availability in the evening and on weekends.

- There are a variety of multi-family sites throughout Baltimore County that should be accounted for when planning new services.

## Areas for Improved Services

- Stakeholders identified several areas in the county that would be well served by improved transportation services. Additional transit and bike/pedestrian infrastructure could be valuable at emerging residential/commercial centers in Hunt Valley, Owings Mills, and White Marsh. As these areas become increasingly mixed-use, the need for an array of transportation options increases.

- Through interviews with key stakeholders a variety of new developments were discussed and identified. These included:
    - Towson Row, the 1.2 million square foot mixed-use development in the heart of Towson.
    - The York, a 231-unit apartment complex at Towson Row.
    - Senior housing to be added to mixed-use development at the Hunt Valley Town Centre.
    - Over 400 apartments to be added to mixed-use development at Foundry Row in Owings Mills.
    - The Promenade, a mixed-use development planned for the I-695 and Wilkins Avenue interchange.

## More Reliable Services

Stakeholders expressed the need for transportation services to be more reliable and on-time, particularly paratransit and demand response services for people with disabilities. While outside the scope of this TDP, MDOT MTA MobilityLink services were noted. Overall it was highlighted that public transportation services in Baltimore County need to be dependable and consistent so that customers can rely on them for access to work trips and other destinations in the community.

## Use of Current Infrastructure

Stakeholders mentioned the need to effectively use current infrastructure, such as existing park and ride lots, when considering potential transit improvements. One stakeholder noted the perceived underutilization of the Southwest Park and Ride lot on Rolling Road at the I-95 interchange as one example.

## REVIEW OF RECENT PLANS AND STUDIES

This section reviews plans and studies relevant to the TDP process. As noted earlier the Towson Circulator Feasibility study conducted in 2015 is currently being updated, and more information will be provided in future TDP documents.

## Age-Friendly Baltimore County Survey

The Age-Friendly Baltimore County Survey conducted by BCDA serves as a guide for Baltimore County to become more "age-friendly" by asking residents of all ages about their preferences and perceptions about community features and amenities, housing access, and transportation in the county. With regards to transportation, most respondents had a high reliance on driving (70%) and almost all indicated it was the only form of transportation they used. However, 36% said that they used ADA transportation occasionally, and 5% indicated they used specialized transportation such as MTA Mobility or County Ride services. Adults aged 65 and older, individuals with incomes at or below $75,000, and respondents who identified as people of color were statistically more likely to use these services. The strongest predictor was low income, while gender was not a significant predictor.

Regarding the accessibility and convenience of public transportation, 40% indicated it was of poor quality, 34% rated it as fair, and 28% rated it as 'very good' or 'excellent'. The affordability and cleanliness of public transportation received similar ratings. Conversely, ratings for whether public transportation operated on time was mostly negative, with more than 78% of respondents indicating that timeliness was 'poor' to 'fair'. Most respondents (66%) rated ADA transportation as 'poor' to 'fair'.

The survey found that the ability to access transportation was influenced by race/ethnicity. Also, respondents who were less likely to use transportation generally had a poor perception of public transportation. For example, the vast majority of respondents (81%) rated the safety of public transportation as either 'poor' or 'fair', with White respondents more apt to view safety as 'poor' or 'fair" compared to non-whites (72% vs. 50%). Overall, 4% of Whites indicated they never drove, compared to 17% of non-whites, indicating that those who do not drive may be more familiar with public transportation and have more positive attitudes towards it. However, more research is needed to better understand the impression of public transportation by White respondents in the survey.

## 2016 Baltimore County TDP

The 2016 Baltimore County TDP was adopted to guide Baltimore County's transit planning efforts between 2016 and 2021. After a demographic and land use analysis, a public outreach process, and a review of existing services, this plan proposed multiple service alternatives that could be implemented to improve CountyRide services over the 5-year planning period. Alternatives were split into two groups: shorter-term improvements (1-3 years) and longer-term improvements (4-5 years). The recommended improvements are listed below:

### *Shorter-term Improvements*

- Improve scheduling process
    - Address long telephone hold times

- o Encourage use of IVR/IWR
- o Create scheduling policies requiring advanced notice
- o Reduce cancellations on the Center Connection service
- Educate riders on policies and procedures through website, newsletter, etc.
- Review of CountyRide's computerized scheduling/dispatch system
- Enhanced use of Trapeze software
- Create service for group shopping trips
- Create a ticket book program to discourage cash payments
- Increased outreach to rural areas of the county
- Implement a taxi pilot program
- Enhance fare payment and routing/scheduling technology

### *Longer-Term Improvements*

- Increase System Capacity
- Establish User-Side Subsidy Taxi Program
- Lengthen the Service Day

## BMC 2015 Regional Transit Needs Assessment

BMC performs a transit needs analysis for the Baltimore Metropolitan Area every 5 years. The most recent Needs Assessment was completed in 2015. The transit needs assessment reviews the current and projected transit use, commuting behaviors, and demographic trends to assess areas in the region that have higher transit needs. The transit needs study also solicited transit improvement recommendations from the region's different jurisdictions. Improvement recommendations that would directly impact Baltimore County included:

- Transit service to Sparrows Point that connects the area to Bayview and Downtown Baltimore

## 2015 Towson University Campus Master Plan

The 2015 Towson University Master Plan is meant to guide planning activities so that the university can continue to intelligently grow and adapt with a changing world. To help relieve on-campus congestion and increase parking capacity, the university operates six shuttle routes that provide connections to important on-campus and off-campus residential and commercial areas. The 2015 master plan suggests continued monitoring of parking capacities and traffic congestion to determine if more shuttle routes are needed. Currently, projects in place are being created to further reduce congestion and traffic collisions on campus.

## Patapsco Regional Greenway Plan

The Patapsco Regional Greenway is a proposed multi-use (pedestrian, bicycle) trail that will connect the entire Patapsco River Valley, spanning from Carroll County to Downtown Baltimore. In Baltimore County, the proposed alignment will pass through the Western side of Baltimore County and provide potential transit connections to MTA bus routes and the Halethorpe MARC station. New transit projects in this area should be aware of this long-term infrastructure plan and incorporate bike accessibility in their implementation.

## 2020 Baltimore County Master Plan

The 2020 Baltimore County Master Plan functions as an update to the previous 2010 Master Plan and sets a vision for the county's planning goals while setting tangible goals and objectives to achieve that vision. A major goal of the Master Plan is the creation of vibrant, sustainable communities throughout the region. Creating these communities includes further investment in walkable, transit-oriented development. The continued provision of a robust public transit system that serves the needs of its citizens has been identified as an important goal for the county going forward. The plan prefers transit-oriented planning to automobile-oriented planning and prioritizes redevelopment projects at large transit hubs like MDOT MTA LightRail Link and MARC Train Stations.

The 2020 Plan also advocates for the creation of the "Red Line," a long-proposed light rail line that would travel from east to west and connect Woodlawn to the Johns Hopkins Bayview Campus. Additional policies to "promote development of compact, mixed-use, transit-friendly, walkable communities, and the transportation systems supporting these types of innovative communities" include:

- Continue support of proposed regional rail transit service

- Actively support Transit-oriented development (TOD)

- Continue to plan and implement improvements to the County's physical infrastructure using sustainable practices where feasible

- Assure adequate roads appropriate for rural areas

- Provide appropriate pedestrian facilities

- Expand pedestrian and bicycle policies and facilities to meet the needs of current and future residents, enhance safety, improve access to transit, and support community revitalization

## Central Maryland Regional Transit Plan

The Central Maryland Regional Transit Plan is a plan for improving public transportation in the region over the next 25 years. The Plan presents goals, objectives, and initiatives to enhance transit service, support the economy, and reduce impacts to the environment. The Central Maryland Regional Transit Plan was developed by MDOT MTA in coordination with the Central Maryland Regional Transit Plan Commission, the five jurisdictions that compose the Central Maryland region including Baltimore County, local transit agencies, the Baltimore Metropolitan Council, and members of the public.

The Central Maryland Regional Transit Plan identified the following transit connections within Baltimore County that are currently inadequate or nonexistent and should be studied for future local or regional bus improvement:

- Catonsville-Woodlawn
- Woodlawn- Pikesville
- Pikeville-Towson
- Towson-Parkville
- Towson-Perry Hall
- Parkville-Perry Hall
- Parkville-White Marsh
- Perry Hall-White Marsh
- Perry Hall-Essex
- Essex-Tradepoint Atlantic
- Middle River-Tradepoint Atlantic

The draft plan also identified the following areas as in need of new local or express transit routes in Baltimore County.

- Local bus "crosstown" service that would connect Hamilton, Parkville, Towson, and Rosedale

- Local or express bus service that would provide access to Baltimore Crossroads.

- Community circulator in Woodcrest

- Local bus service connecting Essex to Tradepoint Atlantic
- Local bus service connecting Middle River to Tradepoint Atlantic

- Community circulator in Owings Mills

- Local or express bus service connecting Perry Hall with White Marsh, Towson, and Essex

- Local or express bus service connecting Pikesville and Towson

- Local or express bus service connecting Towson to White Marsh

- Local or express bus service connecting Towson to Parkville

- Local or express bus service connecting White Marsh, Middle River to Tradepoint Atlantic

The plan also identified three areas of Baltimore County for future transit-oriented development:

- Timonium Fairgrounds
- Martin State Airport
- Owings Mills

# Chapter 4
# Review of Demographics and Land Use

## INTRODUCTION

The purpose of this chapter is to assess transit need in Baltimore County through analysis of demographic and land use data. Data ranging from major trip generators to underserved and unserved population subgroups are documented and analyzed. The analysis includes a general population profile for Baltimore County, identification and evaluation of underserved population subgroups, and a review of the demographic characteristics pertinent to a Title VI analysis.[1] Data sources include the 2010 Census and American Community Survey (ACS) 2014-2018 5-year estimates.

This demographic analysis helps inform the assessment of transit needs in the county and will help guide the alternatives and recommendations that will be identified through subsequent phases of the TDP process.

## POPULATION ANALYSIS

This section provides a general population profile for the study area, examining historical numbers and future projections.

### Population

As shown in Table 4-1, the Baltimore County population in 2018 was 827,625, a nearly 3% increase from the 2010 Census. Between 2000 and 2010 Baltimore County's population increased at a rate of 7%.

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[1] Title VI is a federal statute that provides "that no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Title VI has been broadened by related statutes, regulations and executive orders, and now includes requirements that transit agencies receiving federal funds must ensure their programs and services do not disproportionately cause adverse impacts on minority populations, low-income populations and limited English proficient (LEP) persons.

**KFH** ♦ GROUP ♦

**Table 4-1: Historical Populations for Baltimore County**

| Place | 2000 Pop. | 2010 Pop. | 2018 Pop. | 2000-2010 % Change | 2010-2018 % Change | 2000-2018 % Change |
|---|---|---|---|---|---|---|
| Maryland | 5,296,486 | 5,773,550 | 6,003,435 | 9% | 4.0% | 13.3% |
| Baltimore County | 754,292 | 805,029 | 827,625 | 7% | 2.8% | 9.8% |

Source: U.S. Census, 2018 American Community Service

## Population Forecast

Population projections developed by Maryland's Department of Planning are provided in Table 4-2. According to these projections, Baltimore County will experience a 4% increase in population in the next 20 years (2020-2040).

While more details on the senior population (age 65+) in Baltimore County are provided later in this chapter, a key finding from the population projections is the significant increase in this age group – and the resulting impact on transportation needs. Similar to many areas across the country with the coming "age wave," as shown in Table 4-2 the senior population in Baltimore County continues to comprise an increasing percent of the total population:

- Census data for 2010 indicated that the County's senior population is 14.6%, while estimates for 2020 are for this to increase to 18%, with an estimated 150,135 seniors.

- The senior population in Baltimore County is expected to continue to increase and represent 22% of the population by 2040. At the same time, the population of Baltimore County under the age of 19 is expected to remain constant at 24% of the total population.

**Table 4-2: Future Population Projections for Baltimore County**

| Place | 2020 Pop. Projection | | 2030 Pop. Projection | | 2040 Pop. Projection | |
|---|---|---|---|---|---|---|
| Maryland | 6,141,900 | | 6,518,750 | | 6,834,500 | |
| Baltimore County | 847,000 | | 862,191 | | 880,750 | |
| 0-19 years | 206,823 | 24% | 205,927 | 24% | 210,458 | 24% |
| 20-64 years | 490,042 | 58% | 471,833 | 55% | 476,118 | 54% |
| 65+ years | 150,135 | 18% | 184,431 | 21% | 194,175 | 22% |

Source: Maryland Department of Planning, August 2017

Figure 4-1 provides an overall visualization of population growth from historical and projected population numbers for Baltimore County. Giving the estimated population projections, Baltimore County will have experienced a 27% increase in population over the span of 50 years.

**Figure 4-1: Baltimore County Population**
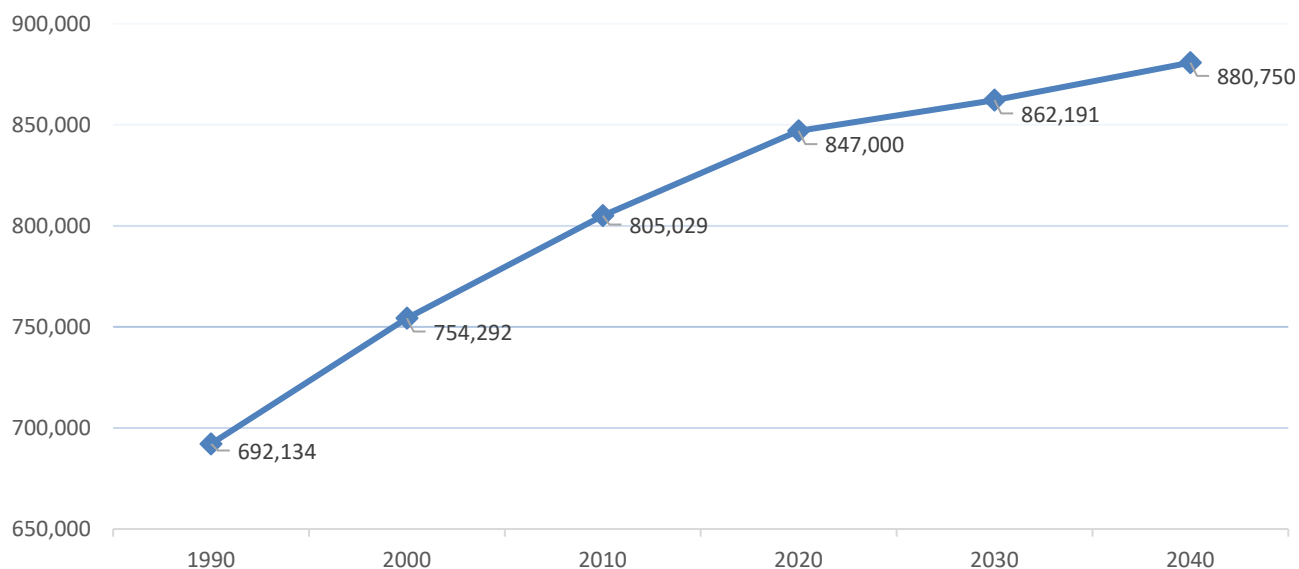


## Population Density

Population density is often used as an indicator for the type of public transit services that are feasible within a study area. Typically, an area with a density of 2,000 persons per square mile will be able to sustain daily fixed-route transit service. An area with a population density below 2,000 but above 1,000 persons per square mile may be a better candidate for deviated fixed-route or demand response services.

Figure 4-2 shows Baltimore County's population density at the census block level. Most of the areas that have the highest population density are clustered between Baltimore City and the I-695 Baltimore Beltway. Areas in particular that contain block groups with high population density include: Carney, Catonsville, Dundalk, Essex, Lansdowne, Milford Mill, Owings Mills, Parkville, Reisterstown, Towson, and Woodlawn.

**Figure 4-2: Population Density**
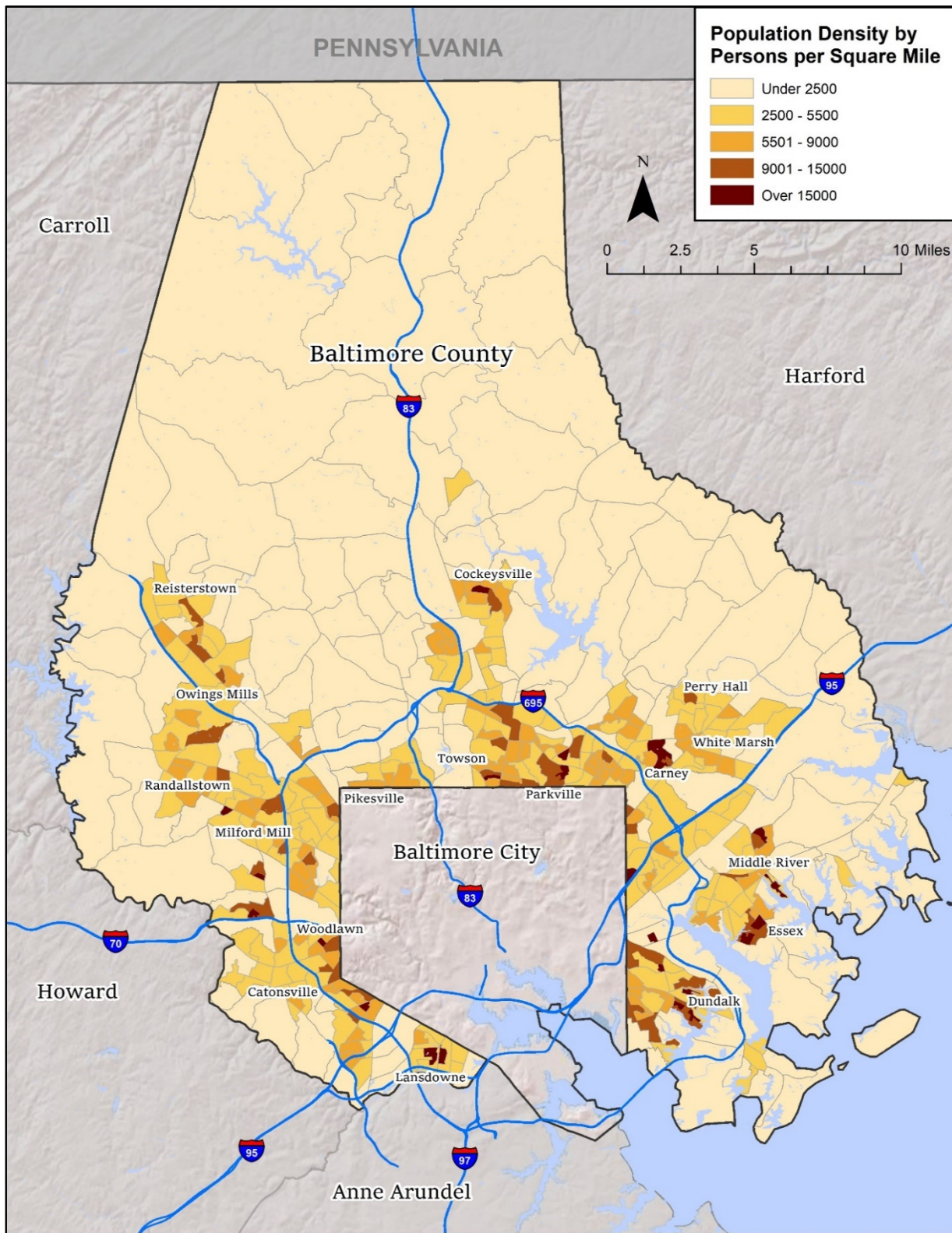
## TRANSIT DEPENDENT POPULATIONS

The need for public transportation is often derived by recognizing the size and location of segments of the population most dependent on transit services. Transit dependency can be a result of many factors. Some of these include no access to a personal vehicle, a disability that prevents a person from operating a personal vehicle, age and income. Establishing the location of transit dependent populations aids in the evaluation of the current population while identifying potential gaps in transit services.

The Transit Dependence Index (TDI) is an aggregate measure displaying relative concentrations of transit dependent populations. Five factors make up the TDI calculation: population density, autoless households, elderly populations (ages 65 and over), youth populations (ages 10-17) and below poverty populations.

In addition to population density, the factors above represent specific socioeconomic characteristics of Baltimore County residents. For each factor, individual block groups were classified according to the frequency of the vulnerable population relative to the county average. The factors were then put into the TDI equation to determine the relative transit dependence of each block group.

The relative classification system utilizes averages in ranking populations. For example, areas with less than the average transit dependent population fall into the "Very Low" classification, where areas that are more than twice the average will be classified as "Very High." The classifications "Low, Moderate, and High" all fall between the average and twice the average; these classifications are divided into thirds.

Figure 4-3 displays the TDI rankings for Baltimore County. The TDI is very similar to the population density pattern. However, not all block groups with a high population density display a "high" transit need.

The Transit Dependence Index Percent (TDIP) provides an analysis to the TDI measure. It is similar to the TDI measure, however it excludes the population density factor. The TDIP for each block group in the study area was calculated based on autoless households, disabled populations, elderly populations, youth populations and below poverty populations.

By removing the population density factor, the TDIP is able to measure the degree of vulnerability. It represents the percentage of the population within the block group with the above socioeconomic characteristics and it follows the TDI's five-tiered categorization of very low to very high. However, it does not highlight the block groups that are likely to have higher concentrations of vulnerable populations only because of their population density. As shown in Figure 4-4, the highest need, based on the percentage, occurs in block groups including Lutherville, Cockeysville, Carney, Pikesville, Catonsville, Rosedale, Middle River, Essex and Dundalk.

