Appendix A

Baltimore Region Transit Service Profiles

Table of Contents

Table of Figures

Appendix A: Baltimore Region Transit Service Profiles

This appendix provides a summary of the transit services in the Baltimore Region, including services provided by the MDOT MTA and individual LOTS systems. It also provides additional, more detailed information on each of the regional transit services. Each section includes an overview of existing services, governance structures and systems, costs and funding sources, and community statistics.

Appendix A is organized by transit service:

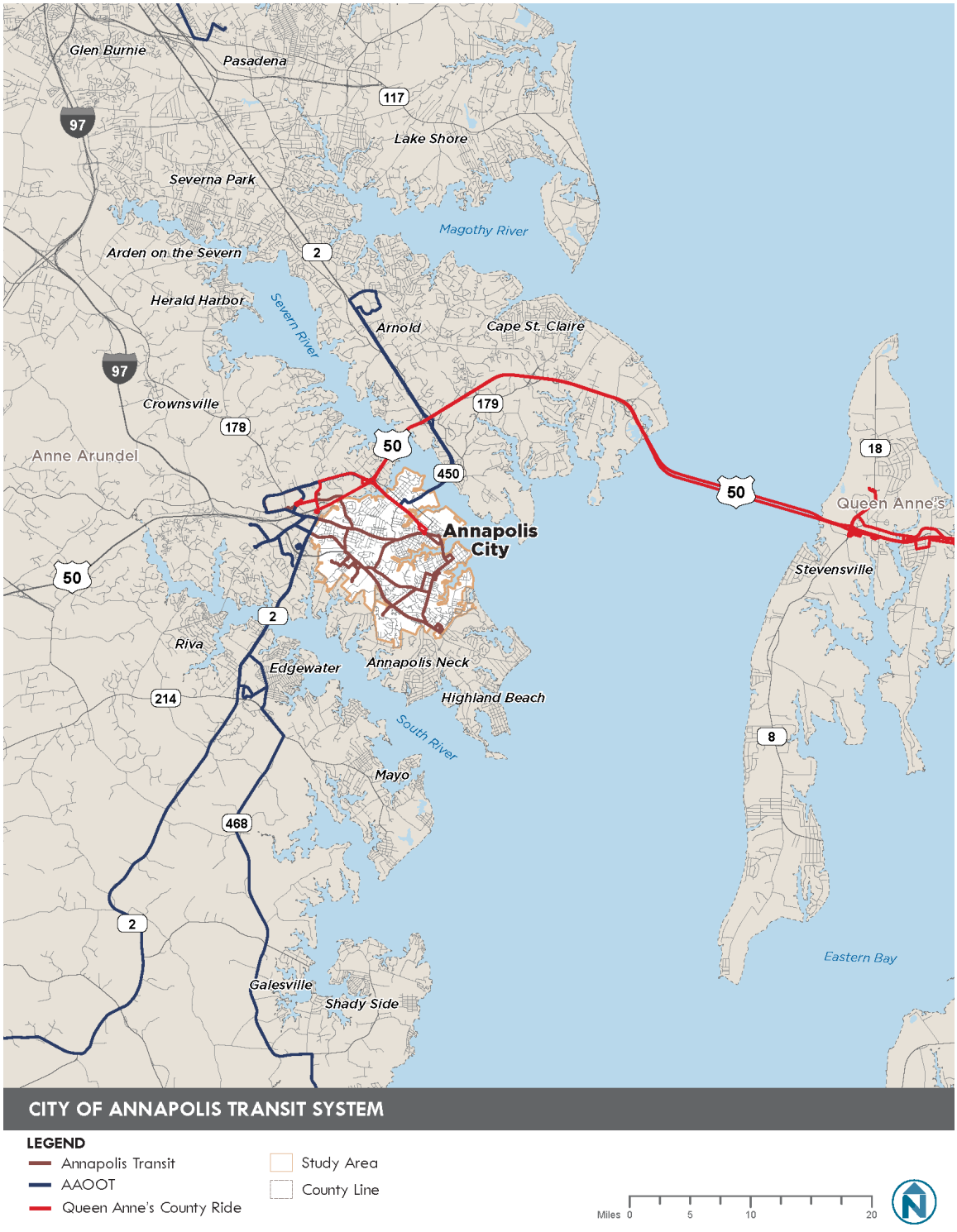
1. City of Annapolis
2. Anne Arundel County
3. Baltimore City
4. Baltimore County
5. Carroll County
6. Harford County
7. Howard County
8. Queen Anne's County
9. MDOT MTA Transit Services