**Figure 4-3: Transit Dependence Index Density**
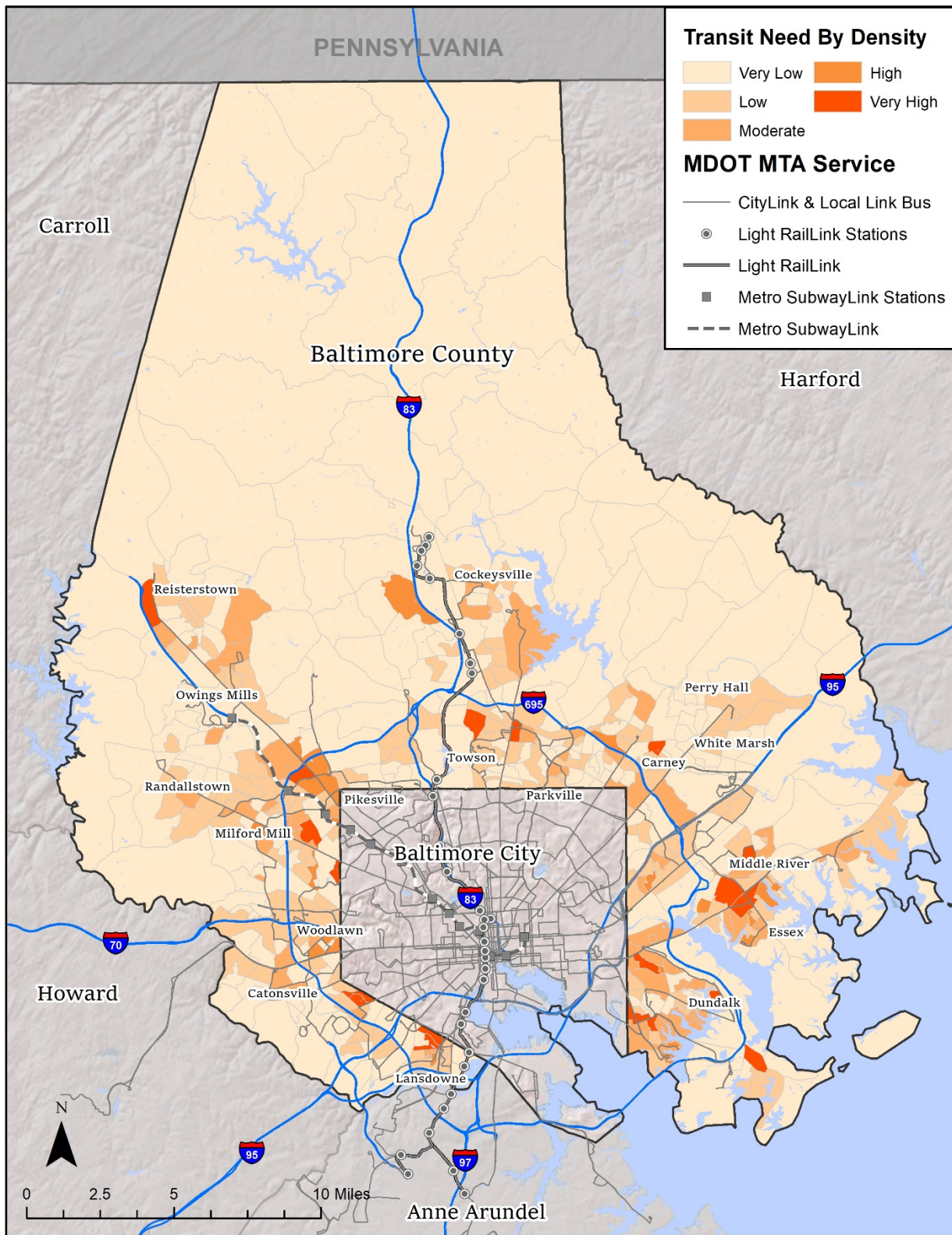
**Figure 4-4: Transit Dependence Index Percentage**
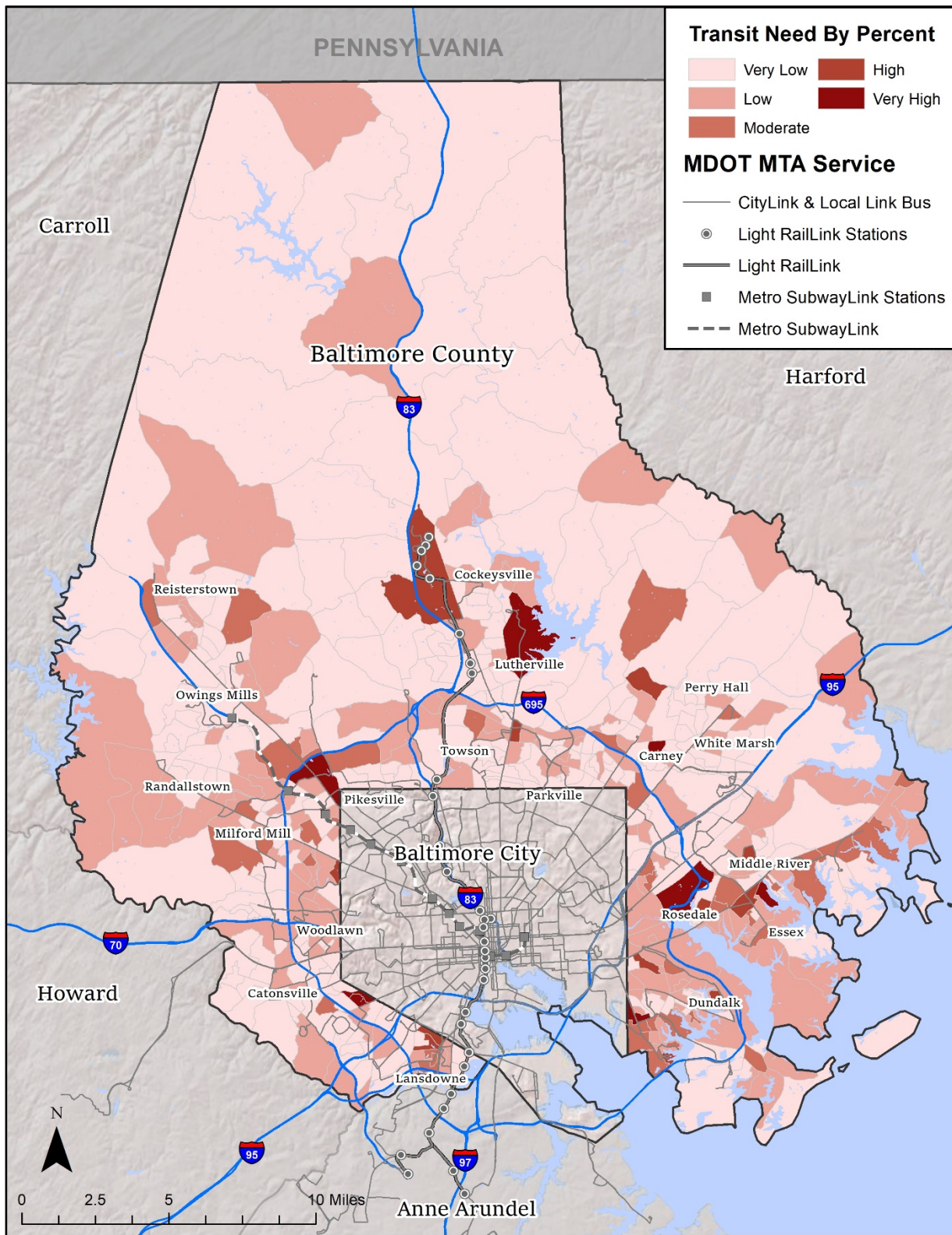
## Autoless Households

Households without at least one personal vehicle are more likely to depend on the mobility offered by public transit. Although autoless households are reflected in both the TDI and TDIP measures, displaying this segment of the population separately is important since most land uses in Baltimore County are at distances too far for non-motorized travel. Figure 4-5 displays the relative number of autoless households. Randallstown, Owings Mills, Reisterstown, Milford Mills, Pikesville, Woodlawn, Catonsville, Arbutus, Lansdowne, Dundalk, Rosedale, Essex, Middle River, Chase, Overlea, Rossville, Parkville, Lutherville-Timonium, Perry Hall, Gunpowder and Cockeysville show high numbers of autoless households. Many of these block groups are dispersed throughout the southern half of the county and are adjacent to major interstates.

## Older Adult Population

The TDI and the TDIP also analyzed the older adult population which are individuals ages 65 and older. Persons in this age cohort may begin to decrease their use of a personal vehicle and begin to rely more on public transit. Figure 4-6 shows the relative concentration of older adults in Baltimore County. The block groups that have high numbers of older adults are located in Pikesville, Milford Mill, Woodlawn, Catonsville, Dundalk, Essex, Rosedale, Middle River, Kingsville, Glen Arm, Lutherville-Timonium, Towson, and Cockeysville. Moderate to high levels of older adults are found in block groups dispersed throughout the county.

## Youth Population

The youth population is often used as an identifier of transit dependent population. Persons ages 10 to 17 either cannot drive or are just beginning to drive and often do not have a personal automobile accessible to them. For this population group, public transit is often the means that offers mobility. Figure 4-7 illustrates the areas with high concentrations of youth populations, which include Hereford, Reisterstown, Owings Mills, Carney, Rosedale, Dundalk, Brooklandville, Edgemere, White Marsh and the areas near Baltimore Line at the Pennsylvania border.

## Individuals with Disabilities

Figure 4-8 illustrates the disabled population in Baltimore County. People who have disabilities that prevent or make it more difficult for them to own and operate a personal vehicle often rely on public transit for their transportation needs. Block groups with high levels of individuals with disabilities concentrate mostly in areas east of Baltimore City and include Carney, Catonsville, Dundalk, Essex, Lansdowne, Lutherville, Middle River, Milford Mill, and Rosedale.

**Figure 4-5: Population of Autoless Households**
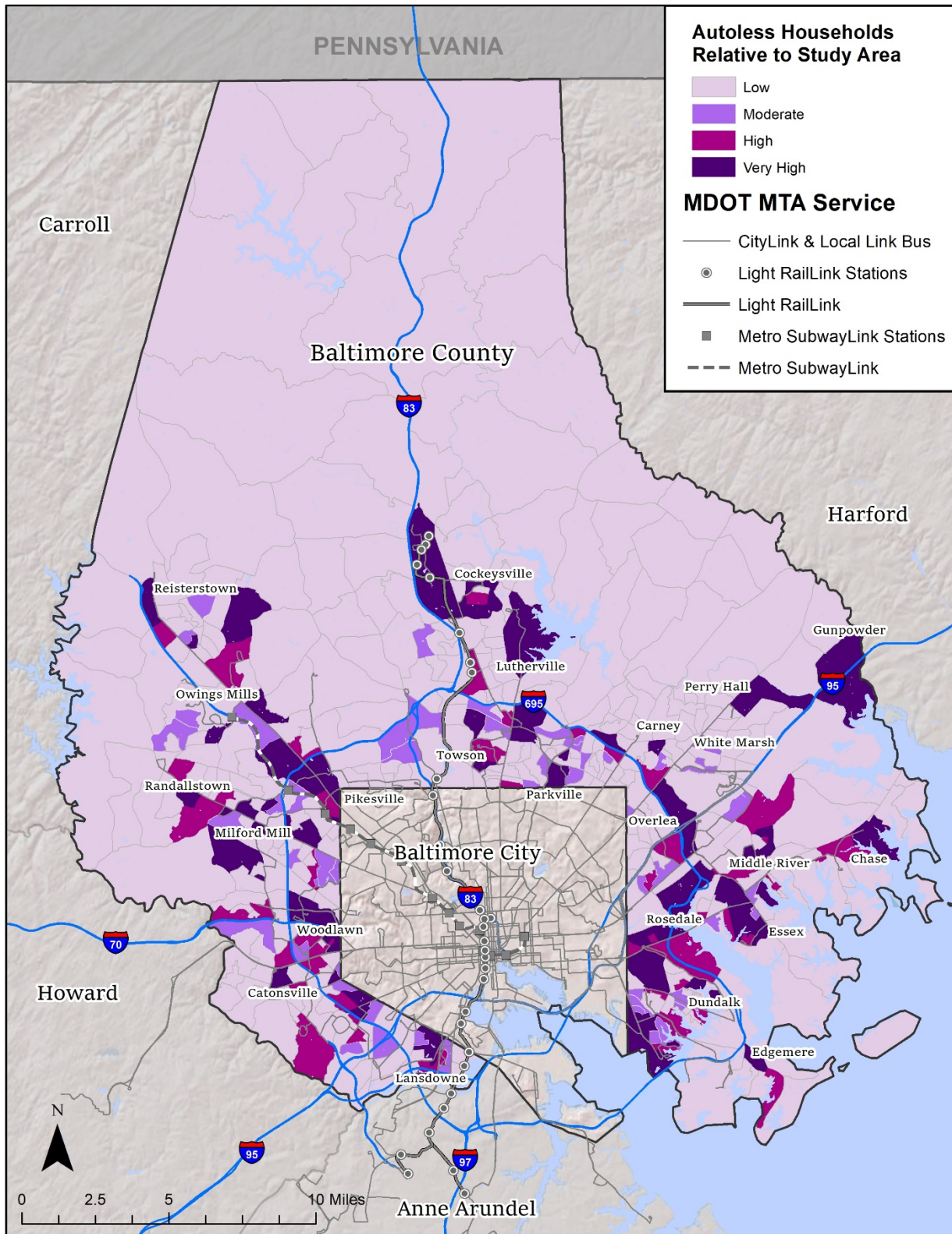
**Figure 4-6: Population of Older Adults**
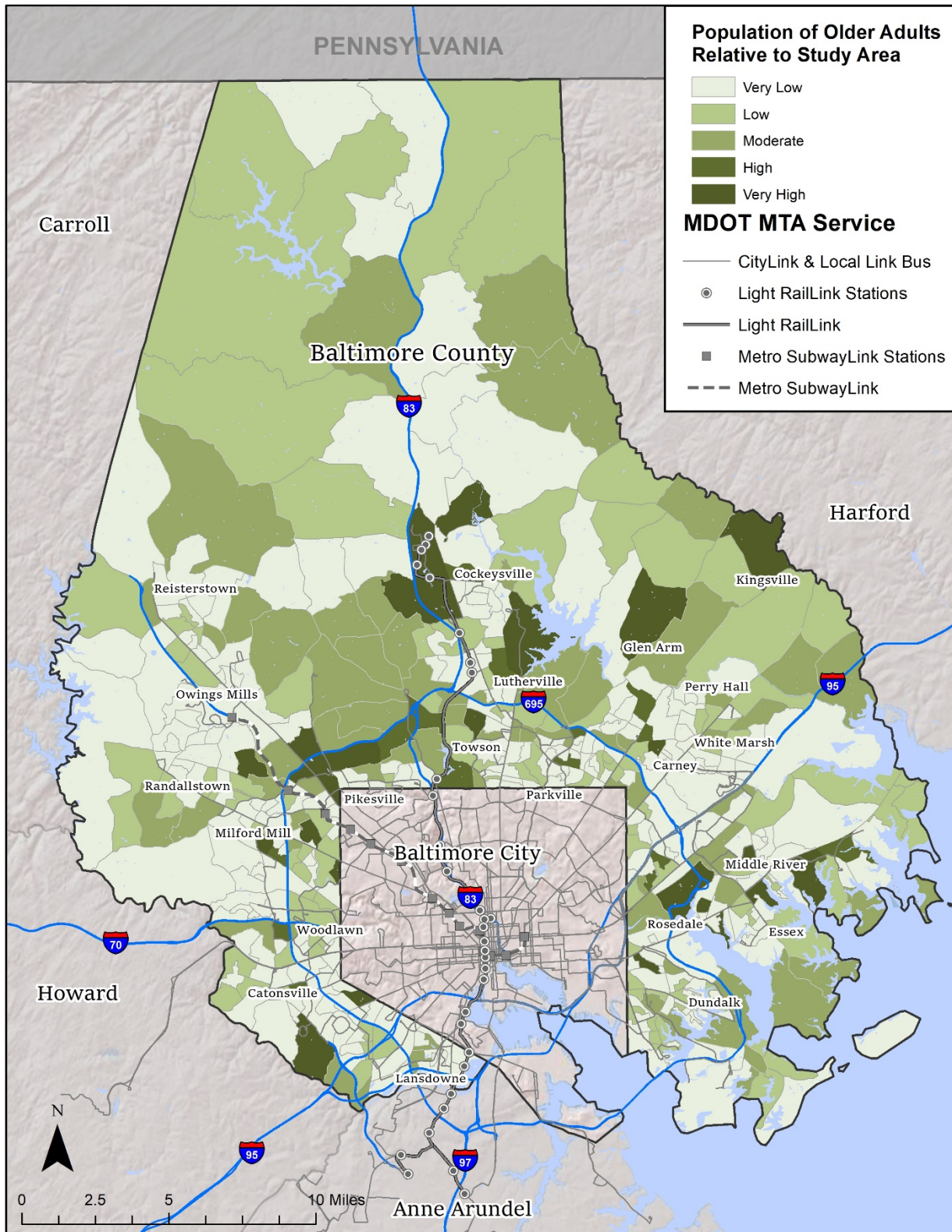
**Figure 4-7: Population of Youth**
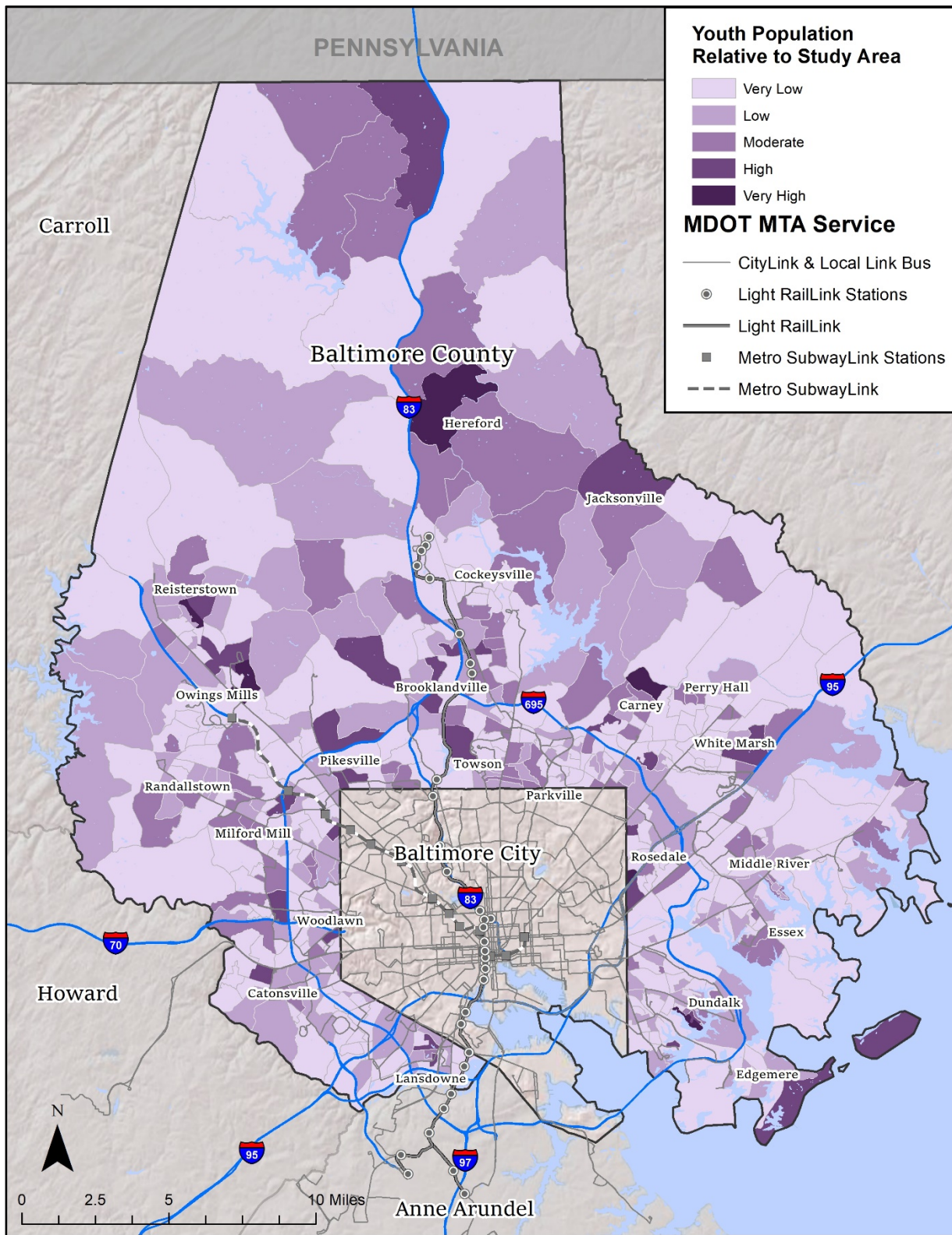
## Figure 4-8: Classification of Individuals with Disabilities

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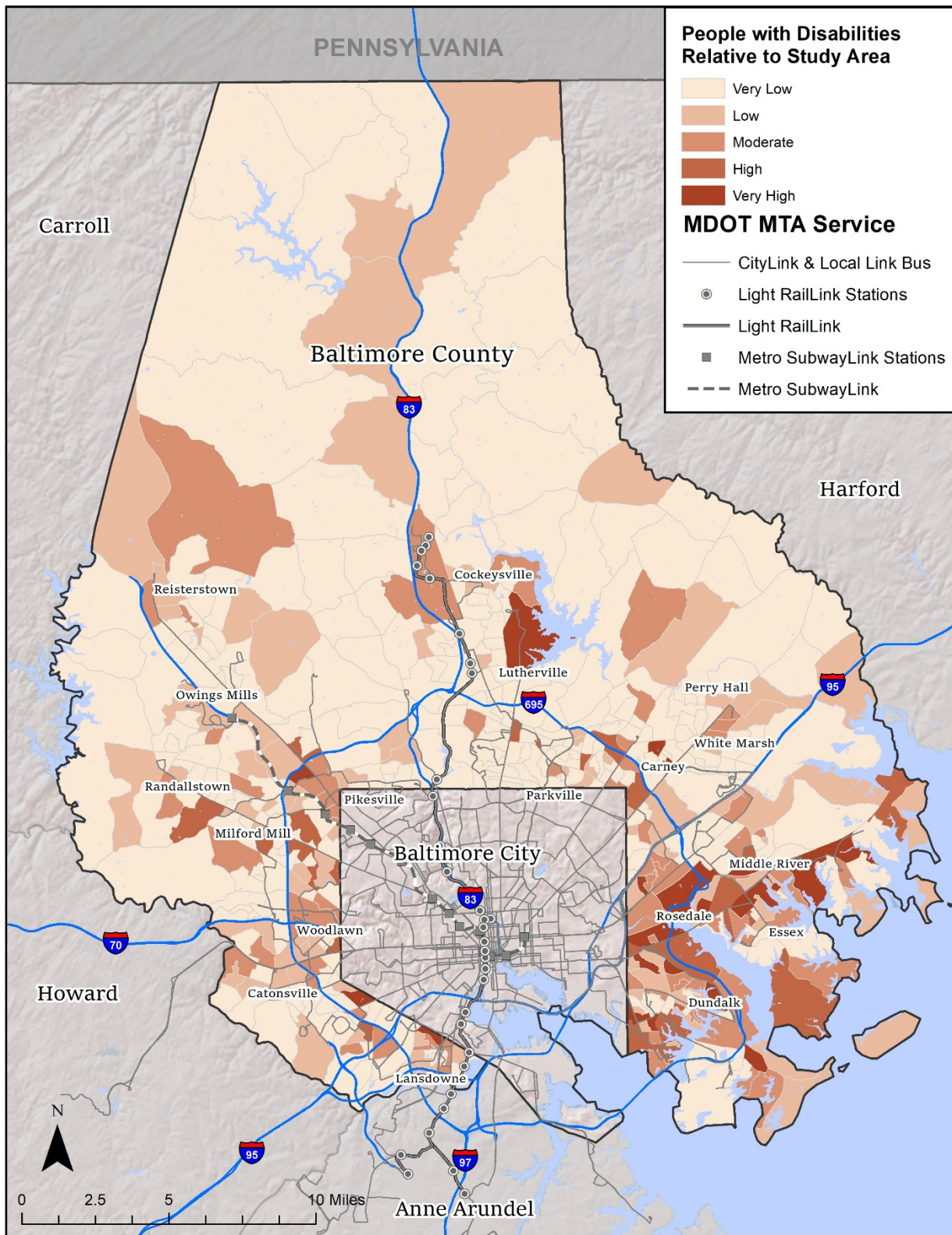
## TITLE VI DEMOGRAPHIC ANALYSIS

Through the Civil Rights Act of 1964, Title VI prohibits discrimination on the basis of race, color or national origin in programs and activities receiving federal subsidies. This includes agencies providing federally funded public transportation. The following section examines the minority and below poverty level populations of Baltimore County.

## Minority Population

It is important to identify areas that have a high concentration of racial and/or ethnic minority populations. One reason is to ensure that any alterations in transit services do not adversely impact these populations. The average percentage of minority populations in Baltimore County block group is 37.9%. Figure 4-9 displays the concentration of the minority population in Baltimore County. Block groups with above-average levels of minorities concentrate mostly in areas west of Baltimore City and include Randallstown, Owings Mills, Reisterstown, Milford Mill, Woodlawn, Rosedale, Essex, White Marsh and Cockeysville.

## Below Poverty Level Population

The second group included in the Title VI analysis represents those individuals who earn less than the federal poverty level. This segment of the populations may find it a financial burden to own and maintain a personal vehicle, thus relying on public transit as their primary means of transportation. The average for a block group in Baltimore County is 8.6% living below the poverty level. Figure 4-10 depicts block groups that are below the average poverty level, which are evenly distributed throughout most of the county except the northern half.

**Figure 4-9: Minority Population**

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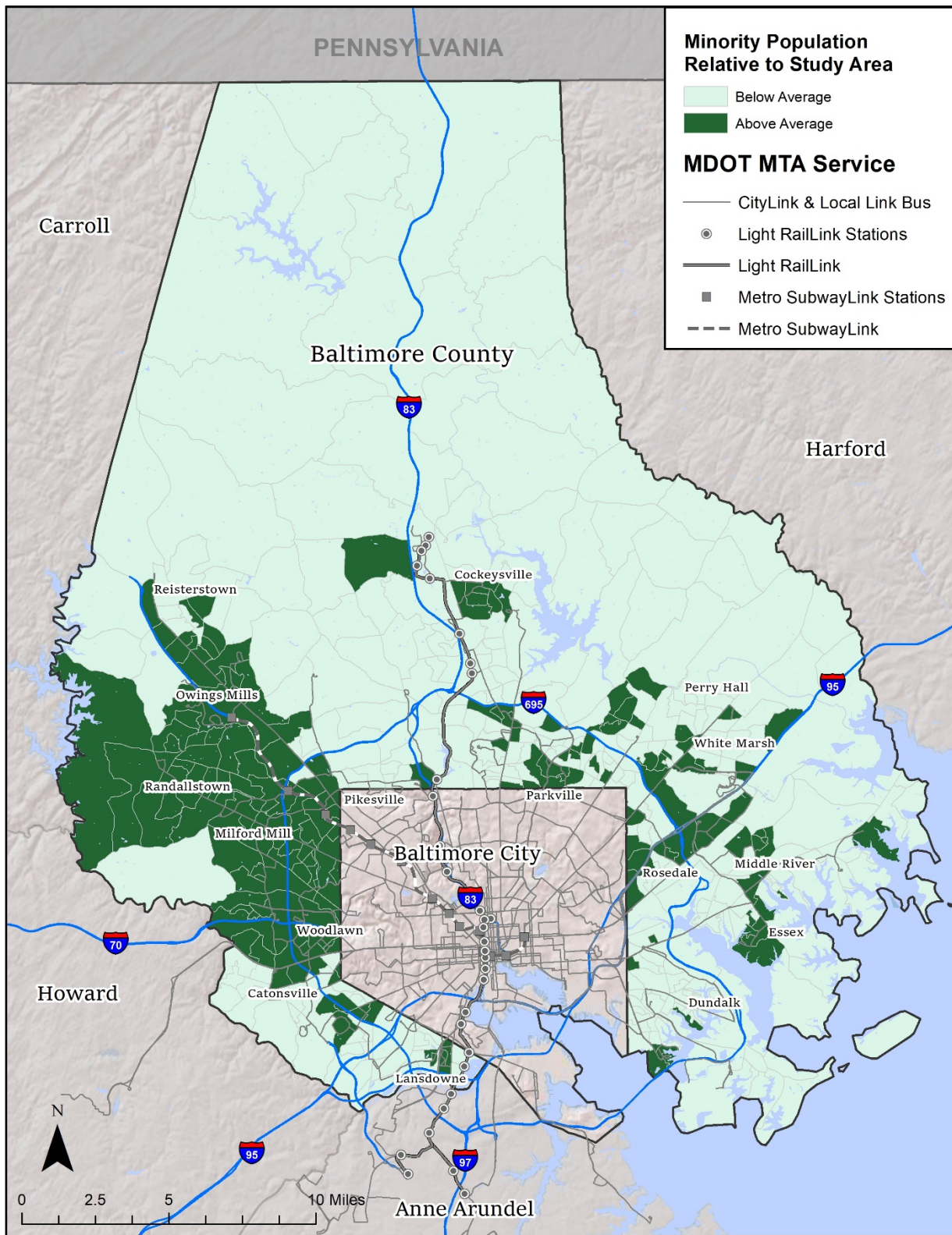
**Figure 4-10: Individuals Below Poverty Line**
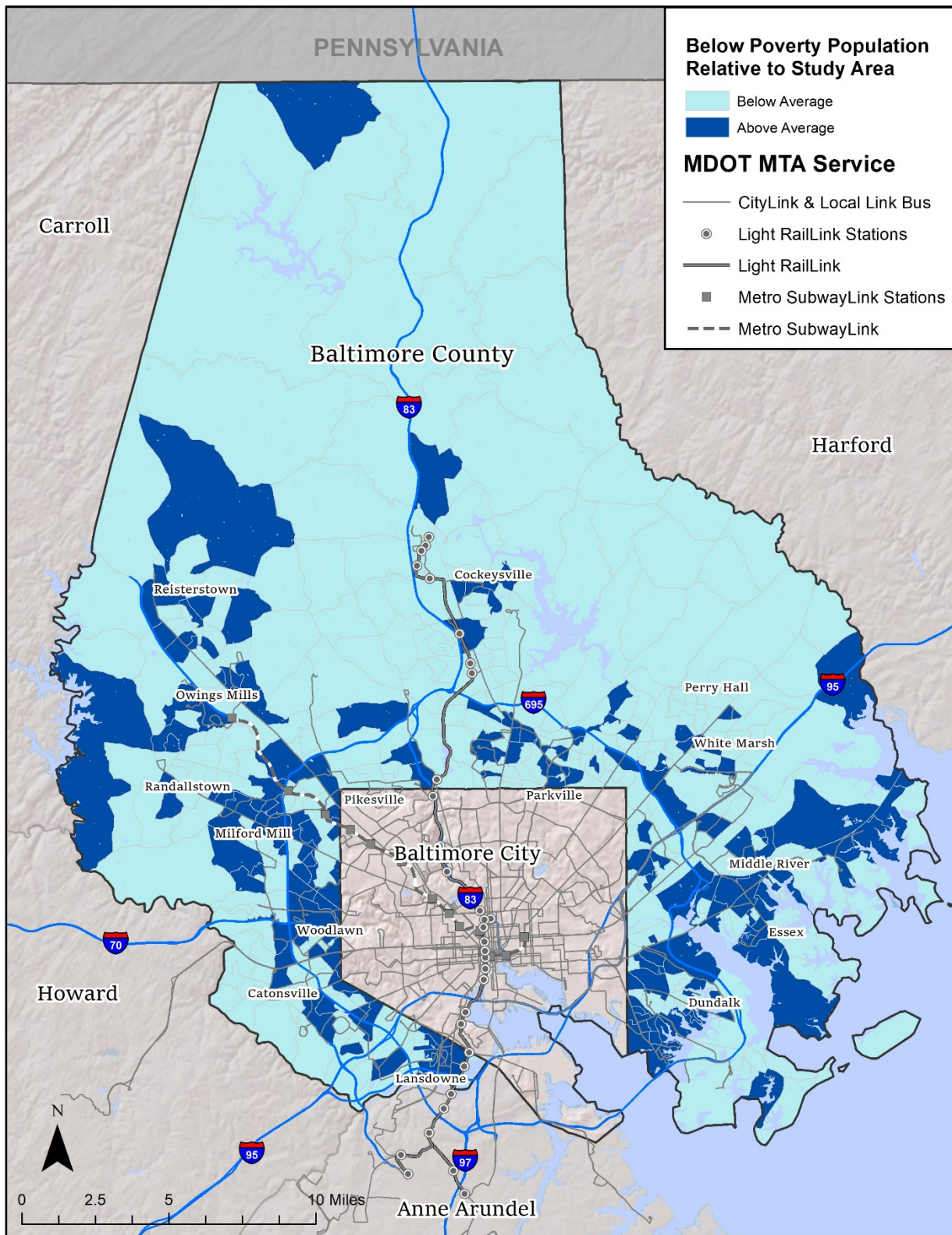
## Limited-English Proficiency

In addition to providing public transportation for a multitude of socioeconomic groups, it is also important to serve and disseminate information to those of different linguistic backgrounds. As shown in Table 4-3, 86% of Baltimore County residents speak English, which is slightly more than the state average. Spanish is the next most prevalent language (14%). Of those households in the county where a non-English language is spoken, at least 70% speak English "Very Well."

**Table 4-3: Limited English Proficiency for Baltimore County**

| Place of Residence | Maryland | | Baltimore County | |
|---|---|---|---|---|
| Population Five Years and Older | 5,637,261 | | 778,635 | |
| Language Spoken at Home | # | % | # | % |
| English | 4,599,111 | 82% | 666,649 | 86% |
| Speak Non-English at Home: | 1,038,150 | 18% | 111,986 | 14% |
| Spanish | 450,150 | 8% | 33,277 | 4% |
| Other Indo-European languages | 250,332 | 4% | 25,813 | 3% |
| Asian/Pacific Island languages | 211,838 | 4% | 13,154 | 2% |
| Other languages | 125,830 | 2% | 13,583 | 2% |
| Ability to Speak English (Ages 18 and up) | # | % | # | % |
| "Very Well" | 376,000 | 72.3% | 41,194 | 70.9% |
| "Less Than Very Well" | 144,211 | 27.7% | 16,906 | 29.1% |

Source: American Community Survey, Five-Year Estimates (2013-2018), Table S1601.

## SERVICE AREA, TRANSIT GENERATORS AND ACTIVITY CENTERS

## Service Area

Baltimore County is 600 square miles in size and is situated in what is referred to as Maryland's Baltimore region. This region consists of the City of Baltimore and Baltimore County, as well as the counties of Anne Arundel, Carroll, Harford, and Howard, situated in central Maryland as shown in Figure 4-11.

**Figure 4-11: Baltimore Region**



Baltimore County has both urbanized and rural areas; Figure 4-12 shows the two areas. This distinction between the urban and rural portions of the county is relevant not only regarding demographics, but also transit funding programs and eligibility for services. For example, CountyRide is funded to serve the urbanized and rural areas of the county separately. Due to the rural funding program requirements, eligibility for service in the rural areas of the county is open to the general public. Whereas CountyRide service in the urbanized areas of the county is restricted to seniors and individuals with disabilities.

Additionally, Baltimore County's service area is impacted by location of the City of Baltimore, situated in the middle of the southern end of the county. The major roadway pattern, with the exception of the Baltimore Beltway, is comprised largely of radial routes converging in downtown Baltimore. These factors impact travel for CountyRide and its provision of trips to riders, affecting travel times and travel routes between the western and eastern parts of the county.

**Figure 4-12: Baltimore County's Urban Area**
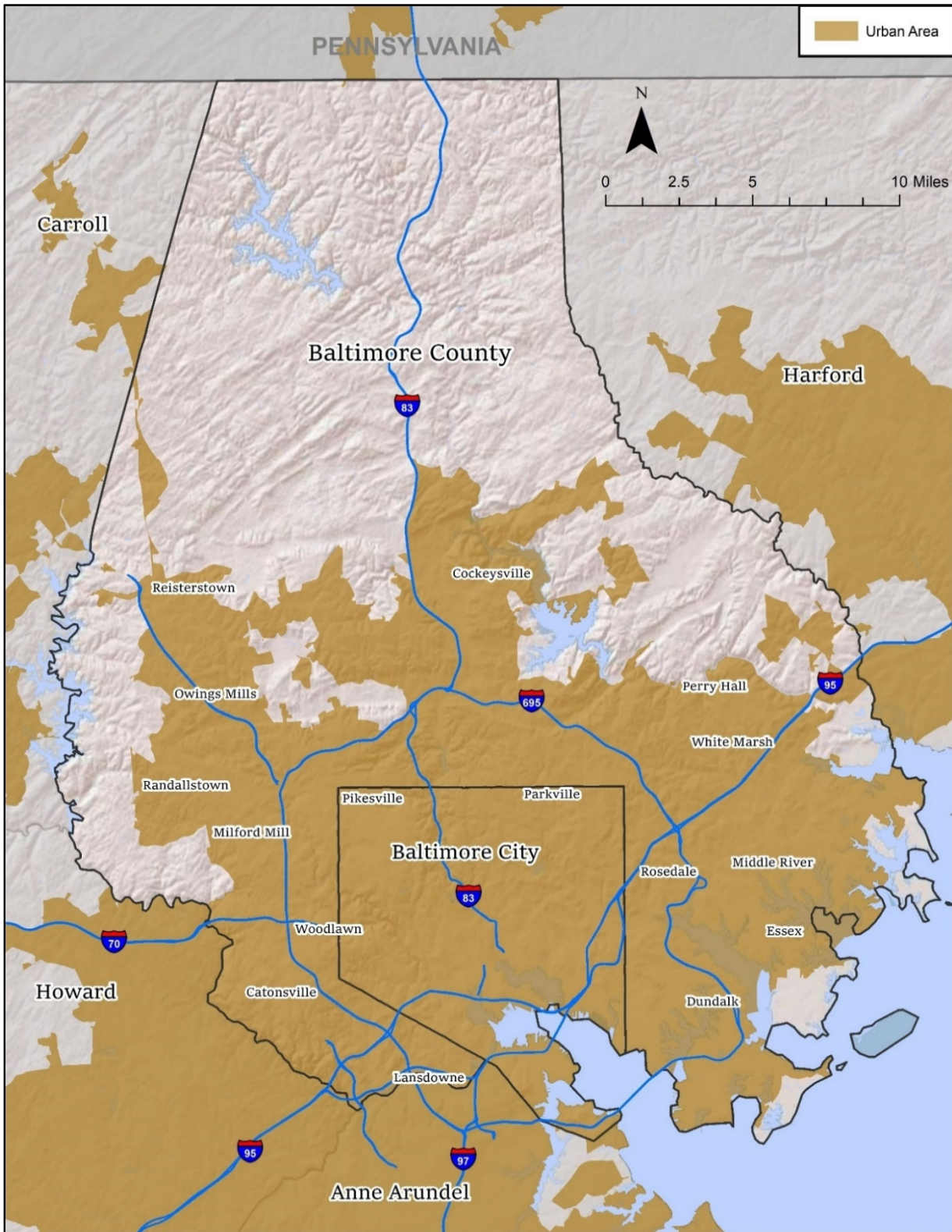
## Major Trip Generators

Understanding the land uses and major trip generators in Baltimore County serves as a complement to the demographic analysis above. Knowing where major destinations are in the area will also help determine where transit services are needed. Trip generators attract transit demand and include common origins and destinations. Examples of trip generators are multi-unit housing, medical facilities, shopping centers, major employers and educational facilities.

Consistent with the population density, Baltimore County's urban area is located around Baltimore City. Figure 4-13 confirms that many of the trip generators in Baltimore County are located close to Baltimore City and along major corridors connected to I-695.

Included in this illustration of trip generators are senior housing and retirement communities (labeled as housing); medical facilities; human services organizations; groceries, major employers, major shopping centers and big box stores such as Walmart and Target; and the 15 partner facilities (all hospitals, medical facilities, or human service organizations) that are contributors to the CountyRide Program. Most major employers in the region are hospitals and major educational institutions with multiple locations, and are listed as such (not as employers) on Figure 4-13. The top 20 employers in the county are listed in Table 4-4.

Trip generators from each category are scattered throughout the urbanized area in the county. The northernmost point of the county with a high concentration of trip generators is Hunt Valley. More trip generators overall exist on the west side of the county (which also has significantly more medical facilities) compared to the east side. A greater number of senior housing or retirement communities are located near Towson and Catonsville.

**Figure 4-13: Major Trip Generators**
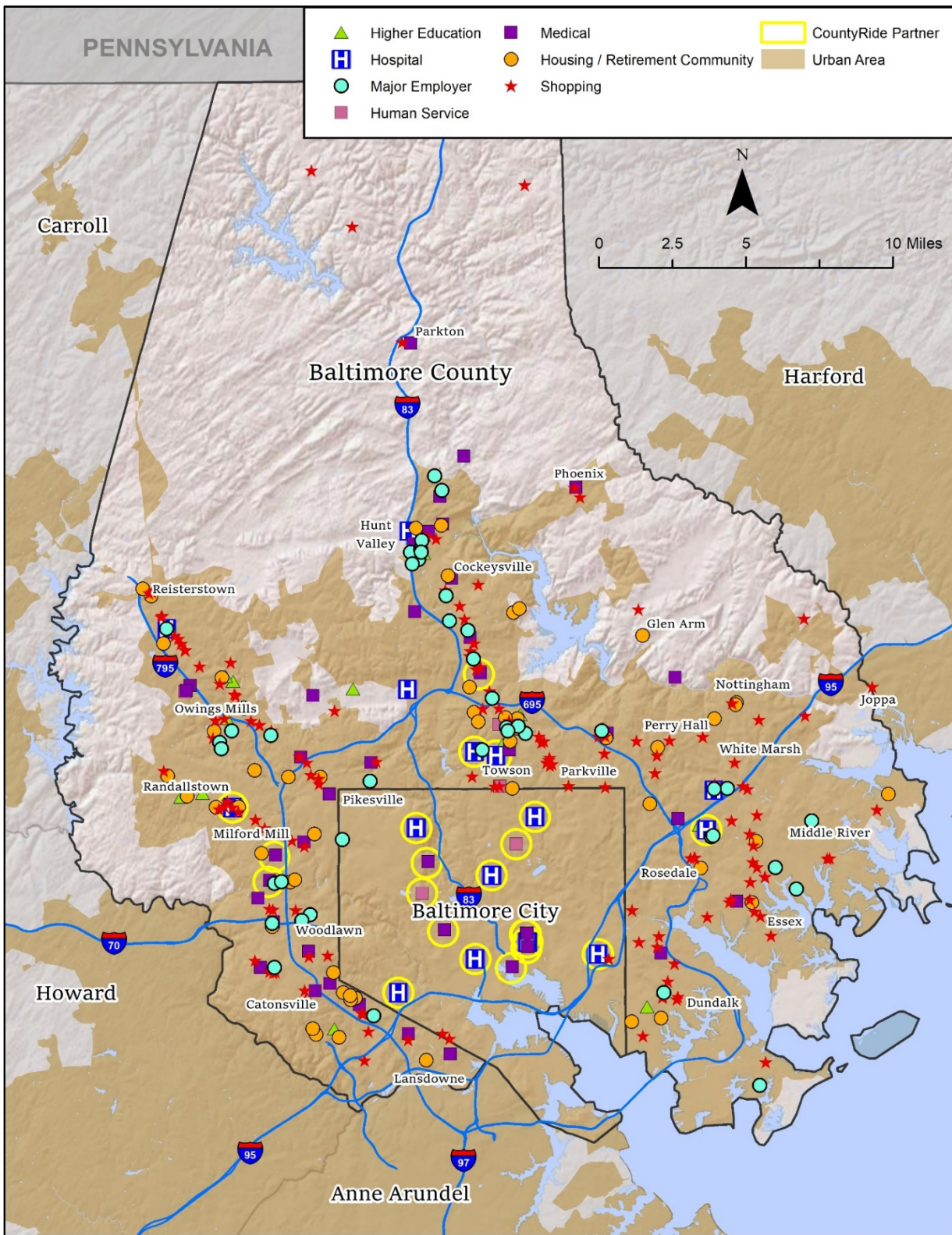
**Table 4-4: Top 20 Employers in Baltimore County**

| Company | Employees | Business |
|---|---|---|
| Social Security Administration and Centers for Medicare and Medicaid Services (CMS) | 15,415 | Federal Government |
| T. Rowe Price | 3,764 | Financial Services |
| Community College of Baltimore County (CCBC) | 4,184 | Community College |
| Greater Baltimore Medical Center | 3,742 | Hospital |
| MedStar Franklin Square Hospital | 3,900 | Hospital |
| University of Maryland, Baltimore County | 2,217 | University |
| Towson University | 3,433 | University |
| McCormick and Company, Inc. | 2,455 | Manufacturing |
| University of Maryland St. Joseph Medical Center | 2,611 | Hospital |
| BD Life Sciences, Diagnostic Systems | 1,900 | Microbiology, medical and diagnostic equipment |
| CareFirst BlueCross BlueShield | 2,200 | Healthcare insurance provider |
| Sheppard Pratt Health Systems | 1,918 | Hospital |
| LifeBridge Health/Northwest Hospital Center | 1,695 | Hospital |
| Stanley Black and Decker Global Tools and Storage Headquarters | 1,600 | Power tools, small appliances |
| Lockheed Martin | 1,519 | Aerospace, defense and information technology |
| Textron (formerly AAI) | 1,500 | Defense |
| United Parcel Service (UPS) | 1,140 | Freight and logistics |
| Stevenson University | 1,094 | University |
| Verizon – Maryland | 978 | Telecommunications (finance and billing) |
| Coty (formerly Procter and Gamble Beauty) | 940 | Cosmetic manufacturing |

Source: Baltimore County Department of Economic and Workforce Development, Revised September 16, 2020

## EMPLOYMENT TRAVEL PATTERNS

In addition to considering the locations of Baltimore County's major employers, it is also important to account for the commuting patterns of residents working inside and outside of the county. According to data collected from the American Community Survey (2014-2018), about 50.2% of Baltimore County workers stay within the county for work. This is the same percentage reported within the 2011-2015 dataset. Important destinations for workers who commute out of the county for work are shown in Table 4-5. This dataset is from the 2011-2015 ACS, which is the most recently available detailed commute data.

**Table 4-5: Primary Work Locations for Baltimore County Workers**

| Work Jurisdiction | Baltimore County Workers Ages 16 and Older | |
|---|---|---|
| | **Number** | **Percent** |
| Baltimore County, MD | 203,094 | 50.2% |
| Baltimore City, MD | 115,654 | 28.6% |
| Anne Arundel County, MD | 24,340 | 6% |
| Howard County, MD | 23,625 | 5.8% |
| Harford County, MD | 8,536 | 2.1% |
| Prince George's County, MD | 6,127 | 1.5% |
| Carroll County, MD | 5,163 | 1.3% |
| Washington, D.C. | 5,120 | 1.3% |
| Montgomery County, MD | 4,602 | 1.1% |
| Frederick County, MD | 947 | 0.2% |
| York County, PA | 848 | 0.2% |

Source: U.S. Census Bureau, ACS, 2011-2015

The study team also gathered data from the American Community Survey 2014-2018 concerning mode of transportation to work for Baltimore County commuters as well as the State of Maryland. These data are shown in Table 4-6.

These data show that Baltimore County workers stay within the county for employment at a rate that is slightly lower than the statewide average, with 50.2% of the workforce staying within the county. Also, the data shows that workers stay within the state for employment at a rate that is higher than the statewide average, with 97.4% staying within the state. Baltimore County commuters drive alone to work at a higher rate than state commuters overall (79.4% versus 73.9%). This is to be expected, given that Baltimore County is a predominantly rural county.