CITY OF ANNAPOLIS TRANSIT SYSTEM PROFILE

Overview

The City of Annapolis is located within eastern Anne Arundel County, where the Severn River meets the Chesapeake Bay, just south of U.S. 50 (see Figure A-1)

Figure A-1 City of Annapolis Transit Service



Annapolis Transit

City of Annapolis Department of Transportation

Annapolis Transit is operated by City of Annapolis through its Department of Transportation. The City of Annapolis has operated public transit service since 1978, when the City purchased assets of the formal Arundel Bus Company and took over the provision of the service. The City of Annapolis directly operates Annapolis Transit. All full-time drivers, maintenance staff, and clerical staff belong to the American Federation of State, County, & Municipal Employees (AFSCME).

The mission of the Transportation Department is to provide the highest possible level of reliable, safe, interconnected, customer-focused, affordable, accessible and efficient public transportation throughout the Annapolis area to enhance quality of life, support the environment and economic development.

Annapolis Transit's service area includes the City of Annapolis and surrounding areas in Anne Arundel County, about 20 square miles. The Annapolis Transit system consists of seven fixed routes plus ADA complementary paratransit services.

Annapolis Transit operates services from 5:30 a.m. to 11:00 p.m. Monday through Friday, and from 7:00 a.m. to 8:00 p.m. on Saturday and Sunday. During peak times, 10 vehicles are in operation.

In FY2 019, Annapolis Transit provided 411,661 fixed route trips and 1,796 paratransit trips, totaling 413,457. A total of 464,454 trips were provided in FY 2018. It should be noted that through July 31, 2018, Annapolis Transit operated two additional routes (Gold and Yellow) for which Anne Arundel County assumed operations beginning Aug. 1, 2018.

On Annapolis Transit fixed routes, the one-way cash fare is $2, with $1.00 half-fare for seniors (60+), people with disabilities, students, and Medicare Card Holders with valid photo ID. Children under age 6 ride for free with a paying adult ride. Students K-12 who live with the city limits also ride free on regular school days. Annapolis Transit also offers numerous multi-ride pass options, including a $4.00 all-day pass on fixed route. The ADA paratransit cash fare is $4.00 per trip, with several multi-ride passes available.

In terms of technology, Annapolis Transit uses a real-time, GPS-based video surveillance system on all buses with live feed to the dispatch office. Annapolis Transit also uses a GPS-based electronic farebox system with a passenger counting feature.

Transit Governance

Annapolis Transit is a program within the City of Annapolis Department of Transportation. The Department of Transportation is also responsible for Parking, Transportation Planning, and Taxi licensing and oversight. Additionally, The Department participates in regional transportation planning activities at the metropolitan planning organization level. The Department also shares responsibilities with the City Department of Planning & Zoning on matters related to non-auto transportation. Annapolis Transit's organizational chart within the Department is shown in Figure A-4.

Decisions about policy changes and plan adoption are made by the full City Council. The City Council Transportation Committee and Annapolis Transportation Board discussed under "Agency Responsibilities, Public Engagement, and Planning," make recommendations to City Council.

Following a public hearing conducted by the City Council, the Council will consider comments made by the public and then vote.

Transit Funding

Funding for Annapolis Transit includes directly generated revenues (e.g., fares and advertising revenues), Federal and State operating and capital grants from MDOT MTA, City match for operating and capital grants, Anne Arundel County operating subsidy from Anne Arundel County, and additional City funds to pay for the net operating deficit (transit operating expenses that are not covered by other sources).