**Table 4-6: Journey to Work Patterns for Baltimore County and the State of Maryland**

| Place of Residence | Baltimore County | | State of Maryland | |
|---|---|---|---|---|
| Workers 16 Years and older | 411,402 | | 3,021,967 | |
| **Location of Employment** | **Count** | **Percent** | **Count** | **Percent** |
| Worked in state of residence: | 400,706 | 97.4% | 2,514,277 | 83.2% |
| Worked in county of residence | 206,524 | 50.2% | 1,625,818 | 53.8% |
| Worked outside county of residence | 194,182 | 47.2% | 888,458 | 29.4% |
| Worked outside state of residence | 10,696 | 2.6% | 507,690 | 16.8% |
| **Means of Transportation to Work** | **Count** | **Percent** | **Count** | **Percent** |
| Car, truck, or van - drove alone: | 326,743 | 79.4% | 2,233,034 | 73.9% |
| Car, truck, or van - carpooled: | 35,303 | 8.5% | 273,373 | 9.0% |
| Public transportation (excluding taxicab): | 19,348 | 4.7% | 258,397 | 8.6% |
| Other (walked / biked) | 13,575 | 3.3% | 115,131 | 2.8% |
| Worked at home | 16,433 | 1.9% | 142,032 | 4.7% |

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

# Chapter 5
# Service and Organizational Alternatives

## INTRODUCTION

This chapter presents potential service and organizational alternatives for consideration by Baltimore County. These alternatives were developed based on a review of current transit services in Baltimore County, the analysis of current and future demographics, and input from customers, residents, and other stakeholders. Feedback from Baltimore County staff, the Maryland Department of Transportation Maryland Transit Administration (MDOT MTA), and the Transportation Development Plan (TDP) Advisory Committee will be used to refine the alternatives for inclusion in the draft TDP.

## SERVICE ALTERNATIVES

The proposed service alternatives discussed in this section provide a menu of potential transit improvements that fit into a broader overall vision for public transportation in Baltimore County. These alternatives would require additional detailed service planning before implementation, including outreach efforts so that individual communities in Baltimore County could decide which services would be most desirable for their area. The overall objective of these alternatives is to provide the foundation for a flexible transit network that meets the travel needs of Baltimore County residents through both community-based and countywide services.

While the potential improvements should be viewed collectively as part of the overall public transit vision, for consideration and review they have been segmented into the following alternatives:

- Improved accessibility and mobility for older adults and people with disabilities through the expansion of current CountyRide Services.

- Expanded transportation options for Baltimore County residents through the implementation of flexible microtransit/mobility on demand services designed to fit specific community needs.

- Assessment of additional community circulator services.

- Consideration of local bus services that would connect different communities in Baltimore County.

- Evaluation of transit services that would provide greater regional connectivity.

# Expanded CountyRide Services

Current CountyRide customers were asked to provide their input on possible service improvements through the rider survey. Their top two requests were for expanded service hours and weekend service. Another request was for the ability to use CountyRide services more often, particularly to have availability for trips to dialysis treatment facilities that occur three times a week. Therefore, this alternative proposes the following:

- Expand current CountyRide vehicle hours so that services are available in the evening or more often during current operating hours.

- Implement CountyRide services on Saturday between 8:00 a.m. and 4:00 p.m.

| Advantages | Disadvantages |
|---|---|
| • Responds to top needs expressed by current CountyRide customers. <br><br> • Provides customers with greater flexibility in accessing key destinations. <br><br> • Utilizes vehicles in the existing fleet. <br><br> • Allows for provision of return trips if medical appointments run long. | • Requires additional operating costs for expanded service, including the need for expanded dispatch coverage. <br><br> • Results in additional mileage on current buses, accelerating the vehicle replacement schedule. |
| **Expenses** | **Ridership** |
| • Assuming four vehicles would be needed to provide the expanded weekday service, this would result in approximately 3,120 annual vehicle hours. <br><br> • Assuming four vehicles would be needed to provide Saturday service, this would result in approximately 1,664 annual vehicle hours. <br><br> • Using the SSTAP FY2019 operating cost of $39.05 per hour, the estimated annual operating expenses for the weekday expansion would be $121,836, and the estimated annual operating expenses for the Saturday service would be $64,979. Actual expenses could be higher based on differential salary rates. | • While expanding weekday service and implementing weekend service is the top priority of current customers, this will not lend itself to a significant ridership increase. However, to the customers who need these trips, they are critical. <br><br> • Assuming passenger trips per hour were half of those in FY 2019, it is estimated that expanded weekday service would result in 2,304 annual passenger trips. <br><br> • Assuming passenger trips per hour were half of those in FY 2019, it is estimated that expanded Saturday service would result in 1,248 annual passenger trips. |

## Implement Microtransit / Mobility on Demand Services

As on-demand ride-hailing apps like Uber have become a common mobility option over the past decade, demand has risen for public transit services that utilize mobile technology to provide on-demand transportation services. In the past few years, microtransit services have emerged across the country. As a county where most transit services are operated by the state, Baltimore County could be well-suited for locally operated microtransit feeder/infill for CityLink, Light RailLink, SubwayLink, and other regional services. Therefore, a primary alternative for consideration in Baltimore County is microtransit services.

There are a variety of factors and opportunities that impact this alternative, and the next chapter of the TDP will provide a detailed discussion of microtransit implementation.

## Implement Local Circulator Service

As noted in Chapter 2, the circulator service for the Towson area has been studied and is nearing implementation. Looking countywide, the Baltimore County section of the Regional Transit Plan for Central Maryland noted a local circulator service in Owings Mills as one of the transit network improvements. While the Owings Mills area is one of the locations identified through the analysis for potential microtransit service, this area would also be a prime candidate for a circulator service based on these key attributes:

- A major transit hub at the Owings Mills Metro Station
- New development through the Mill Station and Foundry Row projects
- Extensive residential areas, including the New Town area

While more extensive analysis similar to the Towson Circulator Feasibility Study would be needed to plan the specifics of an Owings Mills Circulator, an initial demographic analysis of the area provides the foundation for this effort. First, Figure 5-1 identifies key locations and trip generators in the area, along with a population density analysis that shows parts of the Owings Mills area with the highest number of residents per square mile. Figure 5-2 also displays key locations, but in relation to where population groups that are typically more inclined to use transit services. The future circulator could be implemented to connect New Town and southern Owings Mills to Mill Station, Foundry Row, and other developments and transit lines along Reisterstown Road.

**Figure 5-1: Owings Mills Area Points of Interest with Population Density**
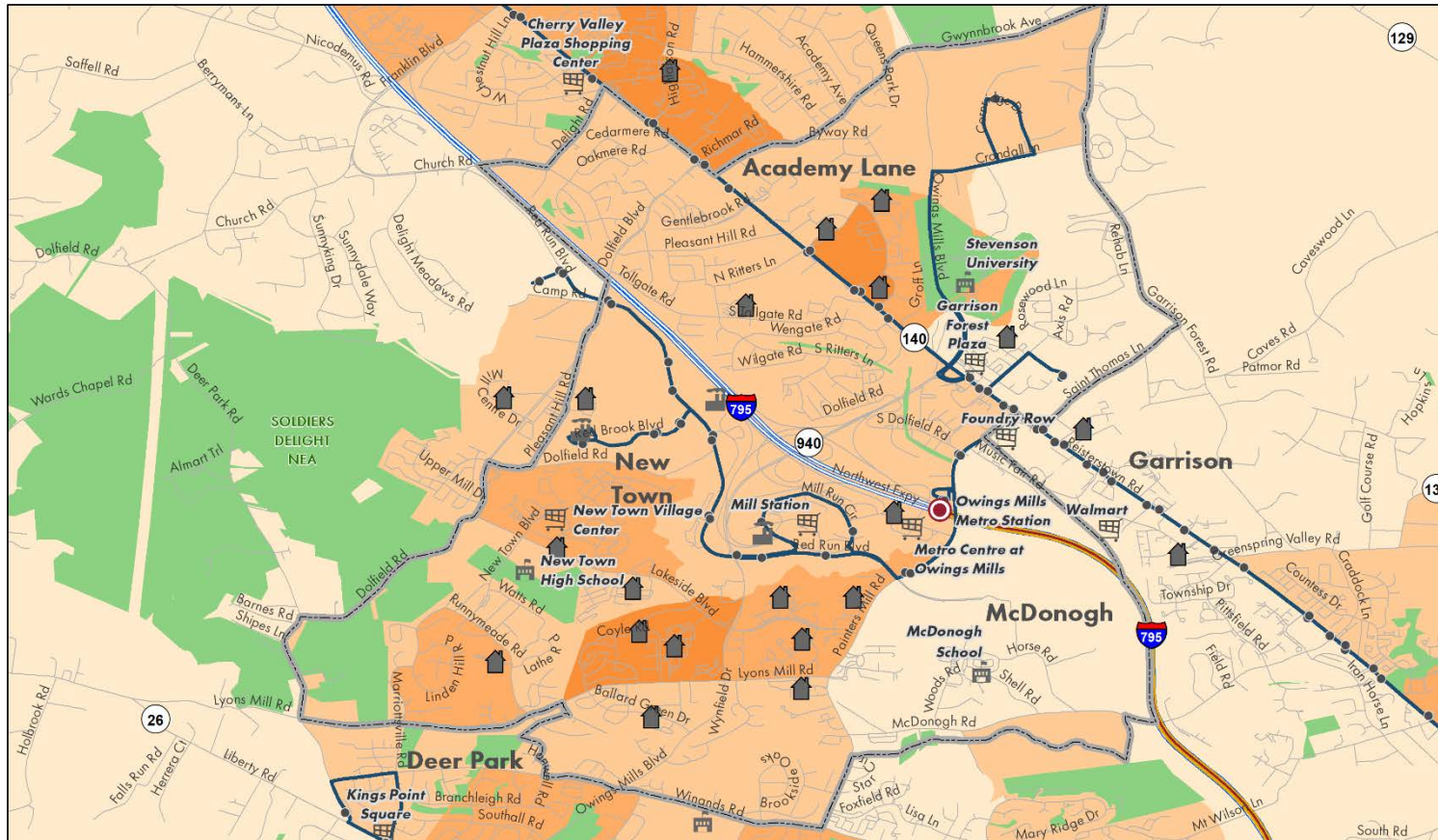


Owings Mills Area: Points of Interest and Population Density

**Points of Interest**
- Education
- Employer
- Housing
- Shopping

**People per Sq. Mile**
- Less than 2,500
- 2,501-5,000
- 5,001-10,000
- 10,001-15,000
- More than 15,000

**Other**
- MDOT MTA SubwayLink
- Owings Mills Subway Stations
- MDOT MTA Routes
- MDOT MTA Bus Stops
- Owings Mills

Parks

**Figure 5-2: Owings Mills Area Points of Interest with Transit Dependence Populations**
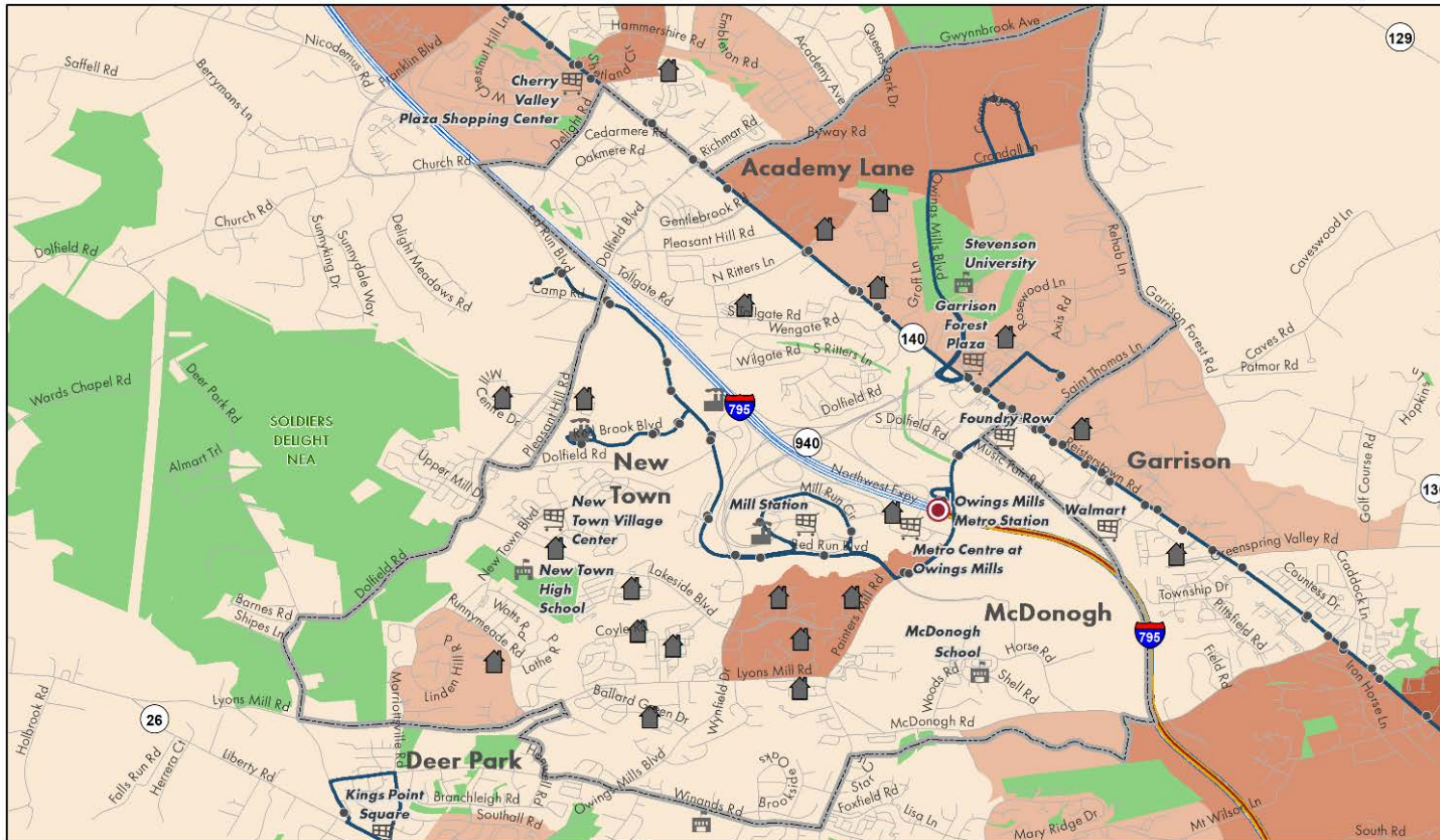


Owings Mills Area: Points of Interest and Transit Dependence

**Points of Interest**
- Education
- Employer
- Housing
- Shopping

**Transit Dependence**
- Very low
- Low
- Moderate
- High
- Very high

**Other**
- MDOT MTA SubwayLink
- Owings Mills Subway Stations
- MDOT MTA Routes
- MDOT MTA Bus Stops
- Owings Mills
- Parks

| Advantages | Disadvantages |
|---|---|
| • Responds to one of the service improvements identified in the Central Maryland Regional Transit Plan.<br><br>• Provides a local circulator in a part of Baltimore County that is ideal for service connecting extensive residential areas with key destinations and existing high-frequency transit.<br><br>• Makes Baltimore County's transit offerings more visible. | • Requires a detailed feasibility study similar to the Towson Circulator.<br><br>• Capital funding will need to be identified for the acquisition of new vehicles, bus shelters, and signage.<br><br>• Operating funding will need to be identified for the new service. |
| **Expenses** | **Ridership** |
| • Based on cost estimates similar to those for the Towson Circulator, the initial capital costs for the Owings Mills service would be approximately $2,050,000.<br><br>• Operating costs would be dependent on the span and frequency of service. Assuming a service similar to Towson that would operate Monday through Friday between 7:00 a.m. and 10:00 p.m., and on Saturday between 10:00 a.m. and 10:00 p.m. on 15-minute intervals:<br><br>  • This service would result in approximately 18,096 annual vehicle hours.<br>  • Assuming an operating cost of $75.00 per hour, estimated annual operating expenses would be $1,357,200. | • While ridership estimates would be analyzed and identified through a feasibility study, assuming 14 passenger trips per hour (the midpoint for MDOT MTA performance standards for suburban fixed-route bus services) the circulator would result in 253,344 annual passenger trips. |

## Implement Crosstown Bus Services

As Baltimore County works towards a full-fledged transit system, implementing and operating local bus routes that complement the current CountyRide and MDOT MTA services, as well as any future circulator and microtransit services, should be considered.

The Baltimore County section of the Regional Transit Plan for Central Maryland identified potential areas for crosstown bus services that would provide connections between different communities in the County. While the Regional Transit Plan has a 25-year planning horizon, the recommended local bus services from that plan can serve as the basis for a more extensive

analysis and as the foundation for a broader Baltimore County transit network. The assessment of crosstown routes will also need to take into account any other studies for the Baltimore area conducted by MDOT MTA, such as a current one on east-west and north-south corridors. In addition, this potential network would utilize existing transit stations and provide connections with current MDOT MTA services. Therefore, there would need to be extensive coordination with MDOT MTA to ensure sidewalk and crosswalk improvements near transit stops; bus lanes and transit-signal priority that help buses travel faster and more reliably; and zoning for walkable, mixed use development near transit stops; are considered through the final service planning.

In addition, when asked about their least liked aspects of CountyRide service, current customers noted the two-week notice required for most medical trips and the limited service capacity that has restricted rides per week to two and resulted in occasional cancellations. These results are not surprising, as virtually all trips provided by CountyRide require a customer to call to schedule and are door-to-door, significantly impacting the capacity of CountyRide to meet the ongoing and growing demand for services.

Though customers prefer door-to-door service, it is also the most expensive form of transit to operate on a per trip basis. It is very labor intensive, with the need for customers to contact CountyRide for nearly all rides. The variable nature of demand response services also makes it difficult to keep vehicles to their scheduled pickup/drop off times. As a result, many communities look to other service designs that can accommodate the needs of their residents. Baltimore County's contract with Uber, and the implementation of circulator and microtransit services, are efforts in this direction. Another one is the use of scheduled services and routes.

Taking these factors into consideration, Figure 5-3 provides a visual presentation for a possible "County Connector" network that would provide Baltimore County residents with the ability to travel between communities on public transit, opportunities that do not currently exist or necessitate long rides that often involve traveling in and then back out of Baltimore City.

This network could be implemented incrementally route by route. The routing is conceptual, and additional service planning that would involve community outreach would be needed to finalize the actual routes. Ultimately, this transit network would greatly expand access to key locations in Baltimore County, and also help to meet the increasing demand for public transportation services resulting from the growing senior population in Baltimore County.

**Figure 5-3: Potential Routing for a County Connector System**
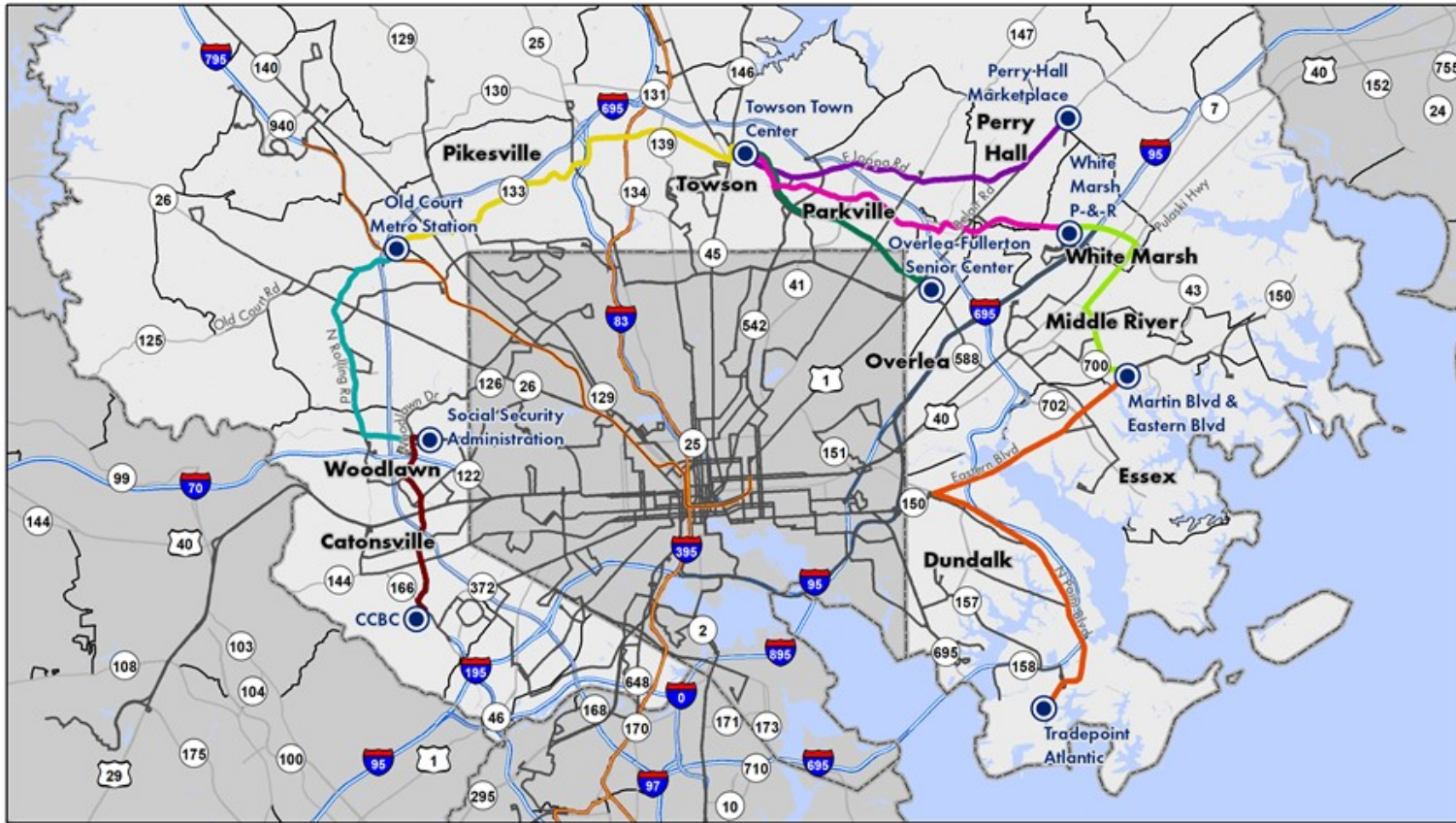


## County Connector System: Potential Routing

### Cross County Alternatives

| | |
|---|---|
| — Middle River/Essex/Dundalk-Tradepoint Atlantic | — Pikesville-Woodlawn |
| — Overlea/Parkville-Towson | — Towson-White Marsh |
| — Perry Hall-Towson | — White Marsh-Essex |
| — Pikesville-Towson | — Woodlawn-Catonsville |

◉ Connector Endpoints
— MDOT MTA Metro SubwayLink
— MDOT MTA Light RailLink
— MDOT MTA Bus

| Advantages | Disadvantages |
|---|---|
| • Provides Baltimore County residents with the ability to use public transit to travel between different communities in the county, travel that is currently not available, or only through long trips on indirect MDOT MTA routes.<br><br>• Greatly expands access to key destinations in Baltimore County, including hospitals, colleges, and major employers.<br><br>• Responds to the growing demand for CountyRide services by providing scheduled public transit services that can be used by some older adults and people with disabilities. This reduces the need for customers to call CountyRide to schedule trips by providing them with a set schedule that they can use when making travel plans.<br><br>• Provides the opportunity to operate scheduled routes that are more cost-effective than demand response services.<br><br>• While some of the conceptual routes serve areas with current MDOT MTA services, the implementation allows Baltimore County to have more autonomy on the design and operation of public transit services. | • Would be a major change to current service delivery, and would require an extensive outreach and marketing campaign to educate key stakeholders and the general public on the potential benefits.<br><br>• Would require additional funding to support services, though this may be offset by using monies that would otherwise be used to expand more expensive demand response services.<br><br>• Would require an assessment of current operations to determine the need for additional drivers and expanded dispatch coverage.<br><br>• Requires additional vehicles to operate new services.<br><br>• Would require installation of signage at stops along routes, stops could be collocated with MDOT MTA in certain areas.<br><br>• Would require ADA complementary paratransit services for people with disabilities that cannot use fixed-route bus services (though CountyRide services are already designed to provide this type of service). |
| **Expenses** | **Ridership** |
| • Detailed service planning would be needed for each route to fully determine expenses, and annual vehicle hours and total operating costs would be dependent on final routing, frequency of services, and hours and days of operation.<br><br>• However, individual routes that operate Monday through Friday for twelve hours and eight hours on Saturday on a 30-minute headway, would result in approximately 7,072 annual service hours. | • Similar to expenses, detailed service planning would be needed to estimate ridership and be dependent on final routing, frequency of services, and hours and days of operation.<br><br>• However, assuming passenger trips per hour would be similar to suburban transit services that average 12 trips per hour, it is estimated that each route could result in 99,008 annual passenger trips (assuming operation Monday through Friday for twelve hours and eight hours on Saturday). |

# Regional Connections

The Central Maryland Regional Transit Plan identified regional transit corridors that have regional significance and where connectivity is needed between different jurisdictions. Each corridor was determined to be either an early, mid-term, or long-term opportunity. The following regional transit corridors involved Baltimore County:

Early Opportunity:

- Towson to UM Transit Center
- Ellicott City – Convention Center

Mid-Term Opportunity:

- Convention Center to Middle River
- Towson to South Baltimore
- North Plaza to UM Transit Center
- White Marsh to Johns Hopkins Hospital
- Mondawmin to Reisterstown
- Mondawmin to Northwest Hospital
- Halethorpe to UM Transit Center

Long-Term Opportunity:

- Towson to Hunt Valley
- Laurel to Halethorpe

The plan noted that in the short-term, jurisdictions, MDOT MTA, the Baltimore Regional Transportation Board, and local transit providers should:

- Begin studies to assess alternatives that best match the corridor's needs.
- Enhance existing services.
- Evaluate and install/construct transit priority infrastructure.
- Enhance multimodal access to stops and stations.