The City of Annapolis applies for MDOT MTA State funding under Large Urban (LU), ADA, and LU Preventive Maintenance programs (and, in FY2020, CARES Act funds) to support Annapolis Transit operations. Although the Large Urban funds are from the State, the Department of Transportation notes that MDOT MTA uses the Large Urban program to match Federal Transit Administration (FTA) funds awarded to MDOT MTA under the Section 5307 program. Also it should be noted that, LU Preventive Maintenance grants are funded as capital grants for matching purposes, but support an operations function, and thus the City of Annapolis considers them as operating support for budgeting purposes.

State grant amounts have been stable in previous years (not increasing with increased operating expenses such as driver wage raises). However, State funding was reduced in 2020 and further reduced in 2021 due to the State's financial situation.

Local match support for operating grants comes from the City of Annapolis and Anne Arundel County. The County contribution varies from year to year. When the County took over operations of two former Annapolis Transit routes in FY 2019, funding was reduced to reflect the transfer of the two routes.

The City's General Fund Revenues make up the largest operating funding source for Annapolis Transit, covering the net operating deficit. At the end of the fiscal year, the Department of Transportation calculates the total amount of fares, advertising revenue, grant funding, and other non-City funds received during the year, compares with total transit operating expenses, and determines the total amount of City funds needed (including grant overmatch) to be transferred to the Department. Administrative expenses are largely borne by the City.

Capital funding is primarily through Federal and State grants from MDOT MTA, with City funds providing the local match. Whenever grant awards with 10 percent match do not fully cover capital costs, the City covers the difference.

Agency Responsibilities, Public Engagement, and Planning

The City of Annapolis Department of Transportation is responsible for ensuring compliance with Federal requirements. The Department follows Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) requirements for public engagement.

Public hearings are held by the City's Transportation Board and the Transportation Committee of the City Council. The standing Transportation Committee comprised of three City Council members, meets monthly to consider matters affecting parking, public transportation, and vehicular traffic. The Transportation Board is an advisory board comprised of citizens representing each of the eight City of Annapolis wards, two ad hoc members representing the Naval Academy, St. John's College, and Mayor-appointed at-large members. The board is

charged with providing informed analysis of the facts relating to transportation matters affecting the City and all transportation matters pending before the City Council or before any City agency, board or commission; recommending a comprehensive transportation master plan for the City; and providing oversight, guidance, and expertise in the planning of comprehensive traffic, transit, and parking policies.

The Department of Transportation is responsible for transit service planning and development. The most recent Transit Development Plan (TDP) was conducted in 2019 by a consultant under contract to MDOT MTA, which provides 80% of the funding for TDPs, matched by the City.

Services are planned to connect with other providers, including MTA Commuter Bus, BaltimoreLink, Anne Arundel County, and Queen Anne's County Ride.

Service Available through MDOT MTA

Four MDOT MTA Commuter Bus routes connect Annapolis to Baltimore or Washington, DC on weekdays:

- **Route 210** operates between Kent Island and Baltimore, with five west/northbound trips in the morning and five south/eastbound trips in the p.m. peak. Two route variations are operated: one route serves Kent Island and two stops near Annapolis, and the other route originates in downtown Annapolis stopping at five locations in or near Annapolis. Two trips each a.m. and p.m. peak stop at Church Circle & School St. (Downtown Annapolis), Rowe Blvd. & Taylor Ave. (at the Army-Navy stadium park & ride, within the city), and Medical Pkwy (Anne Arundel Medical Center, outside of the city). All five trips stop at the Westfield Mall (Ring Road bus stop near J.C. Penney) and Harry S. Truman Park & Ride (Riva Rd. & Truman Pkwy), both outside of the city limits. With the exception of the Harry S. Truman Park & Ride, these commuter stops are also served by Annapolis Transit (although schedules may not be coordinated to allow for convenient connections).
- **Route 215** operates between Annapolis and Baltimore, with three northbound trips in the morning and three southbound trips in the p.m. peak. All trips stop at Church Circle & School St., Rowe Blvd. & Taylor Ave., Medical Pkwy, and Westfield Mall.
- **Route 220** operates from Annapolis to Washington, DC, with 12 westbound trips in the morning and 13 eastbound trips in the afternoon/evening. All trips stop at the Harry S. Truman Park & Ride. Six westbound and seven eastbound trips also stop at Rowe Blvd. & Taylor Ave., 10 other locations along West Street (SR 450, all within the city limits), and Riva Road at Forrest Drive (just outside of the city).
- **Route 230** operates from Severna Park and Annapolis to Washington, DC, with 10 westbound trips in the morning and 12 eastbound trips in the afternoon and evening. All trips stop at the Harry S. Truman Park & Ride Five westbound trips and seven eastbound trips also serve Rowe Blvd. & Taylor Ave, 10 locations along West Street, and plus Riva Road at Forrest Drive.