CountyRide customer survey respondents expressed a variety of regional transportation needs. Most often this was for services to key locations in Baltimore City not currently served by CountyRide. The previous alternative that called for expanding CountyRide hours could also include a component that would allow for expanded services to Baltimore City. This option, though, should be explored after there has been sufficient time to assess the impact of Baltimore County's contract with Uber on CountyRide's service capacity. Also, there should be coordination with the MTA MDOT Mobility services to ensure there is no duplication in services.

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## ORGANIZATIONAL ALTERNATIVES

## Expand Marketing / Branding Efforts

The majority of community survey respondents indicated that they were not aware of the services provided by CountyRide. While there needs to be a sensitivity to capacity issues on CountyRide services when determining marketing strategies, this points out that greater outreach is needed to ensure Baltimore County residents are more fully aware of their transportation options, and that residents who don't use the CountyRide system are still aware of the importance of these services to the community.

In addition, the implementation of the Towson Circulator provides the opportunity for Baltimore County to rebrand transit services. In conjunction with the implementation of any microtransit services, additional circulator services, and cross-county services, a branding campaign will be needed to ensure the entire system is seen as one and appropriately conveys the more robust transit system desired by Baltimore County.

| Advantages | Disadvantages |
|---|---|
| • Ensures that residents with transportation needs are aware of their transportation options.<br><br>• Helps to reinforce the importance of CountyRide and additional public transit to the broader Baltimore County community.<br><br>• As new transit services are added, provides the opportunity to brand these separate services under one umbrella. | • Requires staff time, along with the costs to develop and implement a marketing plan or branding campaign.<br><br>• Depending on the results of the marketing plan, there may be costs with rebranding of current CountyRide vehicles as part of a broader transit system. |
| **Expenses** | **Ridership** |
| • Costs would vary depending on the extent of the marketing/branding campaign. In-house efforts would be substantially less expensive than using an outside professional marketing firm, though results may be less effective. | • Broad marketing would further expand awareness of CountyRide services, but more importantly, would help to ensure ridership on the Towson Circulator or any other new services. |

# Form a Transit Advisory Committee (TAC)

The expanded focus on public transit services in Baltimore County provides the opportunity for a formal committee to serve in an advisory role, comprised of key stakeholders who have an interest in enhancing transit in the community. This Transit Advisory Committee (TAC) is typically separate from a user group that provides input on day-to-day operations. The role of a TAC is to help the transit program better meet mobility needs in the community by serving as a link between the citizens served by the various entities and public transportation. A TAC is a good community outreach tool for transit programs, as having an ongoing dialogue with stakeholders allows for a greater understanding for transit staff of transit needs in the community, as well as greater understanding by the community of the various constraints faced by the transit program. Current members of the TDP Advisory Committee could serve as the foundation for the TAC, and other members added as appropriate. If a TAC is formed, special considerations should be made to include stakeholders representing various transit dependent communities in the county, including people with disabilities and people without vehicle access.

| Advantages | Disadvantages |
|---|---|
| • Provides a forum for dialogue between the Baltimore County transportation staff and other key stakeholders.<br><br>• Provides the structure for ongoing discussions on current services, and importantly on new services to be implemented by Baltimore County.<br><br>• TAC members can be part of community relations, and help to ensure that the need for transit services is conveyed not just by those working in transportation. | • Takes staff time to organize and document Committee meetings and initiatives. |
| **Expenses** | **Ridership** |
| • The expenses associated with forming a TAC are modest and include the cost associated with the staff time spent planning and organizing the meetings, as well as any printing and presentation materials needed for the meetings. | • While forming a TAC will not have a direct effect on ridership, it may generate ideas that will help boost ridership. |

## Organizational Reassessment

CountyRide services were transitioned from the Department of Aging to the Department of Public Works during the TDP process. The implementation of the Towson Circulator will add another service that will need to be administered and require staff time for overseeing the daily operations of this new service.

Depending on the implementation of additional services outlined in this TDP, there will need to be a reassessment of the staffing structure to support the management of this broader Baltimore County transit network. At that time organizational structures that manage transit services in adjacent counties can be reviewed to develop one most suitable for Baltimore County.

# Chapter 6
# Microtransit Assessment

## INTRODUCTION

An increasing number of public transit providers have recently begun operating transit service with an on-demand, e-hailing component. These services, called microtransit, use smaller vehicles and mobile technology to provide dynamic routing and curb-to-curb or corner-to-corner service. Customers use a smartphone application (app) to schedule and pay for a ride within a specific geo-fenced zone. Currently, most existing microtransit has been implemented as a first mile/last mile mobility option that connects to an area's broader high-frequency transit network.

Microtransit service provides more flexibility to customers than traditional fixed route service. Riders can individualize service by selecting both their pick-up and drop-off locations, while dynamic routing capabilities allow drivers to quickly adjust pick-up locations to provide more efficient service. Many transit operators see microtransit as a viable alternative to lower performing fixed routes.

As Baltimore County looks to expand and improve mobility options, microtransit could be an appealing service model. This chapter is meant to serve as both an introduction to microtransit and an assessment of Baltimore County's suitability for microtransit. The chapter includes a background of microtransit, a peer review of microtransit services in the region, and the necessary steps towards implementing a microtransit service in Baltimore County.

This chapter is a draft document. Comments from the TDP Advisory Committee and other revisions will be incorporated into a version that will be included in the draft final plan.

## BACKGROUND

### The Emergence of Microtransit

The ability to use a smartphone app to plan, request, pay, and track curb-to-curb mobility services is transforming the urban traveler's modal choices. During the past decade, urban areas have been inundated with a menu of on-demand, e-hailing shared-use services. In 2009, Uber became the first private tech-based company to supply private-for-hire e-hailing service, in which the company's business model quickly galvanized an enterprise of peer-to-peer e-hailing firms, which are now known as transportation network companies (TNCs). In 2014,

TNCs introduced ride splitting into the sharing economy, which pairs customers with similar trip origins/destinations in real-time, emulating the public transit demand response service delivery model.

While TNCs were originally used as an alternative to taxis, during the past four years, the private tech companies have materialized into a first mile/last mile solution between public transit customer's trip origin and destination. Capitalizing on the new service delivery model, transit operators started developing partnerships with TNCs. As part of the partnerships, public entities are contracting with app-based Demand Response Transit (DRT) or microtransit service to tech based companies.

## Lessons Learned

Since microtransit is a recent service model, many programs are still in their infancy, and little historical data is available for these services. Additionally, microtransit services should not be evaluated under the same criteria as traditional fixed route or DRT. Since microtransit functions similarly to traditional demand-response but serves populations that previously used fixed route, a combination of metrics is needed to assess the services performance. Despite the lack of historical data, several qualitative observations have been made about the early stages of microtransit:

- Microtransit programs are well received by a variety of age groups that appreciate the flexibility and personal nature of the service.

- Operating costs for microtransit services, versus other public transit services, will likely be cost neutral when replacing existing routes/services.

- Microtransit can result in greater efficiencies and on-time performance in certain circumstances but can have lower service productivity (i.e. trips per mile or hour) when measured by traditional performance metrics.

- The most successful application of microtransit programs are either in the catchment area of major high-frequency public transportation hubs or as a supplement/ replacement for DRT or ADA paratransit.

## REGIONAL EXAMPLES

As Baltimore County considers microtransit service, looking at existing services within the region helps both enhance and clarify the planning process. Within the Mid-Atlantic region, both Montgomery County, Maryland and Washington, D.C. have implemented microtransit services. The two programs differ in service organization, operation, and implementation. These distinctions are outlined further outlined in the following sections. It is important to

note that these two programs are only a sample of existing services. Every microtransit program is unique in some aspect – whether it be service concept, service area, etc.

# Montgomery County, Maryland: Ride On Flex

### *Organization*

The Montgomery County Department of Transportation (MCDOT) contracted with the mobility company Via to help develop a mobile application for customers to access Ride On's Flex service. Providing vehicles and drivers, along with all necessary requirements for federal compliance, were under the purview of MCDOT. Via supplied the technology needed for both the mobile application for riders and the on-board routing and dispatch equipment for drivers. Each flex cutaway bus was equipped with an internet-enabled tablet that allowed the driver to process new trip requests, pick up riders, and view their updated route. In the summer of 2020, MCDOT renewed their one year contract with Via. Figure 6-1 shows the tablet found in each Flex vehicle, while Figure 6-2 shows the ADA accessible Ride On Flex buses at an MCDOT bus depot.

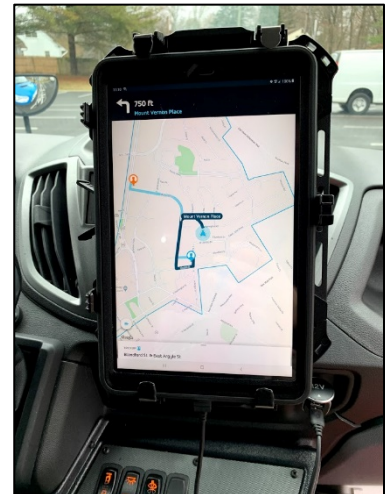**Figure 6-1: Ride On Flex Driver Tablet**



**Figure 6-2: Ride On Flex Cutaway Buses at Bus Depot**

### Service Areas and Hours of Operation

Ride On Flex currently operates within two geo-fenced zones in Montgomery County. The larger Wheaton-Glenmont zone is 3.4 square miles and is served by two vehicles, while the Rockville zone is 0.7 square miles and served by one vehicle. Each zone serves at least one WMATA Metrorail station and the residential and commercial areas surrounding them. The Wheaton-Glenmont service operates during peak commuting hours, from 6:00 a.m. – 9:00 a.m. and 3:30 p.m. – 7:00 p.m. The Rockville service zone operates midday, from 9:00 a.m. – 3:30 p.m. These two different service spans were instituted in an effort to better gauge travel demand for microtransit during peak and off-peak hours.

### Fares and Payment System

A one-way trip on the Flex costs $2.00, the same as Ride On's fixed route fare. Currently, Ride On Flex does not offer an e-payment (app-based) option to customers, instead using electronic fareboxes at the front of the vehicle that accept both cash and SmarTrip card payments. Riders who do not have access to a smartphone have the option to call into the Ride On offices to book a trip on the Flex. The use of traditional fareboxes eliminates a potential travel barrier for unbanked riders – individuals who do not have bank accounts or credit cards.

# Washington, District of Columbia: DC Neighborhood Connect

### Organization

DC Neighborhood Connect is a low fare on-demand transportation program administered by the DC Department of For-Hire Vehicles (DFHV) and operated in conjunction with Via and taxi provider Transco. This service model has the technology company (Via) create the mobile application and driver software, the private taxi company (Transco) supplying the compliant vehicles and trained drivers, and the government agency (DFHV) managing the overall program. Rather than cutaway buses, this service uses a mix of ADA accessible passenger vans acquired specifically for the program as well as pre-existing ADA accessible taxi cabs.

**Figure 6-3: DC Neighborhood Connect Passenger Van**

### Service Areas and Hours of Operation

DC Neighborhood Connect serves two large service areas, one operating within Wards 4 and 5, and the other operating east of the Anacostia River in Wards 7 and 8. These zones were drawn to include multiple "Points of Interest," defined as major grocery stores, universities, medical facilities, and WMATA Metrorail stations in the service zones. The service operates Monday through Thursday from 6:30 a.m. – 10:00 p.m., 6:30 a.m. – 12:00 a.m. on Friday, 8:00 a.m. – 12:00 a.m. on Saturday, and 8:00 a.m. – 10:00 p.m. on Sunday.

### Fares and Payment System

Rides to designated points of interest are free for riders, while all other trips cost $3.00. Return trips from a designated point of interest cost $3.00. To pay for this service, riders have the option of paying on the DC Neighborhood Connect mobile application and onboard the vehicles to ensure that unbanked individuals can access the service. If a rider does not have a smartphone, they can call in and book their ride on DC Neighborhood Connect.

## Ride On Flex and DC Neighborhood Connect Comparison

### Table 6-1: Microtransit Comparison Table

| Service Component | MCDOT Ride On Flex | DFHV DC Neighborhood Connect |
|---|---|---|
| **Organization** | | |
| Technology | Via | Via |
| Vehicle/Driver Provider | MCDOT | Transco |
| Vehicle Type | Cutaway Buses | Minibuses and Accessible Cabs |
| Program Administration | MCDOT | DFHV |
| **Service Areas and Hours of Operation** | | |
| Number of Zones | 2 | 2 |
| Common Trip Purposes | Commuting (Wheaton-Glenmont) Errands (Rockville) | Access to various points of interest |
| Access to High Frequency Transit | Yes | Yes |
| Hours of Operation | Morning and afternoon peak (Wheaton-Glenmont) Midday (Rockville) | All day service |
| Weekend Service | No | Yes |
| **Fares and Payment System** | | |
| One Way Fare | $2.00 | Free to points of interest $3.00 otherwise |
| Online Payments | No | Yes |
| Option for People without Smartphones | Phone number | Phone number |
| Option for Unbanked People | Fareboxes (Cash, Transit pass) | Cash |

## LAUNCHING A MICROTRANSIT SERVICE

Launching a microtransit system warrants a unique planning process that incorporates public-private partnerships, increased public outreach/marketing, and demographic analysis, along with other considerations. This section provides a step-by-step process to establishing a microtransit service in Baltimore County.

## Step 1: Conduct Assessment of Existing Public Transit

Implementing an effective microtransit service requires analysis of existing public transportation in Baltimore County. As a demand response service, an analysis of County Ride's most popular destinations could help inform where there is high demand for this mode of service. Since Baltimore County does not operate any fixed route transit, the county should also incorporate MDOT MTA transit options into its analysis.

The public transit assessment should incorporate both performance measures of existing services and any observed gaps in service, including neighborhoods without fixed route bus, to determine where microtransit may be a viable option. The TDP is currently evaluating CountyRide's performance and making recommendations over the five-year planning horizon. The performance evaluation and demographic analysis in this plan, as well as any other pertinent materials, should be used as the basis for any additional analysis.

## Step 2: Identify Key Stakeholders and Conduct Public Outreach

While microtransit has become increasingly known in the transit industry, many members of the public may not be aware of what it is and how it works. As a result, the county should undertake an extensive public outreach process to introduce the concept to major stakeholders like senior living facilities, homeowner's associations, and major employers, as well as the public. Additionally, this outreach process should focus on transit operators and planners to help introduce the concept and receive feedback from county professionals. Efforts should also be made to gather political support; engaging with elected officials could help build momentum for a microtransit service.

If Baltimore County would like to pursue a microtransit service, focused outreach will be needed to introduce and explain microtransit to the public. The county should host public meetings that allow for individual community input about the service prior to making any final plans.

In addition to public meetings, other outreach activities could include:

- An online survey
- A pop-up event at a major park-&-ride or transit station

## Step 3: Establish Public-Private Partnership & Service Model

Due to the need for e-hailing capabilities, microtransit services generally require the public transportation entity to partner with a mobility-based technology company. These partnerships can take many forms, differing in who operates the service, ensures compliance, and provides technology. Things to consider when establishing a public-private partnership include:

- Technological Platform: The technology company needs to develop both a customer app and an onboard software system for service operators. These platforms should allow for on-demand scheduling, dynamic routing, payment, and vehicle tracking. The technology product should be simple to use for customers and operators alike, and preferably collect trip data to store in a database for future analysis.

- Service Provider: There are three broad choices for selecting a microtransit service provider – keeping the service in house and using agency vehicles and employees, contracting the service out to an established transit contractor, or contracting with the technology to both create the mobile app and operate the service.

Every partnership has its own unique advantages or disadvantages. Providing the service in-house bestows the transit agency with the most control and best guarantees Title VI and ADA compliance. Contracting to an established industry leader or technology company will help cut operating costs but could complicate public oversight and federal compliance.

It should be noted that Uber contracted with CountyRide to help alleviate capacity issues. The agreement allows CountyRide to use Uber to complete a trip if there are no CountyRide vehicles available. Since CountyRide already has a relationship with Uber, there may be additional considerations when contracting for a microtransit service.

## Step 4: Develop Geo-Fenced Zone Characteristics

A microtransit service needs a clear, well-reasoned geographic area to operate within. If a service area is too large, on-time performance will suffer and the cost per trip will likely increase. Due to the variety of socioeconomic, infrastructural, and operational factors that influence microtransit service efficiency, there is no ideal size for a geo-fenced zone. Some service areas are less than a square mile while others are over 25 square miles. Establishing on-time performance standards and operating data from microtransit projects can be used to refine both service area size and vehicle deployment. A demographic analysis should be undertaken to determine which areas are more likely to support a microtransit service. The microtransit propensity index (MPI) was developed to assist with this analysis and evaluate areas for their suitability for microtransit service.

### Microtransit Propensity Index (MPI)

The MPI was created to help transit providers make decisions on where to establish microtransit zones based on demographic, geographic, and infrastructural factors that may impact an area's propensity for service. An MPI score was calculated for each Census Block Group in Baltimore County, and was calculated based on several variables.

Population density (PD), household density (HHD), percent below poverty (PBP), percent no vehicle households (PNV), and intersection density (ID) were deemed positive indicators of microtransit propensity. Areas within 1.5 miles of a high-frequency transit center/hub (TC) received a multiplier to indicate a first mile-last mile connection could be made with high frequency transit. Extensive sidewalk coverage/density (SWD) and the existence of fixed route services (EFR) are considered potential impediments to successful microtransit and were impacted accordingly.

Internet and smartphone access were not included in the analysis since broadband connectivity and smartphone use are widespread throughout the county.

The MPI was calculated using the following formula:

$$\frac{(((PD + HHD + PBP + PNV) - SWD)(ID + TC))}{(EFR)}$$

The MPI – as well as population density, household density, percent below poverty, percent no vehicle households, sidewalk density, and intersection density – was scored based on a block group's relation to the study area's mean and standard deviation of each metric.

Figure 6-5 maps the microtransit propensity by block group in Baltimore County. The highest propensity areas in Baltimore County were:

1. Owings Mills (Mall/Subway)
2. Lochearn/Milford Mill (Liberty Road Corridor)
3. Towson Town Center and surrounding area
4. Essex (Marlyn Avenue & Eastern Boulevard)
5. Landsowne/Arbutus (SW Light Rail Stations)
6. Hunt Valley/Lutherville/Timonium/Cockeysville
7. Dundalk (Dundalk Avenue Corridor)
8. Reisterstown Road (mostly inside the beltway)

Many of the highest propensity block groups were near stops along MDOT MTA's high frequency CityLink, SubwayLink, and Light RailLink services.