Financial Data

The 2019 financial data for Annapolis, as reported in the National Transit Database (NTD), is provided in Figure A-2.

In FY 2019, Annapolis Transit's operating expenses totaled $4,530,423, balanced by the same amount of revenues. A breakdown of funding sources and amounts for FY 2019 is detailed in Figure A-3.

In FY 2019, Annapolis Transit was awarded $156,604 in State Large Urban capital funds, matched by $17,400 from the City, totaling $174,004, to replace two small buses.

Figure A-2 FY2019 Financial Data – Annapolis Transit

FY 2019 Operating Expenses	
Fare Revenues	$615,144
Local Funds	$2,197,908
State Funds	$1,598,625
Federal Assistance	$0
Other Funds	$118,746
Total Operating Funds Expended	**$4,530,423**

FY 2019 Capital Expenses	
Local Funds	$109,840
State Funds	$156,553
Federal Assistance	$0
Other Funds	$0
Total Capital Funds Expended	**$266,393**

Source: National Transit Database

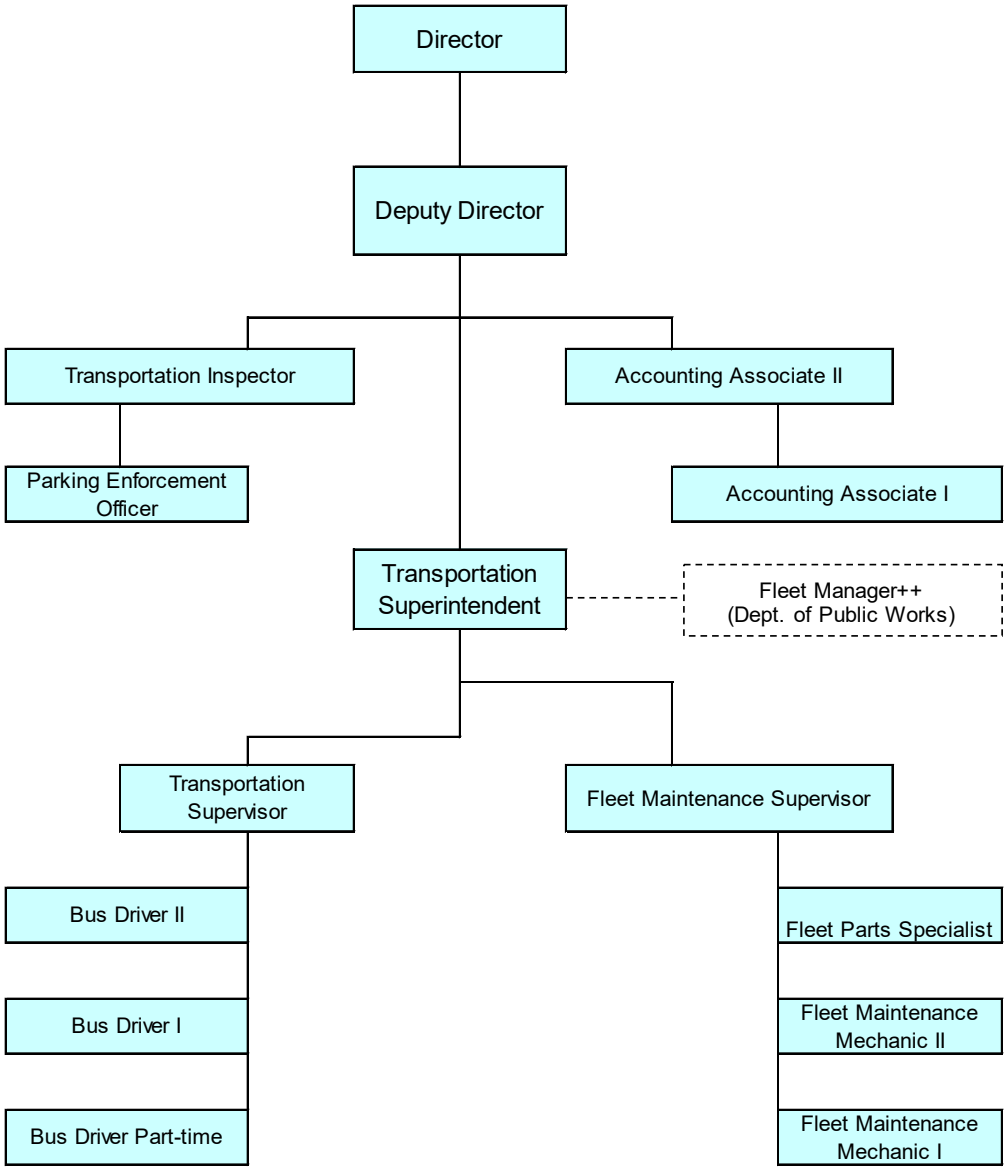
Figure A-3 FY 2019 Operating Funding for Annapolis Transit

Revenue Source	Amount
Passenger-paid fares	$329,624
Organization-paid fares	285,520
Advertising	118,747
State Grant - Large Urban	1,040,243
State Grant – ADA	198,382
State Grant – Preventive Maintenance	360,000
Anne Arundel County-Office of Transportation	350,000
Anne Arundel County-Dept. of Social Services	42,568
City of Annapolis	1,805,340
Total	$4,530,424

Source: National Transit Database

Figure A-4 Annapolis Transit: Organization Chart

CITY OF ANNAPOLIS DEPARTMENT OF TRANSPORTATION



** Coordinates with ADOT on vehicle maintenance

Community Statistics (2019)

Population: 39,223

Population density: 5,462.8 people per square mile

Top five employers:

- State of Maryland government (12,132 employees)
- Anne Arundel County government (5,190)
- U.S. Naval Academy (2,340)
- City of Annapolis government (550)
- ARC of the Central Chesapeake Region (450 employees).[1]

Average household income: $85,636

Residents below federal poverty level: 11.0%

Population aged 65+: 16%

Residents living in zero vehicle households: 8.6%

Percent minority: 36.9%

Journey to Work Data

Journey to work data were not compiled for the City of Annapolis, but Annapolis is included within these data for Anne Arundel County. The mode split and mean travel time to work for Annapolis residents are shown in Figure A-5.

Figure A-5 City of Annapolis Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	21,124	
Car, truck, or van -- drove alone	15,075	71.4%
Car, truck, or van -- carpooled	1,779	8.4%
Public transportation (excluding taxicab)	979	4.6%
Walked	1,277	6.0%
Other means	847	4.0%
Worked from home	1,167	5.5%
Mean travel time to work (minutes)	27.7	