## Table 6-2: Microtransit Scoring Table

| Microtransit Propensity Scoring System | |
|---|---|
| 1 - Below average | Metric was below the study area average |
| 2 - Above average | Metric was greater than the study area average |
| 3 - High | Metric was greater than one standard deviation from the mean |
| 4 - Very high | Metric was greater than two standard deviations from the mean |

## Figure 6-4: Microtransit Scoring



**Population Density (PD)**
People per square mile.

**Household Density (HHD)**
Households per square mile

**Sidewalk Density (SWD)**
Miles of sidewalk per square mile

**Intersection Density (ID)**
Intersections per square mile

**No Vehicle Households (PNV)**
Percentage of no-vehicle households

**Below Poverty Individuals (PBP)**
Percentage of individuals living below the federal poverty level

**Existing Fixed Route Service (EFR)**
Block groups were given a score from 1-3 based on the level of existing fixed route service.
No fixed route service = 1
One fixed route provider = 2

**Transit Center Multiplier (TC)**
Locations within 1.5 miles of a transit center
Light Rail Station = 5x
Subway Station = 5x
MARC Station = 3x
LocalLink Stop with >150 boardings

**Figure 6-5: Microtransit Propensity by Census Block Group**
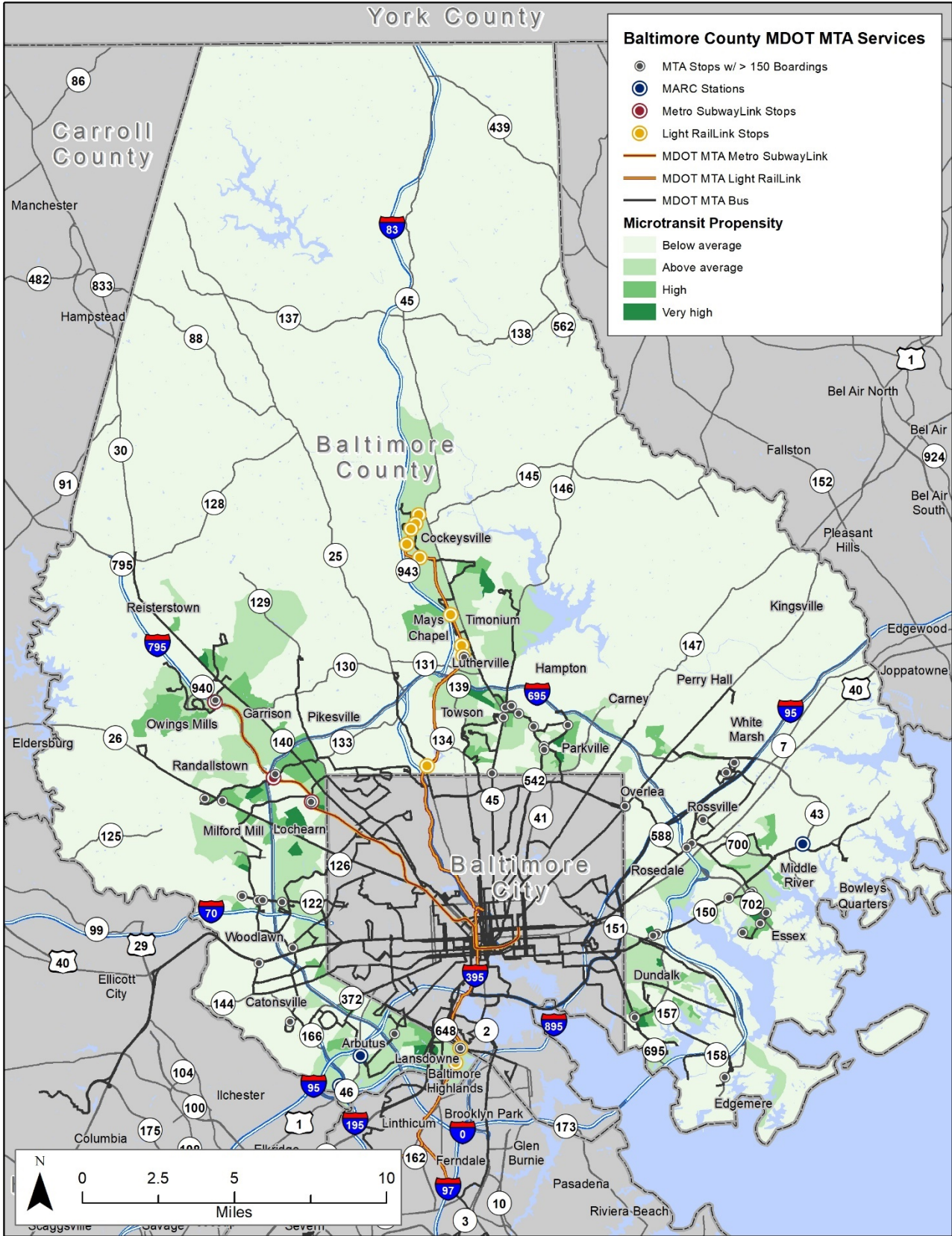
## Step 5: Determine Budget and Identify Funding Services

Operation costs of a microtransit service are determined by several factors such as the use of a contractor, service zone size, and number of dedicated vehicles. An accurate budget for service cannot be created until it is decided whether to operate the service in-house or with a transit contractor/technology company. If the service is operated in house, capital costs will need to be included to acquire vehicles. Since so many programs are still in their initial stages, there is limited data from peers to help determine service pricing.

Once a budget is set, decisions must be made on funding. Most peer transit systems work with funding from local, state, and federal sources. Since microtransit is an emerging service model, there may be federal or state innovation grants to aid agencies in developing a microtransit pilot program. In 2019, the FTA made funding available through the Integrated Mobility Innovation (IMI) Demonstration program. Another key strategy to finding funding is managing an aggressive marketing campaign that helps explain the service to the general public. If there is a large amount of vocal support for microtransit, local decisionmakers may provide additional funding. If a microtransit zone is within a major business development district, there may be funding options available from local businesses.

## Step 6: Develop Fare Structure

Microtransit is a distinct service that usually has a higher cost per trip than a productive fixed route due to its individualized service model. Finding the proper fare structure for the service is important, and there are several options to ensure that farebox recovery is adequate and riders will not be discouraged by high prices. Options include:

- Fare free service
- Same as CountyRide service ($2.50-$3.00 per ride)
- Same as MDOT MTA fixed route ($1.90)
- Premium fare that is slightly higher than other area services ($3.50-$4.00)

Considerations should also be made for special fares that offer discounts to older adults, people with disabilities, and other high need groups. Additionally, there could be special fares offered to the public, including first ride free, discounted ride vouchers, and other expenses. It is important to note that any fare discounts offered on a mobile app must be made available to those who do not have access to the map.

## Step 7: Ensure Compliance with Federal Civil Rights

To assure that a microtransit program complies with the federal civil rights requirements writ out in Title VI of the 1964 Civil Rights Act (Title VI) and the 1990 Americans with Disabilities Act (ADA), demographic analyses and initiatives must be undertaken. Title VI compliance requires that any service change does not have a disparate impact or disproportionate burden

on minority or below-poverty populations. A full Title VI analysis is only required for fixed-route bus service, but a service equity analysis is warranted for a new microtransit system. ADA accessibility requirements for microtransit are the same as those for demand response; a vehicle, payment system, and information distribution that is accessible to all potential riders. Some Title VI and ADA considerations include:

- Reducing fares for disadvantaged socioeconomic groups.

- Customers with no smartphone or internet access. As a demand response provider, CountyRide already has a phone-based dispatching system in place. This could be used in tandem with the app to schedule on-demand rides.

- Unbanked customers. There should be a farebox for those who cannot pay via the mobile app.

- Limited English proficiency (LEP) populations. Translations and interpretation services should be made available at the service call center, post translated documents on the service's website, and make Google Translate available on the website.

- Vehicle accessibility. In compliance with ADA guidelines, all vehicles used for microtransit service must be wheelchair accessible. If the mobility company is providing the service, there must be a dedicated number of accessible vehicles

## Step 8: Develop Program Evaluation

As pilot microtransit programs begin operation, there must be an effort to collect, analyze, and evaluate data to gauge service performance in productivity, on-time performance, and customer satisfaction. A thorough microtransit evaluation should analyze both traditional performance metrics outlined in the FTA National Transit Database (NTD) and emerging performance measures that evaluate the nuances of microtransit's unique service model.

### *Traditional Performance Measures*

The NTD is a database where transit providers can upload their collected performance measures, providing consistent service evaluation for transit system's nationwide. Though the NTD houses a vast array of data, most performance measures are based on ridership and operating costs. When being evaluated under cost and ridership measures, microtransit is more similar to DRT, which has its own performance standards that differ from normal fixed-route service. A valuable resource is the Transit Cooperative Research Program's (TCRP) *Guidebook for Measuring, Assessing, and Improving Performance of Demand-Response Transit* (TCRP Report 124), which outlines pertinent measures included in the NTD as well as additional performance measures for safety and on-time performance. Table 6-3 outlines the traditional performance measures that can be found within the NTD. The MDOT MTA already requires

many of these statistics to be calculated for annual reporting and performance evaluation. These standards can be found in Chapter 2 of this plan.

**Table 6-3: Traditional Performance Measures**

| Performance Indicator | Definitions | Standard/Goal |
|---|---|---|
| **National Transit Database** | | |
| Operating Cost per Vehicle Revenue Miles | Operating cost/revenue miles | Minimize |
| Operating Cost per Vehicle Revenue Miles | Operating cost/revenue hours | Minimize |
| Operating Cost per Passenger Trip | Operating cost/passenger trips | Minimize |
| Trips per Vehicle Revenue Mile | Passenger trips/revenue hours | Maximize |
| Trips per Vehicle Revenue Hour | Passenger trips/revenue hours | Maximize |
| **Key DRT Performance Measures, TCRP Report 124** | | |
| Passenger Trips per Revenue Hour | Passenger trips/revenue hours | Maximize |
| Operating Cost per Revenue Hour | Operating cost/revenue hours | Minimize |
| Operating Cost per Passenger Trip | Operating cost/passenger trips | Minimize |
| Safety Incidents per 100,000 Vehicle Miles | (NTD major + non-major safety incidents) / (vehicle miles) x 100,000 | Minimize |
| On-Time Performance | (On-time trips + no-shows+early trips) / (completed trips + no-shows + missed trips) | Maximize |

## *Emerging Performance Measures*

As microtransit services become more commonplace, new performance measures are being developed to evaluate them alongside traditional measures. Currently, there are no set performance standards and thresholds for microtransit. As the amount of microtransit data and research grows, the county can expect more concrete guidelines to evaluating microtransit performance in their service area.

In February 2020, the FTA published *Mobility Performance Metrics (MPM) for Integrated Mobility and Beyond* (MPM Report), which provides a comprehensive summary of different performance metrics specifically for Mobility on Demand (MOD) Sandbox Projects. The report underlines the need for a series of performance measures that:

- Measures how well an integrated public/private mobility system meets the needs of individuals.

- Evaluates the system's performance while meeting overall travel demand.

- Addresses the service's impact locally, regionally, and nationally.

- Evaluates the service in relation to the agency's overarching goals and objectives.

The FTA has primarily focused on customer sentiment in its recommended performance measures for MOD projects. It provides five specific parts of the customer experience while using microtransit to help gauge service performance, these are listed below:

- Offset time - Difference between preferred departure time and actual departure time.

- Spontaneity time - Earliest departure, how far in advance do passengers have to book their trip?

- Wait time - Amount of time between trip request and boarding the vehicle.

- Travel time – Amount of time spent in vehicle and walking to access point.

- Time prediction accuracy - Reliability, is the real-time prediction accurate?

The MPM and other research provide a useful foundation for developing a precise and nuanced performance evaluation program for microtransit. If a microtransit program is developed, these emerging measures should be incorporated into its performance evaluation to complement traditional measures.

### Performance Measures to Consider

Microtransit operators across the country have used an array of performance measures to evaluate their systems. Most measures can be separated into five categories:

1. Productivity
2. Cost effectiveness
3. Shared ride
4. Connecting to transit
5. Customer satisfaction

These categories and their component performance measures are intended to give Baltimore County the tools to implement a pilot microtransit program that can be effectively evaluated for continued expansion and modification of the service.

## MOVING FORWARD

This chapter should serve as an introduction to the concept of microtransit and how it could be implemented in Baltimore County. The implementation of microtransit in the county must be tailored based on additional stakeholder input, data-driven analysis, and available funding. As noted by the TDP Advisory Committee it will be essential for individual communities in Baltimore County to determine the most appropriate service from this alternative and those

discussed in Chapter 5 to meet local transportation needs. However, if Baltimore County decides to begin a pilot microtransit service this chapter can be used as a guide for service implementation to ensure that each of the steps outlined are followed.

Based on the results of the MPI, the following six locations were identified as having the highest propensity towards microtransit in Baltimore County. This does not mean that a microtransit service will be successful in these locations, but rather, these areas possess characteristics similar to other successful microtransit zones.

The following six figures (Figures 6-6 to 6-11) illustrate potential microtransit zones. Each of the following conceptual zones include the high propensity areas identified by the MPI and the Arbutus-Halethorpe area identified by TAC members. These areas were expanded to provide linkages to/from high frequency transit, commercial centers, and high density residential areas to provide convenient trips. More specific planning would be needed before zones are finalized and service is implemented. For instance, any microtransit services would need to consider the final routing for the Towson Circulator that is scheduled to begin operation in 2021.

**Figure 6-6: Conceptual Owings Mills Microtransit Service Area**
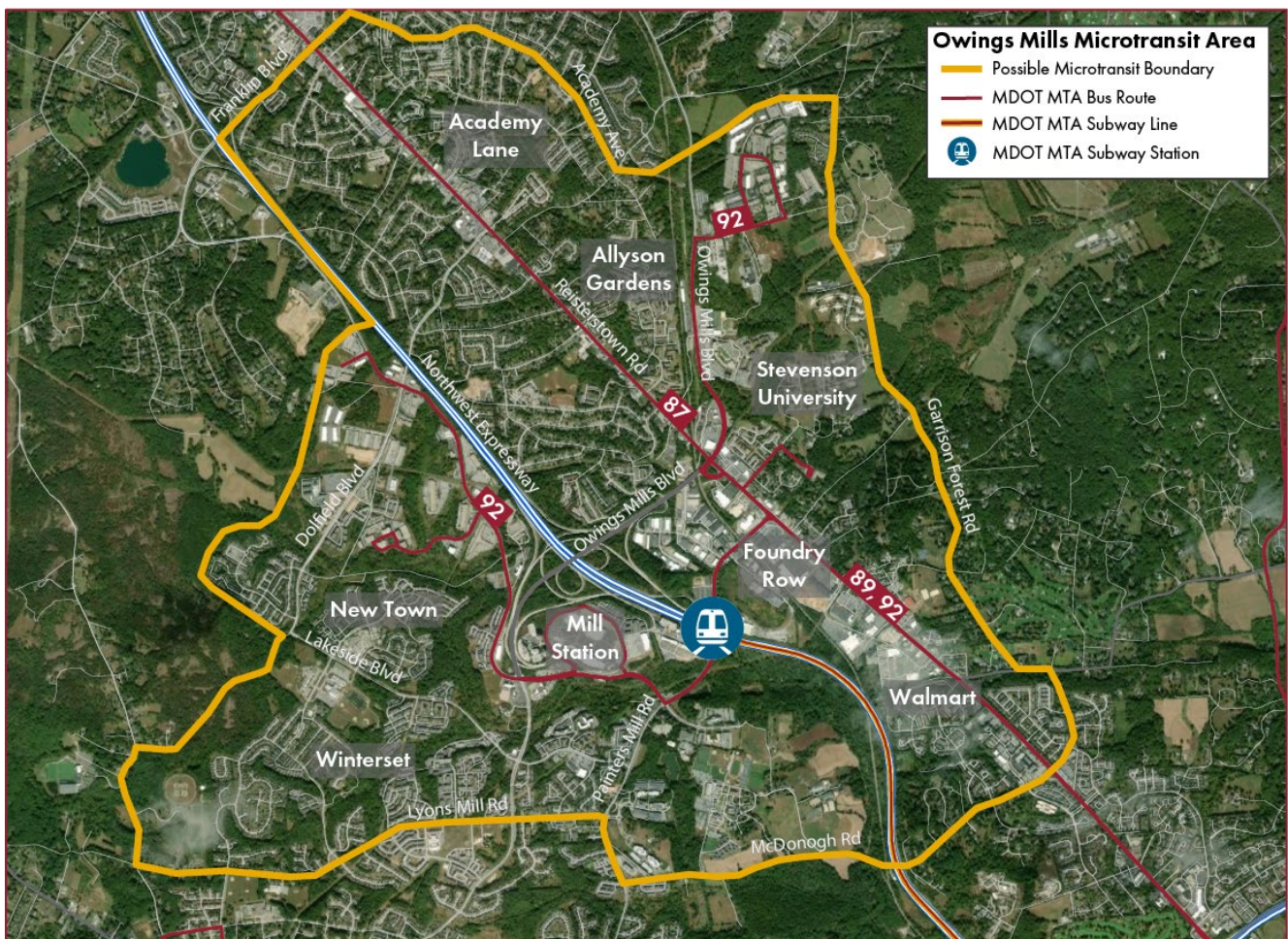
**Figure 6-7: Conceptual Lochearn & Milford Mill Microtransit Service Area**
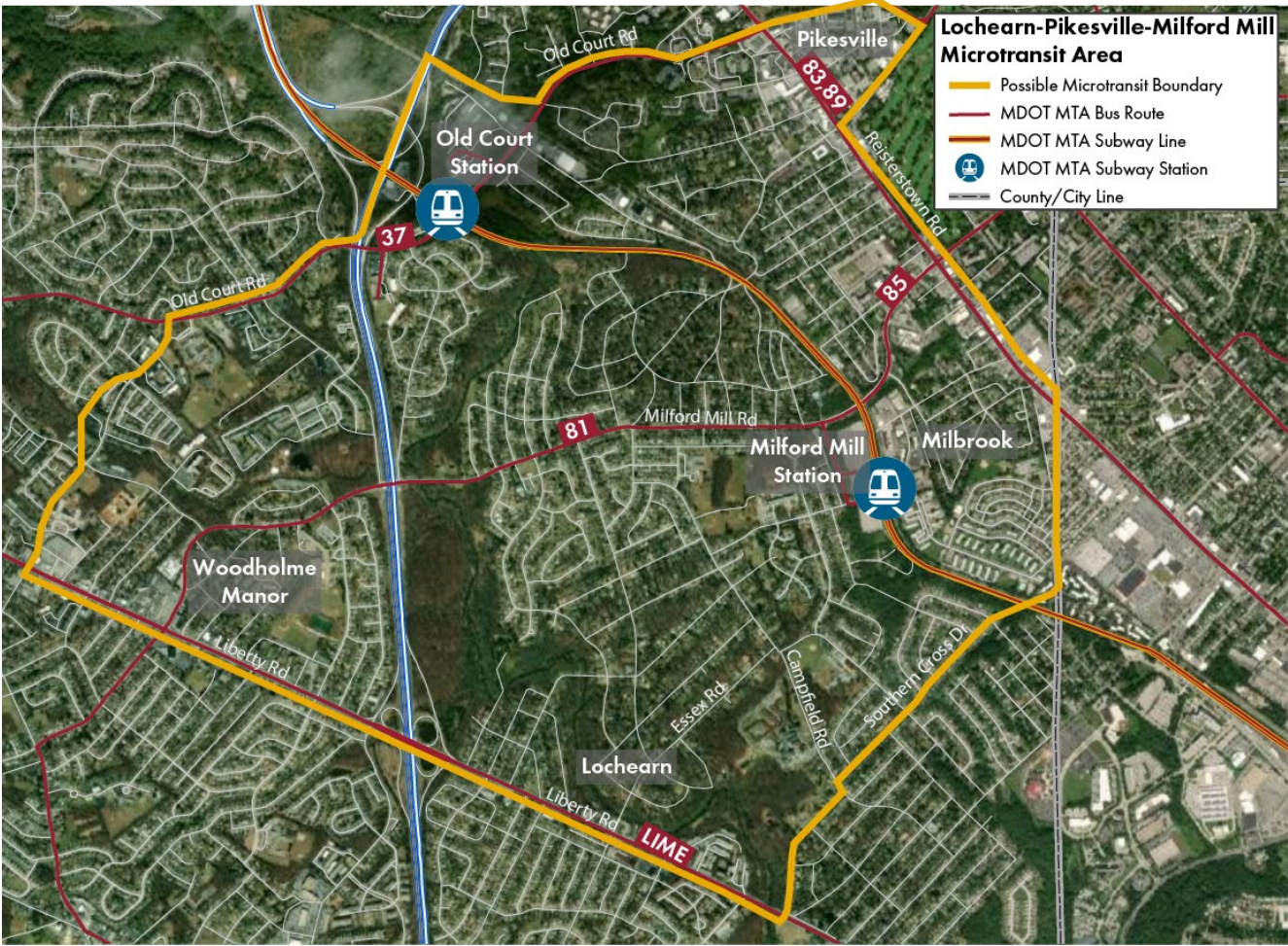
**Figure 6-8: Conceptual Towson Town Center Microtransit Service Area**
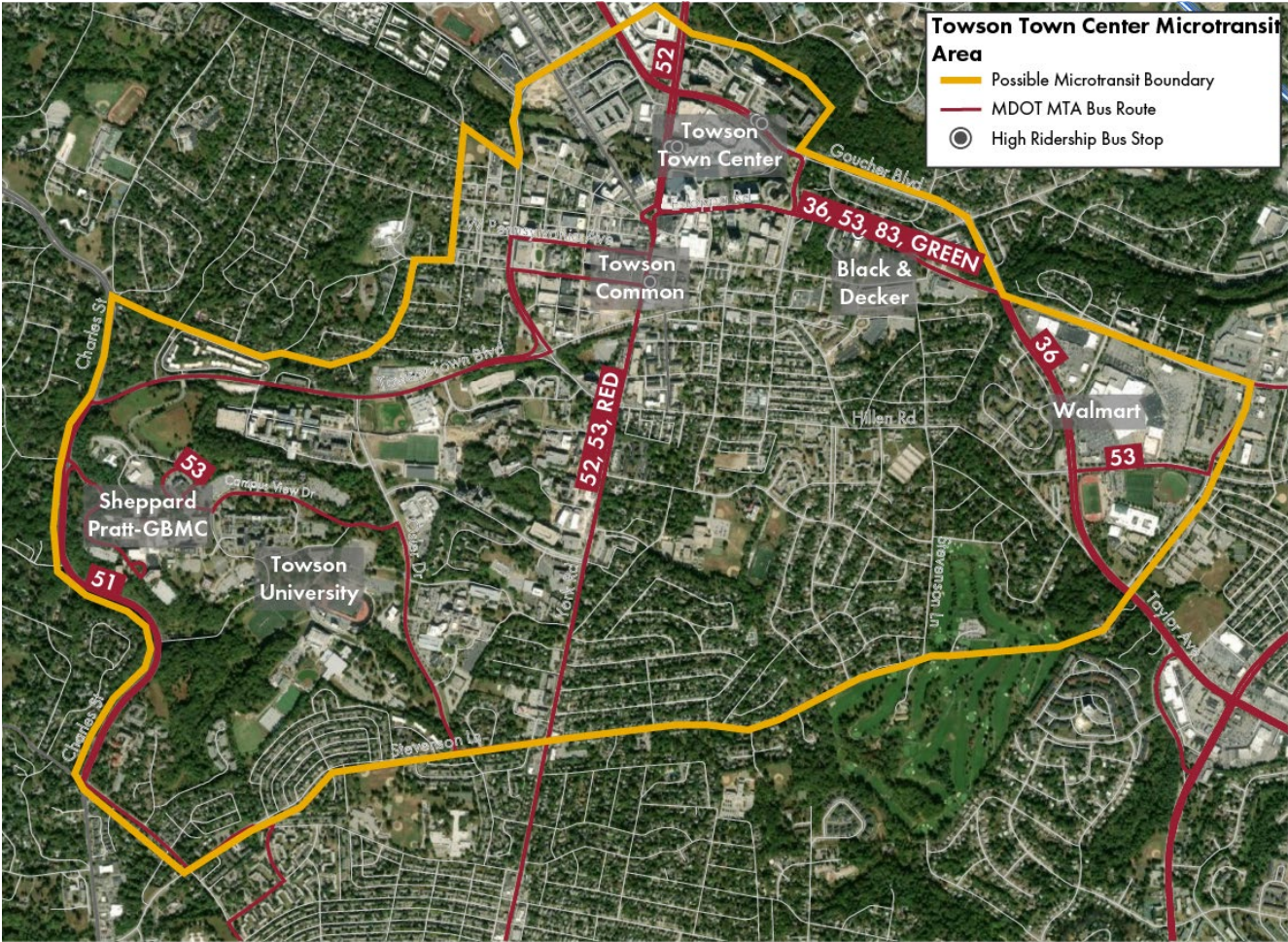
**Figure 6-9: Conceptual Essex-Middle River Microtransit Service Area**
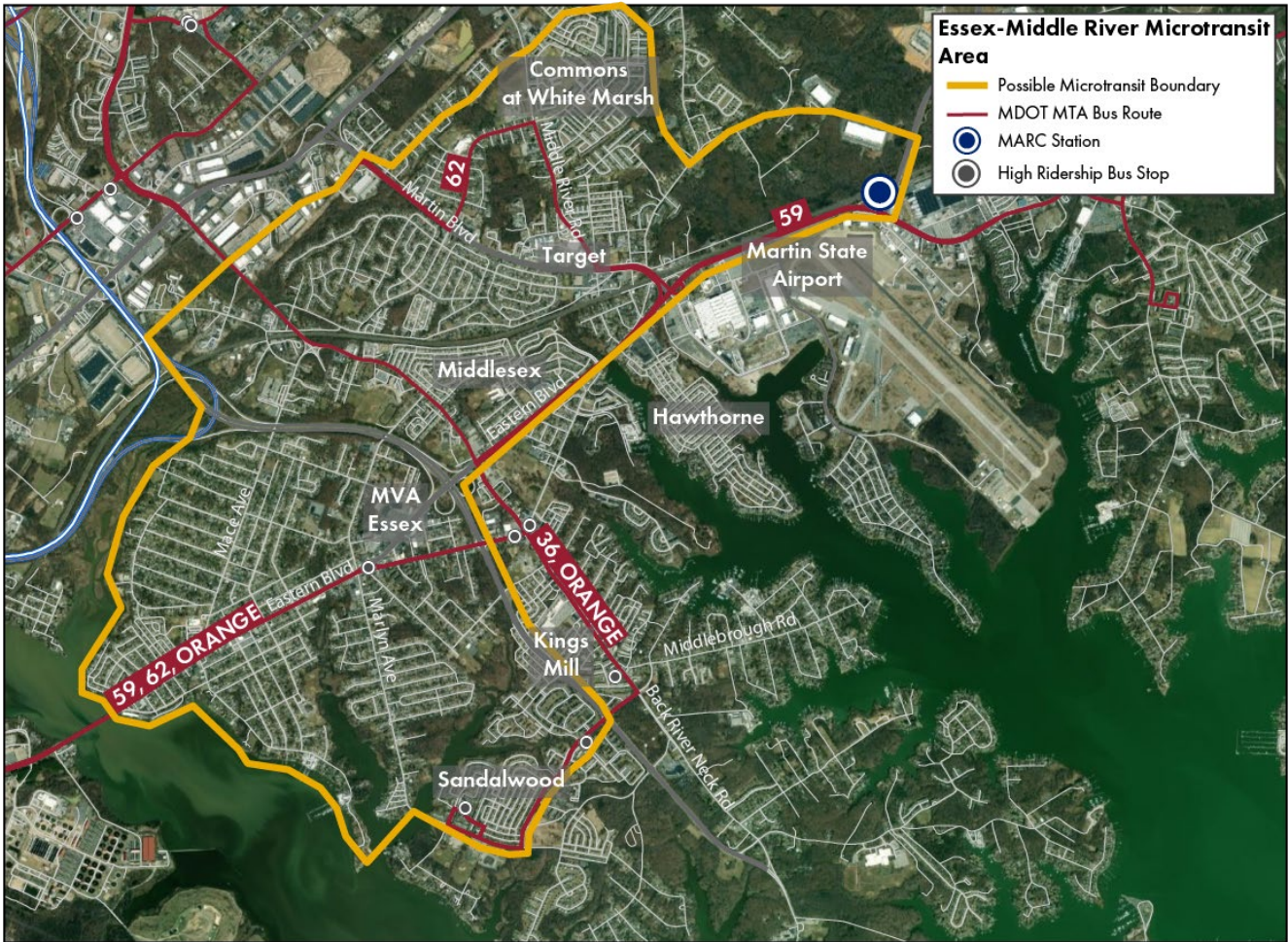
**Figure 6-10: Conceptual Southwest Microtransit Service Area**
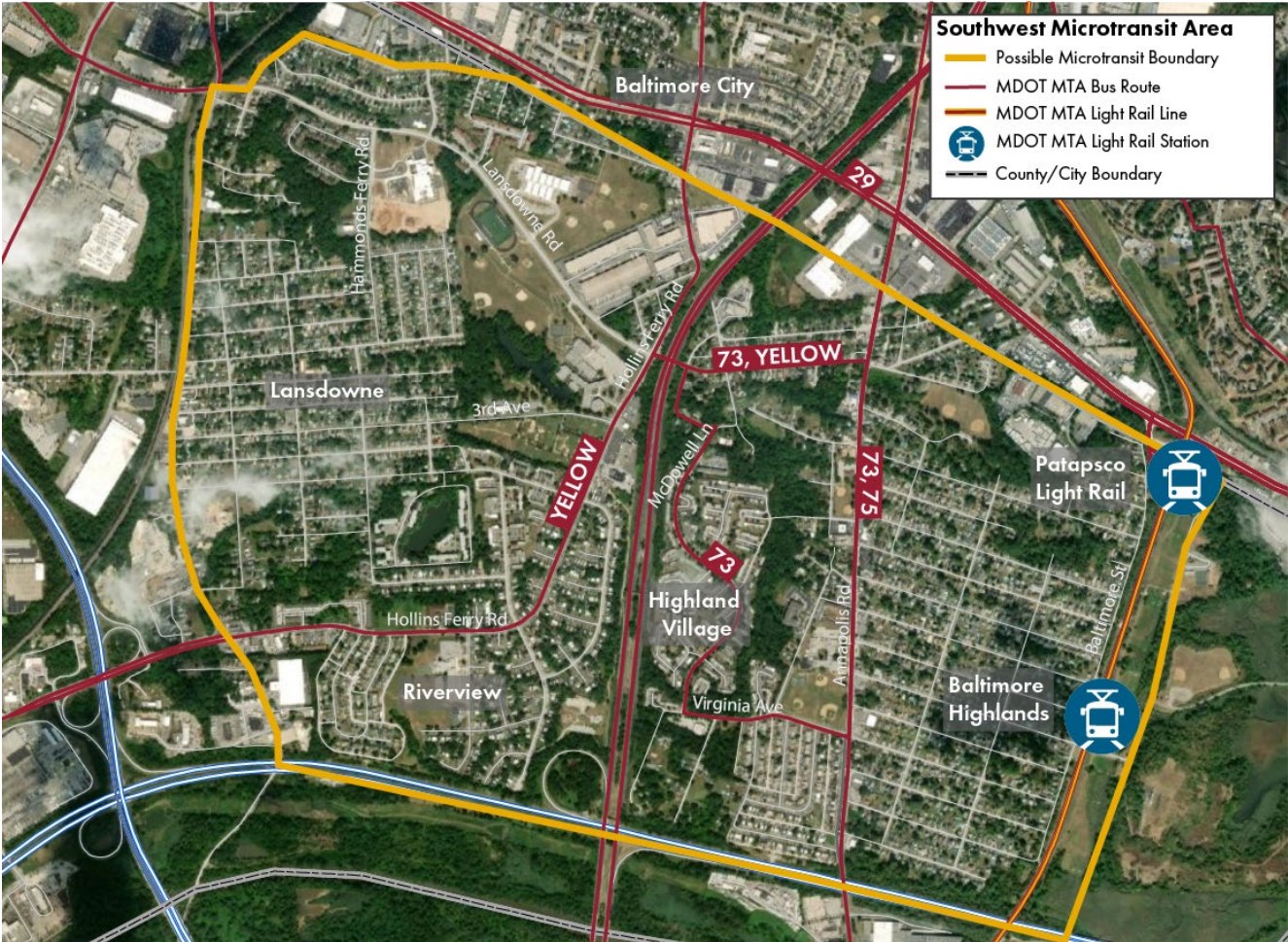
**Figure 6-11: Conceptual Arbutus-Halethorpe Microtransit Service Area**
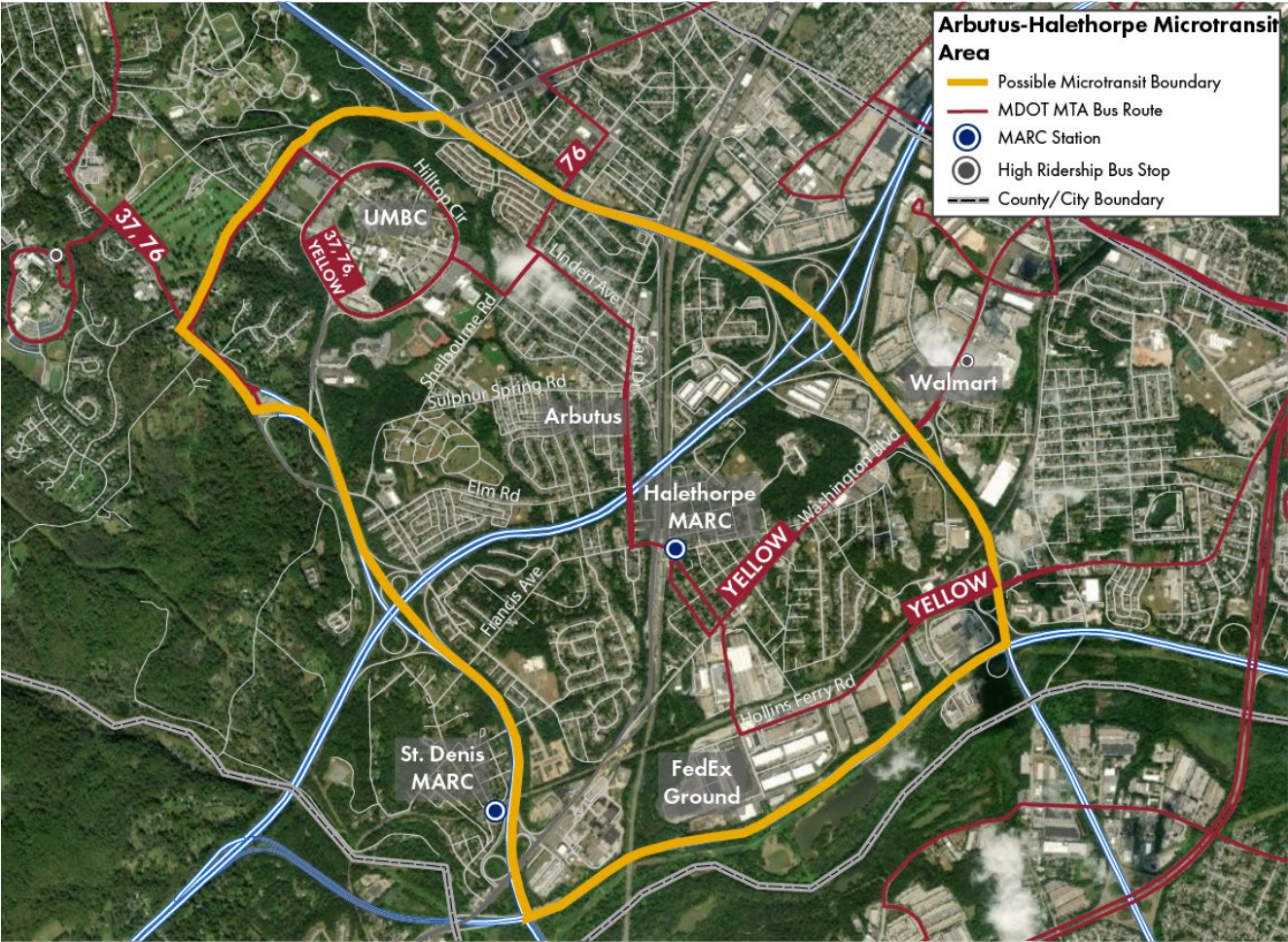
# Chapter 7
# Service and Capital Plan