Source: ACS five-year estimates, 2015-2019

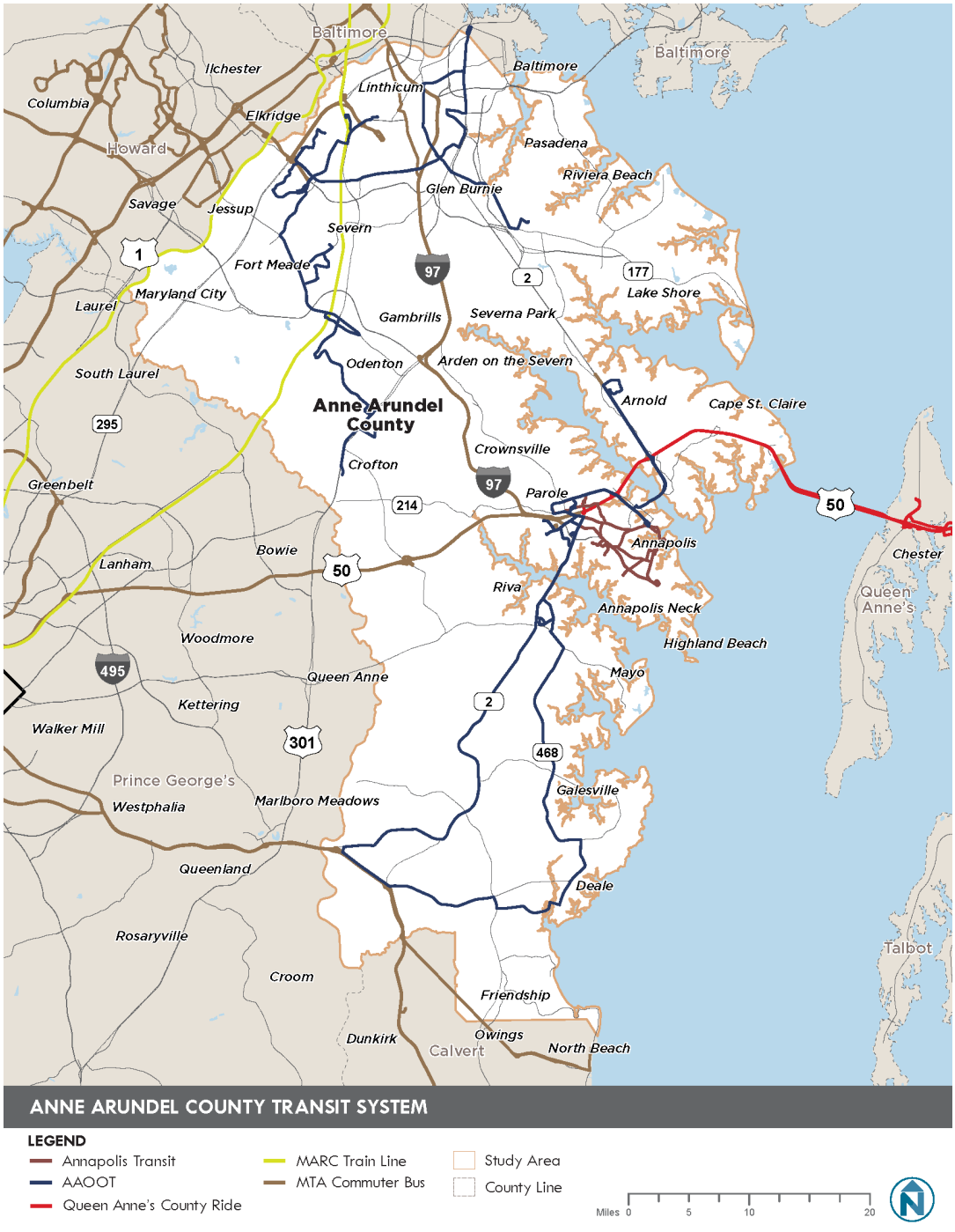
[1] City of Annapolis Office of Economic Development web page, https://www.annapolis.gov/1276/Top-Employers accessed 2/5/21

ANNE ARUNDEL COUNTY TRANSIT PROFILE

Overview

Anne Arundel County is in central Maryland in the southeast corner of the Baltimore region, bordered by the Anne Arundel, Baltimore, Prince George's, and Calvert counites as well as Baltimore City. The Chesapeake Bay forms its eastern boundary (see Figure A-6). Annapolis is the county seat.

Figure A-6 Anne Arundel County and LOTS Bus Service



Transit Service Overview

Anne Arundel Office of Transportation

Local public transportation in Anne Arundel County is managed by the Anne Arundel County Office of Transportation (OOT). OOT contracts with a private service provider for service and helps funds service operated by the Regional Transportation Agency of Central Maryland (RTA) and Annapolis Transit.