## INTRODUCTION

This chapter is the culmination of the TDP process, providing a plan to guide transit services in Baltimore County over the next five years. This plan was derived through an evaluation of existing services (Chapter 2), a needs assessment that included an analysis of rider and community input (Chapter 3), a comprehensive demographic review (Chapter 4), and input on a variety of service alternatives (Chapters 5 and 6). Baltimore County staff, MDOT MTA representatives, and the TDP Advisory Committee provided guidance throughout the planning process.

The costs shown in this chapter are based on projected hourly operating costs and estimates of capital costs. Depending on the timing and implementation choices, costs may differ due to inflation or variable market costs. All proposed services are conceptual and will require operational planning and community outreach before implementation.

The conceptual plan is divided into the following sections:

- **Service Plan** – Brief narratives on the proposed improvements; broken into short, mid, and long-term implementation timeframes.

- **Conceptual Financial Plan for Operating** – Estimated operating costs for the five years of the TDP, based on existing operating costs and estimated expenses for proposed service improvements.

- **Conceptual Financial Plan for Capital** – Estimated capital costs for the five years of the TDP, based on information from Baltimore County's most recent Annual Transportation Plan and estimated capital needs to implement the proposed operating plan.

- **Conceptual Plan Overview** – Brief review of the proposed improvements.

## SERVICE PLAN

The proposed projects for the service plan are summarized below in an implementation timeline. Each of the improvements proposed in the service plan has been derived from the review of alternatives in the preceding chapters. Brief descriptions of the proposed improvements are provided in this section; however, additional details can be found in Chapters 5 and 6.

In general, the short-term projects correspond to Years 1 and 2, mid-term projects to Years 3 and 4, and the long-term projects to Year 5 and beyond. Actual implementation will vary based on the availability of funding and other changing conditions.

## Short-Term Improvements (Years 1-2)

### Expanded CountyRide Services

As one of the top improvements requested by current CountyRide customers, expanded services is proposed for implementation in the short term. Through this service improvement CountyRide vehicle hours would be expanded so that services could be extended in the evening beyond the current 5:00 p.m. timeframe, or so that servies are available more often during current operating hours.

### Improvement Highlights

- Responds to the top need expressed by current CountyRide customers.

- Provides customers with greater flexibility in accessing key destinations.

- Utilizes vehicles in the existing fleet.

- Allows for the provision of return trips if medical appointments run long.

### Owings Mills Microtransit Service

The potential for microtransit services was well received by the TDP Advisory Committee and identified as a key component of expanding mobility in Baltimore County. While the implementation process detailed in Chapter 6 can serve as a foundation for this effort, microtransit services will need to be tailored to specific communities based on additional stakeholder input and available funding.

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Several communities in Baltimore County were identified as prime candidates for microtransit services. In particular, the Owings Mills area possesses many of the attributes that are synonymous with successful microtransit services and is proposed as the initial community for this on-demand transportation option.

For conceptual budgeting purposes, microtransit services are proposed to operate eight hours a day for five days a week, utilizing two vehicles per zone. Final time spans would be determined after community outreach and assessment of available funding.

### Improvement Highlights

- Provides a first mile/last mile mobility option that connects residential and commercial areas in Owings Mills to the major transit hub at the Owings Mills Metro Station.

- Allows Baltimore County to implement locally operated services that are more flexible to operate than more traditional fixed route service.

- Owings Mills microtransit service would serve as the pilot for similar services in other communities in Baltimore County, providing the opportunity to consider lessons learned and to make necessary adjustments and modifications.

## Mid-Term Improvements (Years 3-4)

### *Expanded Microtransit Services*

After an assessment of the new microtransit in the Owings Mills area, it is proposed that similar services be further planned and implemented in other Baltimore County communities. Specifically, the following areas identified in Chapter 6 as having a higher propensity for these services would be prime candidates:

- Lochearn/Milford Mill
- Essex-Middle River
- Southwest
- Arbutus/Halethorpe
- Towson

### Improvement Highlights

- Provides Baltimore County residents with flexible transportation options, including first mile/last mile connections with existing MDOT MTA services.

- Provides the opportunity to take into account lessons learned from Owings Mills microtransit service.

- Similar to Owings Mills, microtransit enables Baltimore County to implement locally operated services that are more flexible to operate than more traditional fixed route service.

### CountyRide Saturday Services

Another one of the top improvements requested by current CountyRide customers was for Saturday service, this is proposed as a mid-term improvement. Through this service expansion, CountyRide would operate for eight hours on a day of the week with no current service.

### Improvement Highlights

- Responds to a top need expressed by current CountyRide customers.

- Expands access to important destinations in Baltimore County, including shopping, recreational, and employment opportunities.

- Utilizes vehicles in the existing fleet.

### Middle River/Essex/Dundalk – Tradepoint Atlantic Crosstown Route

While microtransit services will provide greater mobility options within specific areas in Baltimore County, there are still opportunities to connect with different communities. The Baltimore County section of the Regional Transit Plan for Central Maryland identified potential crosstown bus services that would provide these connections. At the same time, CountyRide is facing capacity issues, and based on the projected demographics the demand for transportation options beyond an automobile will continue to grow in the future. Therefore, Baltimore County can implement local bus routes that complement the current CountyRide and MDOT MTA services, as well as any future circulator and microtransit services.

A prime candidate for the initial crosstown bus route is one that would connect Middle River, Essex, and Dundalk with Tradepoint Atlantic, and the projected thousands of employment opportunities at this location. This crosstown route could be operated directly by Baltimore County (potentially under contract to a private provider similar to plans for the Towson Circulator) or through an agreement with MDOT MTA. Though the final design and schedule would be based on additional service planning, community outreach, and coordination with Tradepoint Atlantic employers, for conceptual budgeting purposes it is proposed that this route would operate Monday through Friday for twelve hours a day, on Saturday for eight hours, and on a thirty minute headway. The coordination with Tradepoint Atlantic employers can include discussions on how these employers could help to subsidize potential transportation services that connect communities in eastern Baltimore County with job opportunities at their location.

**Improvement Highlights**

- Provides connection from communities in Eastern Baltimore County with major employment locations with services not currently available.

- Serves as the initial route in the development of a crosstown transit network that would greatly expand access to key destinations in Baltimore County.

- Provides the foundation for Baltimore County to operate scheduled routes that are more cost-effective than demand response services.

- If operated by Baltimore County, provides greater autonomy on the design and operation of public transit services.

# Long-Term Improvements (Year 5 and Beyond)

### *Owings Mills Circulator*

The implementation of a microtransit service in the Owings Mills area in the short term would provide the foundation for the planning of a circulator service, similar to the Towson service scheduled for implementation in 2021. The microtransit service would provide extensive data on the origin and destinations of individual trips, information that could be used to design a scheduled circulator route that would serve key locations. Microtransit services could then be modified to compliment the circulator service by serving as a first mile/last mile connector to the circulator and /or operating at times when the circulator was not.

This proposed service is also consistent with the Baltimore County section of the Regional Transit Plan for Central Maryland that noted a local circulator service in Owings Mills as one of the key transit network improvements. Lessons learned from the implementation of the Towson Circulator could be used in the planning of the Owings Mills service, and together both could serve as the basis for similar community circulator services in other communities in Baltimore County.

**Improvement Highlights**

- Provides a local circulator in a part of Baltimore County that is ideal for service connecting extensive residential areas with key destinations and existing high-frequency transit.

- Provides the opportunity to utilize lessons learned from the Towson Circulator implementation.

- Responds to one of the service improvements identified in the Central Maryland Regional Transit Plan.

- Continues efforts towards a full-fledged transit system in Baltimore County.

### *Expanded Crosstown Services*

After assessment of a new crosstown route that connects the eastern portion of Baltimore County to Tradepoint Atlantic, similar crosstown routes be planned and implemented so that the network depicted in Chapter 6 can be fully established. Routes could be implemented incrementally, and based on current factors and considerations the following order is proposed:

- White Marsh – Essex
- Towson – White Marsh
- Perry Hall – Towson
- Pikesville - Woodlawn
- Woodlawn – Catonsville
- Pikesville – Towson
- Overlea/Parkville – Towson

Similar to the Middle River/Essex/Dundalk crosstown route, these routes could be operated directly by Baltimore County or through an agreement with MDOT MTA. For conceptual budgeting purposes, it is projected that each route would operate Monday through Friday for twelve hours a day, on Saturday for eight hours, and on a thirty minute headway. Specific route times and frequency would be determined through community outreach and available funding.

## Improvement Highlights

- Provides Baltimore County residents with the ability to use public transit to travel between different communities in the county.

- Expands access to key destinations in Baltimore County, including hospitals, colleges, and major employers.

- Responds to the growing demand for CountyRide services by providing scheduled public transit services that can be used by some older adults and people with disabilities.

- Provides the opportunity to operate scheduled routes that are more cost-effective than demand response services.

- If operated by Baltimore County, would allow more autonomy on the design and operation of public transit services.

## CONCEPTUAL FINANCIAL PLAN FOR OPERATING

Baltimore County develops an annual grant application for MDOT MTA that includes operating and capital grant programs. This grant application has to be approved by the county each year. Maryland's transit program combines available federal and state funds to provide local assistance, and the allocation to the various localities is not strictly formula driven. Therefore, any estimate for the amount of grant funding available to Baltimore County is somewhat speculative. However, the TDP serves an important role in MDOT MTA's annual process for reviewing grant applications; typically, the projects proposed in a county's annual grant application must have been identified in the TDP in order to receive funding.

Table 7-1 presents the conceptual financial plan for transit operations covering the TDP's five-year period. The estimated total budget for each year assumes that all service improvements occur in the proposed implementation phase, and at the level of service planned. As noted previously the actual implementation will be based on several factors, primarily community input, detailed service planning, and funding availability.

Several assumptions used in developing the operating cost estimates:

- The projected cost per revenue hour and the operating costs to maintain the current level of service assume a 3% annual inflation rate.

- For the initial year the expenses are based on Baltimore County's FY2020 budget submitted to MDOT MTA through the ATP.

- CountyRide expansions are based on SSTAP FY2019 operating costs per hour.

- Projected expenses for the Towson Circulator are based on proposed service hours for this new service times the potential contracted rate of $75.00 per hour. The actual cost will be determined after the selection of a final route and a vendor to operate the services.

- The projected budgets for microtransit services are based on average costs obtained through one of the technology companies that provide software for these services as well as turnkey operations. It is assumed that Baltimore County would implement the turnkey approach that would result in both expenses for software and the operations of microtransit vehicles. However, final costs would be based on the service model ultimately chosen by Baltimore County and the selection of a vendor that occurs through a procurement process.

- The proposed budget for the crosstown routes is based on Baltimore County operating these services through a contract with a private provider, similar to the plans for the Towson Circulator. Final costs would be determined through this arrangement or through coordination with MDOT MTA to operate these services.

## Table 7-1: Conceptual Financial Plan for Operating

| Current/Projected Services | Year | | | | | Long-Term |
| --- | --- | --- | --- | --- | --- | --- |
| | **1** | **2** | **3** | **4** | **5** | **Long-Term** |
| **Baseline CountyRide Operating Budget**[1] | $2,111,064 | $2,174,396 | $2,239,628 | $2,306,817 | $2,376,021 | $2,447,302 |
| **Towson Circulator** [2] | $1,357,200 | $1,397,916 | $1,439,853 | $1,483,049 | $1,527,541 | $1,573,367 |
| **Short-Term TDP Projects** | | | | | | |
| Expanded CountyRide Service | | $125,491 | $129,256 | $133,133 | $137,127 | $141,241 |
| Owings Mills Microtransit Service | | $249,260 | $256,738 | $264,440 | $272,373 | $280,544 |
| **Mid-Term TDP Projects** | | | | | | |
| Lochearn/Milford Mill Microtransit Service | | | $256,738 | $264,440 | $272,373 | $280,544 |
| Essex-Middle River Microtransit Service | | | $256,738 | $264,440 | $272,373 | $280,544 |
| Southwest Microtransit Service | | | | $264,440 | $272,373 | $280,544 |
| Arbutus/Halethorpe Microtransit Service | | | | $264,440 | $272,373 | $280,544 |
| Towson Microtransit Service | | | | $264,440 | $272,373 | $280,544 |
| CountyRide Saturday Service | | | | $264,440 | $272,373 | $280,544 |
| Middle River/Essex/Dundalk - Tradepoint Crosstown Route | | | | $594,048 | $611,869 | $630,226 |
| **Long-Term TDP Projects** | | | | | | |
| Owings Mills Circulator | | | | | $1,527,541 | $1,573,367 |
| White Marsh – Essex Crosstown Route | | | | | $611,869 | $630,226 |
| Towson-White Marsh Crosstown Route | | | | | $611,869 | $630,226 |
| Perry Hall – Towson Crosstown Route | | | | | $611,869 | $630,226 |
| Pikesville- Woodlawn Crosstown Route | | | | | | $630,226 |
| Woodlawn – Catonsville Crosstown Route | | | | | | $630,226 |
| Pikesville-Towson Crosstown Route | | | | | | $630,226 |
| Overlea/Parkville – Towson Crosstown Route | | | | | | $630,226 |
| **Subtotal Projected Operating Expenses** | **$3,468,264** | **$3,947,063** | **$4,578,950** | **$6,368,127** | **$9,922,319** | **$12,740,891** |

(1) Year 1 based on FY2020 budget, assumes 3% annual inflation each year thereafter.
(2) Based on projected operating expenses for new service, actual costs will be based on final route design and selected vendor.

Regarding the potential funding to support the proposed services, there are a variety of unknown factors and issues. At this time MDOT MTA does not anticipate increases in current federal and state programs that support current CountyRide services. Therefore any service expansions or improvements will most likely require additional local support.

Baltimore County should continue to work with MDOT MTA annually through the ATP process to explore opportunities through current federal and state funding programs, as well as any new ones that become available over the next five years. For instance, the Federal Transit Administration (FTA) has recently developed new funding programs that support innovative mobility projects such as microtransit services. During the next five years it is anticipated that the federal legislation that funds transportation will be reauthorized, potentially creating additional funding opportunities.

## CONCEPTUAL FINANCIAL PLAN FOR CAPITAL

The capital plan provides the basis for maintaining, replacing and expanding the capital infrastructure needed to maintain CountyRide's current level of service and to implement the TDP operating plan. The capital plan consists of a vehicle replacement plan and any other capital expenses.

### Useful Life Standards

Useful life standards are developed by MDOT MTA based on the vehicle manufacturer's designated life-cycle and the results of independent FTA testing. If vehicles are allowed to exceed their useful life they may become much more susceptible to break-down which may result in increased operating costs and a decrease in service reliability. MDOT MTA vehicle useful life policy, shown in Table 7-2, is also provided in the Locally Operated Transit System Program Manual.

**Table 7-2: MDOT MTA's Vehicle Useful Life Policy**

| Vehicle Classification | Useful Life | |
|---|---|---|
| | **Years** | **Miles** |
| Revenue Specialized Vehicles<br>*(Accessible Minivans, Vans, Accessible Taxicabs & Sedans)* | 4 | 100,000 |
| Light Duty Small Bus<br>*(25' to 35')* | 5 | 150,000 |
| Medium Duty Bus<br>*(25' to 35')* | 7 | 200,000 |
| Heavy Duty Bus<br>*(Medium Size, 30' to 35')* | 10 | 350,000 |
| Heavy Duty Bus<br>*(Large Size, Over 35')* | 12 | 500,000 |
| Non-Revenue Specialized/Fleet Support Vehicles<br>*(Pick-Up trucks, Utility Vehicles & Sedans)* | 10 | 200,000 |

Source: MDOT MTA, Locally Operated Transit System (LOTS) Program Manual, April 2017, Rev. 3 01.2019

## Vehicle Plan – Baseline Estimate

Table 7-3 provides the existing CountyRide vehicle inventory, along with an estimated replacement year for each vehicle taking into account projected replacement years from Baltimore County's FY2020 ATP.

**Table 7-3: Vehicle Inventory with Projected Replacement Years**

| Vehicle (VIN) Number | Status | Model Year | Make | Vehicle Type | Seating Capacity | | Fuel Type | Condition | Mileage | Projected Replacment Year |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Ambulatory | Wheelchair | | | | |
| 1FD4E5P38D09732 | Active | 2008 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Poor | 84,881 | Past Useful Life |
| 1FDFE45P39DA24772 | Active | 2009 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 183,212 | Past Useful Life |
| 1FDFE45P59DA24773 | Active | 2009 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 188,429 | Past Useful Life |
| 1FDFE4FP3ADA05593 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 174,596 | Past Useful Life |
| 1FDFE4PXADA03565 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Diesel | Fair | 162,299 | Past Useful Life |
| 1FDFE4FS9ADB02236 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 149,654 | Past Useful Life |
| 1FDFE4FSOADB02237 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 157,907 | Past Useful Life |
| 1FDFE4FS2ADB02238 | Active | 2010 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 151,235 | Past Useful Life |
| 1FDEE3FL2DA34432 | Active | 2011 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Fair | 97,617 | Past Useful Life |
| 1FDEE3FLXEDA34422 | Active | 2014 | FORD | Bus_Light_Duty | 3 | 0 | Gasoline | Good | 107,570 | 2020 |
| 1FDEE3FL8EDA34421 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 93,115 | 2020 |
| 1FDEE3FL6EDA34420 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 91,237 | 2020 |
| 1FDFE4FS2GDC50253 | Active | 2014 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 65,294 | 2020 |
| 1FDFE4FS4GDC50254 | Active | 2016 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 65,108 | 2022 |
| 1FDEE3FS4GDC56657 | Active | 2016 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Good | 53,385 | 2022 |
| 1FDEE3FS6GDC56658 | Active | 2016 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Good | 52,452 | 2022 |
| 1FDEE3FSXHDC78552 | Active | 2017 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Good | 27,406 | 2024 |
| 1FDFE4FS0JDC07523 | Active | 2018 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 21,047 | 2024 |
| 1FDEE3FS1HDC78553 | Active | 2017 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 28,139 | 2024 |
| 1FDFE4FS3HDC78581 | Active | 2017 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 21,438 | 2024 |
| 1FDEE3FSXKDC04572 | Active | 2019 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 1,560 | 2026 |
| 1FDEE3FS1KDC04573 | Active | 2019 | FORD | Bus_Light_Duty | 8 | 2 | Gasoline | Excellent | 868 | 2026 |
| 2FABP7BV7BX167357 | Active | 2011 | FORD | Accessible_Car | 3 | 0 | Gasoline | Good | 88,217 | Past Useful Life |
| 1FDFE4FS2KDC46700 | Active | 2019 | FORD | Bus_Light_Duty | 12 | 2 | Gasoline | Excellent | 639 | 2026 |

Source: Baltimore County Annual Transportation Plan, 2020

## Financial Plan for Capital

Table 7-4 provides a financial plan for vehicle replacement and expansion. The following assumptions were considered in developing the capital plan:

- The plan is initially based on the vehicle replacement schedule identified in the previous table. Then the capital plan includes an additional vehicle in years two and four to accommodate for the potential increased mileage on the fleet if the CountyRide service expansions are implemented.

- Similar capital costs for the Towson Circulator were used for the proposed Owings Mills Circulator service, assuming a similar service span and frequency in that area. Actual capital costs will be dependent on the final design and operation.

- The financial plan for capital does not include vehicles for the implementation of the proposed microtransit services, as it is assumed this service would be contracted as a turnkey service that would include all capital costs. However, Baltimore County could decide to obtain vehicles and operate the service directly. In this case, the capital plan would need to be modified in the future.

- Similarly, it is anticipated that the crosstown routes would also be contracted to a vendor that would provide vehicles or operated by MDOT MTA, and therefore the financial plan does not include capital expenses for these proposed services. Again, the capital plan would need to be readdressed if Baltimore County decided to operate the services directly or only contracted out operations.

**Table 7-4: Conceptual Financial Plan for Capital**

| | 1 (FY22) | 2 (FY23) | 3 (FY24) | 4 (FY25) | 5 (FY26) |
|---|---|---|---|---|---|
| **Number of Vehicles[1]** | | | | | |
| County Ride Replacement | 3 | 3 | 3 | 2 | 3 |
| CountyRide Expansion | - | 1 | - | 1 | - |
| **Total Number of Vehicles** | **3** | **1** | **4** | **1** | **3** |
| **Vehicle Costs** | | | | | |
| CountyRide Replacement | $195,195 | $65,065 | $260,260 | $65,065 | $195,195 |
| CountyRide Expansion | $0 | $100,000 | $0 | $100,000 | $0 |
| Owings Mills Circulator | | | | | $2,050,000 |
| **Total Projected Costs** | **$195,195** | **$165,065** | **$260,260** | **$165,065** | **$2,245,195** |
| **Anticipated Funding Sources** | | | | | |
| Federal | $156,156 | $132,052 | $208,208 | $132,052 | $1,796,156 |
| State | $19,520 | $16,507 | $26,026 | $16,507 | $224,520 |
| Local | $19,520 | $16,507 | $26,026 | $16,507 | $224,520 |
| **Total Projected Funding** | **$195,195** | **$165,065** | **$260,260** | **$165,065** | **$2,245,195** |

(1) Based on Baltimore County Annual Transportation Plan and Proposed Service Improvements

## CONCEPTUAL PLAN OVERVIEW

This TDP presents recommendations for transit improvements in Baltimore County that would expand current CountyRide service hours in response to the top needs expressed by current customers, and also greatly expand mobility options for the broader community. These recommendations are aggressive, and represent the greater emphasis on public transit in Baltimore County and the need for a broader planning effort that was expressed at the outset of the TDP process.

While the service improvements were developed to address issues identified during the review of needs, they are dependent on the future availability of new or additional funding. Despite uncertain funding, it is important to remember that public transportation can contribute to the local and regional economy by providing a way for residents to get to work and school, access necessary medical services, and support local businesses and economic development. In particular, the proposed service expansions would increase access to employment opportunities by expanding transportation options and providing connections to the existing public transit network.

# Appendix A
# Customer Survey

# CountyRide
## Baltimore County Department of Aging

# Customer Survey

Baltimore County is conducting a transit plan to assess current services and identify opportunities to improve mobility in the future. Please give us your feedback about CountyRide services and on possible improvements by completing the following short survey. When answering the questions please think about your use of CountyRide before the impact of COVID-19.  Your answers are anonymous.  Thank you!

**Submit your completed survey:**

By mail:
Baltimore County Dept. of Aging
Attention:  COUNTYRIDE SURVEY
611 Central Ave., Towson, MD  21204

Online:
https://www.surveymonkey.com/r/BaltCoRiderSurvey

**1. How often did you use CountyRide prior to COVID-19?**

☐ 2-3 times per week or more
☐ A few times per month
☐ Less than once a month
☐ Once a week
☐ About once a month

**2. How often do you use CountyRide now?**

☐ 2-3 times per week or more
☐ A few times per month
☐ Less than once a month
☐ Once a week
☐ About once a month

**3. How long have you been using CountyRide services?**

☐ Less than one year    ☐ Between 1 and 3 years    ☐ Between 3 and 5 years    ☐ More than 5 years

**4. When using CountyRide, what are the main reasons for your trips? (You may select more than one)**

☐ Medical      ☐ Work      ☐ School      ☐ Shopping      ☐ Social/Recreation ☐ Errands
☐ Attend Senior Center      ☐ Attend Senior Meal Site      ☐ Government Service Agency
☐ Other: _____

**5. If CountyRide was not available, how would you make these trips?**

☐ Drive myself      ☐ Family/Friends      ☐ MDOT MTA      ☐ Wouldn't make trip
☐ Taxi or Uber/Lyft      ☐ Walk/Bicycle      ☐ Other: _____

**6. What do you like most about CountyRide?**

**7. What do you like least about CountyRide?**

**8. Are there places you would like to go in Baltimore County on a regular basis, but you cannot because there is no public transportation available for these trips?**

☐ Yes        ☐ No        If yes, where? _____

*Continued on Next Page*

**9. If CountyRide were to make improvements, what would be your top three choices?**

1) _____  2) _____  3) _____

**10. Please rate your satisfaction with CountyRide in the following areas.**

| CountyRide Service Elements | 🙂 Strongly Satisfied | 🙂 Satisfied | 😐 Neutral | 🙁 Dissatisfied | ☹️ Strongly Dissatisfied |
|---|---|---|---|---|---|
| Overall service | | | | | |
| Days of service | | | | | |
| Hours of service | | | | | |
| On-time performance | | | | | |
| Cost of services | | | | | |
| Trip scheduling process | | | | | |
| Telephone customer service | | | | | |
| Driver customer service | | | | | |
| Availability of information on services | | | | | |
| Travel time on vehicle | | | | | |
| Usefulness of website | | | | | |
| Sense of safety and security | | | | | |
| Cleanliness of vehicles | | | | | |

**Please answer some questions about yourself:**

**What is your zip code?** _____

**How old are you?**
☐ Under 18  ☐ 18-29  ☐ 30-39  ☐ 40-49  ☐ 50-59  ☐ 60-69  ☐ 70-79  ☐ 80+

**Do you need any of the following to help you on a daily basis? (check all that apply)**
☐ Wheelchair  ☐ Walker  ☐ Cane  ☐ Service Animal  ☐ Personal Care Attendant  ☐ None

**Do you have a valid driver's license?** ................................☐ Yes  ☐ No
**Do you have access to a working vehicle?** .....................☐ Yes  ☐ No
**Do you have an internet enabled "smart" phone?** .........☐ Yes  ☐ No

**Do you consider yourself Hispanic/Latino?** .....................☐ Yes  ☐ No
**Which of the following best describes you? (check all that apply)**
☐ White/Caucasian  ☐ African American/Black  ☐ Asian  ☐ American Indian/Alaskan Native
☐ Native Hawaiian/Pacific islander  ☐ Prefer not to answer

**What is your employment status? (check all that apply)**
☐ Employed (full-time)  ☐ Student (full-time)  ☐ Retired  ☐ Unemployed  ☐ Homemaker
☐ Employed (part-time)  ☐ Student (part-time)  ☐ Other

**What is your annual household income?**
☐ $14,999 or less  ☐ $15,000-$29,999  ☐ $30,000-$44,999
☐ $45,000-$59,999  ☐ $60,000-$74,999  ☐ $75,000+

*Thank You!*

# Appendix B
# CountyRide Driver Questionnaire

# Baltimore County
# Transit Development Plan
## Driver Questionnaire

Baltimore County is currently conducting a transit plan to assess current services and identify opportunities to improve transportation in the future, and will serve as a guide for implementing service improvements during the next five years.

Please take a few minutes to complete the following questionnaire and provide your input. When answering the questions, please think about transportation services before the impact of COVID-19.

- What do you consider to be the strengths and weaknesses of CountyRide?

- Based on input you receive from your customers:
    - Are there geographic areas or specific destinations that need new or improved service?

    - Are there specific days and hours when new or improved services are needed?

    - Are there other opportunities to improve services?

- What do you think is the most important thing that could be done to improve CountyRide and overall transit services in Baltimore County?

- What is your vision for public transportation in Baltimore County?

- Are there specific services that you would like to see implemented?

Please share any additional comments you may have concerning CountyRide and public transportation in Baltimore County.

**Thanks!**

# Appendix C
# Community Survey

# Baltimore County Transit Survey

Baltimore County is currently conducting a transit plan to assess current services and identify opportunities to improve mobility in the future. This effort supports a Baltimore County Enterprise Strategic Plan strategy to expand the County's transportation infrastructure to increase connectivity, reduce gaps, and promote multi-modal options. The transit plan also incorporates an activity in the Enterprise Strategic Plan that seeks to identify strategies and develop recommendations to expand locally operated and microtransit systems, including CountyRide.

This is your opportunity to provide your thoughts on the future of public transportation in Baltimore County. Please take a few minutes to complete the following short survey so we can better understand travel patterns and transit needs and receive input on potential transit improvements. When answering the questions, please think about your use of transportation and mobility needs before the impact of COVID-19.  Individual survey responses will be kept confidential.

For more information on the plan please visit www.kfhgroup.com/baltimorecountytdp.

## First, please tell us about your typical travel patterns.

**1.** What is your **primary** mode of daily transportation? Please check only one.
❑ Car　❑ Public Transportation　❑ Walk　❑ Bicycle　❑ Uber/Lyft　❑ Taxi
❑ A friend or family member drives　❑ Vanpools or carpools　❑ Electric Scooter
❑ Other: _____

**2.**
❑ Aware of CountyRide services, overall positive impression
❑ Aware of CountyRide services, overall negative impression
❑ Not aware of CountyRide

**3.**
❑ Yes　❑ No (***If checked "No", will skip to Question #7.***)

**4.** Which of the following public transportation services do you use?  Please check all that apply and how often you use this service.

| | 2-3 times per week or more | Once a week | A few times per month | About once a month | Less than once a month |
|---|---|---|---|---|---|
| CountyRide | | | | | |
| MDOT MTA Local Bus | | | | | |
| MDOT MTA Light RailLink | | | | | |
| MDOT MTA SubwayLink | | | | | |
| MDOT MTA MobilityLink | | | | | |
| MDOT MTA Commuter Bus | | | | | |
| MARC Train | | | | | |

**5.** If you use public transportation, what are your main reasons for your trip? Please check all that apply.

- ❑ Medical
- ❑ Work
- ❑ Shopping
- ❑ School
- ❑ Social/Recreation
- ❑ Errands
- ❑ Attend Senior Center
- ❑ Attend Senior Meal Site
- ❑ Government Service Agency
- ❑ Other: _____

**6.** How do you travel to your bus stop, light rail station, MARC station, or park-&-ride lot to access public transportation?

- ❑ Car
- ❑ Walk
- ❑ Bicycle
- ❑ Uber/Lyft
- ❑ Vanpools or carpools
- ❑ Taxi
- ❑ A friend or family member drives
- ❑ Electric Scooter
- ❑ Other: _____

**7.** If you **DO NOT** use any form of public transportation, please indicate why not (check all that apply).

- ❑ I prefer to drive.
- ❑ Need my car before/after work/school
- ❑ Need my car for emergencies/overtime
- ❑ No service is available near my home/work/school
- ❑ Don't know if service is available and/or location of transit stops or stations
- ❑ I have limited mobility and it is hard for me to use transit
- ❑ There is not adequate pedestrian infrastructure for me to access public transportation from my home
- ❑ I don't feel safe using public transit
- ❑ Public transit is too expensive
- ❑ Using public transportation is confusing
- ❑ Trips via public transit take too much time
- ❑ Public transit services are unreliable
- ❑ I have to wait too long for the bus or train
- ❑ The hours of operation are too limited
- ❑ Other: _____

**8.** Would you use public transportation if there was a service that met your travel needs?

- ❑ Yes
- ❑ No

## Now, please provide your thoughts on unmet transportation needs and possible transit service improvements.

**9.** Do you think there is a need for additional or improved public transportation in Baltimore County?

- ❑ Yes ❑ No (*If checked "No", will skip to Question #13.*)

**10.** Please indicate the locations that need additional or improved service.

_____

**11.** Which of the following improvements are needed in Baltimore County? Please check all that apply.

- ❑ Expanded CountyRide service for older adults and people with disabilities
- ❑ Service that would connect communities within Baltimore County
    If so, which communities?
- ❑ Local service within my community (such as local circulator shuttle or on-demand service)
    If so, which community?
- ❑ Local service that would provide access to MTA bus route(s)
    If so, which route(s) and location(s)?

❑ Local service that would provide access to an MTA Park & Ride lot
   If so, which Park and Ride lot?
❑ Local service that would provide access to an MTA LightRail station
   If so, which station?
❑ Local service that would provide access to an MTA Metro Subway station
   If so, which station?
❑ Local service that would provide access to a MARC station
   If so, which station?
❑ Other Improvements (please be as specific as possible)

_____

**12.** Do you think public transportation connections between the following communities should be considered? Check all that you feel are needed.

❑Catonsville-Woodlawn
❑Woodlawn- Pikesville
❑Pikeville-Towson
❑Towson-Parkville
❑Towson-Perry Hall
❑Parkville-Perry Hall
❑Parkville-White Marsh
❑Perry Hall-White Marsh
❑Perry Hall-Essex
❑Dundalk-White Marsh
❑Dundalk-Essex
❑Dundalk-Tradepoint Atlantic
❑Essex-Tradepoint Atlantic
❑Middle River-Tradepoint Atlantic
❑Other Connections: _____

**13.** If you **DO NOT** currently use public transportation, what factors would encourage you to use public transportation? (check all that apply)
❑ Service to my desired locations
❑ Service near my home
❑ Service between _____ to _____ (Please be as specific as possible)
❑ More reliable service
❑ On-demand service similar to Uber/Lyft in my neighborhood
❑ Better sidewalk infrastructure to access transit stops and stations
❑ Shorter wait/pickup time
❑ Shorter travel time
❑ If I understood how it works
❑ Lower fares
❑ If I felt safer riding
❑ Other: _____

14. If you **DO NOT** currently use public transportation, but would use it if it were available and met your needs, what would be the main reasons for your trip? Please check all that apply.
- ❑ Medical
- ❑ Shopping
- ❑ Social/Recreation
- ❑ Attend Senior Center
- ❑ Government Service Agency
- ❑ Work
- ❑ School
- ❑ Errands
- ❑ Attend Senior Meal Site
- ❑ Other: _____

## Please tell us a little about yourself.

15. What is your zip code? _____

16. Do you have a driver's license?  ❑ Yes  ❑ No

17. Do you have a car available to drive on a regular basis? ❑ Yes  ❑ No

18. Please indicate your age:
- ❑ 17 or under
- ❑ 18-24
- ❑ 25-49
- ❑ 50-64
- ❑ 65 or older

19. How would you prefer to receive information about public transportation? (Please check all that apply.)
- ❑ Website
- ❑ Email
- ❑ TV
- ❑ Radio
- ❑ Outdoor Ads
- ❑ Bus Stops
- ❑ Direct Mail
- ❑ Social Media
- ❑ Newspaper
- ❑ Other _____
- ❑ Brochure
- ❑ City/County Office
- ❑ Smartphone
- ❑ Friends/Family

20. Which of the following best describes your current employment status?  (You may check more than one.)
- ❑ Employed, full-time
- ❑ Retired
- ❑ Unemployed
- ❑ Employed, part-time
- ❑ Homemaker
- ❑ Other _____
- ❑ Student, full-time
- ❑ Student, part-time

21. What is your annual household income?
- ❑ $20,000 or less
- ❑ $41,000 to $60,000
- ❑ $81,000 to $100,000
- ❑ $21,000 to $40,000
- ❑ $61,000 to $80,000
- ❑ More than $100,000

22. How would you classify yourself? (Please check all that apply.)
- ❑ Caucasian/White
- ❑ Asian
- ❑ Native Hawaiian/Other Pacific Islander
- ❑ African American/Black
- ❑ American Indian/Alaska Native

23. Are you of Hispanic or Latino origin?  ❑ Yes     ❑ No

24. Do you speak a language other than English at home?  ❑ Yes     ❑ No

If yes, what language(s) do you speak at home? (e.g. Spanish, Korean, Chinese)

_____

If yes, how well do you speak English?          ❑ Very Well   ❑ Well   ❑ Not Well   ❑ Not at All

**Lastly, please provide any additional comments concerning public transportation in Baltimore County.**

_____

If you would like to receive updates about the Baltimore County Transit Development Plan, please provide your contact information:

Name: _____

Email: _____

**Thank you!**