Anne Arundel County contracts for nine fixed routes that include routes formerly operated by the City of Annapolis and the RTA, along with new services providing linkage and coverage to employment centers:

- **Route 1:** Shopper Shuttle (Quarterfield Crossing, Meade Village)
- **Route 2**: Brooklyn Park Connector (Cromwell Light Rail Station, Ferndale Light Rail Station)
- **Route 3:** AA-201 (Arundel Mills Mall, Cromwell Light Rail Station, Freetown Village)
- **Route** 4: AA-202 (Arundel Mills Mall, Meade Village, Odenton MARC Station, Odenton Health Campus)
- **Route 5:** AA-Gold College Parkway (Westfield Mall, AACC Loop Road)
- **Route 6:** AA-Gold Edgewater (K-Mart Edgewater, Harbour Center, Westfield Mall)
- **Route 7:** AA-Yellow Bus (Westfield Mall, Annapolis Corporate Center, Harbour Center, Clairborne)
- **Route 8:** County Connector Shuttle (Arundel Mills, MARC, and West County)
- **Route 8:** Crofton Connector (Odenton MARC Station, Crofton Village)
- **Route 9:** South County Call N'Ride (Southern Anne Arundel County)

Anne Arundel also operates three categories of demand response service within Anne Arundel:

- ADA complementary paratransit
- General paratransit (GPT)
- South County Call N'Ride (pickup anywhere south of MD 214, destination anywhere south of MD 214 or AA Gold bus stop at Edgewater Library)

In addition to directly providing these transit services, OOT supports the County's commuter assistance program.

Figure A-7 Anne Arundel County Fare Structure

Fixed Route Service	
General Public	$2.00
Reduced Fare for students, seniors, or persons with disabilities	$1.00
Transfers	Free
Children Age 5 and Under	Free

Transit services are currently operating Monday through Friday from about 5:00 a.m. to 12:00 p.m., depending on the route.

OOT does not have a large vehicle fleet, instead includes vehicle requirements as part of its contracts with private providers. There are 38 vehicles in service during peak periods, with a total fleet of 47 vehicles (per NTD.

Anne Arundel County OOT services charge $2.00 for an adult one-way fare. Some demand response services are free with Call 'nRide fares set at $2.00 (see Figure A-7).

Demand Response & ADA Paratransit Service	
Demand Response Service Fares	Free

South County Call N'Ride	
Regular One Way	$2.00
Reduced One Way (for seniors, persons with disabilities, and students)	$1.00
Students (w/ ID)	$1.00
Children under 5	Free

MTA Service in Anne Arundel County

Historically MTA was the major provider of transit service for Anne Arundel County, and it continues to provide local bus, commuter bus, light rail, and commuter rail service to the County, providing some local service and linkages to both Baltimore and Washington D.C. These routes are listed below:

MDOT MTA Operated LocalLink and Express BusLink

- **LocalLink 67: Marley Neck (Energy Parkway)-Downtown Baltimore**, local service operated daily with eight roundtrips. Anne Arundel County stops include Brooklyn Park and Baltimore.
- **LocalLink 69/70 Patapsco Light Rail Station-Jumpers Hole** local service operated daily with one southbound trip in the evening and one northbound late-night trip. Anne Arundel County stops include Glen Burie, Severn Park and Pasadena.
- **LocalLink 75 Patapsco Light Rail Station-Parkway Center**, local service operated daily with one southbound trip and one northbound trip at night. Anne Arundel County stops include Lansdowne and BWI Airport.
- **ExpressBusLink 164 Riviera Beach-Downtown**, express weekday only. Six northbound and southbound trips. Anne Arundel County stops include Pasadena and Baltimore.

Light Rail: LightraiLink

- **Hunt Valley-Cromwell/Glen Burnie:** There are eight northbound and southbound trips during the day. Anne Arundel County stops at Cromwell/Glen Burnie.
- **Hunt Valley-BWI Marshall Airport:** There are eight northbound and southbound trips during the day. Anne Arundel County stops at BWI Business District and BWI Marshall Airport Main Terminal.

Commuter and Express Bus Routes:

- **Commuter Route 201** operates between Gaithersburg Park & Ride and BWI Marshall Airport, with five southbound trips and three northbound trips. Anne Arundel stops in Arundel Mills Shopping Center and BWI Marshall Airport.

- **Commuter Route 210** operates between Kent Island and Baltimore, with five west/northbound trips in the morning and five south/eastbound trips in the p.m. peak. Two route variations are operated: one route serves Kent Island and two stops near Annapolis, and the other route originates in downtown Annapolis stopping at five locations in or near Annapolis. Anne Arundel County stops in Anne Arundel Medical Center, Harry S. Truman Park and Ride, and Westfield Mall.
- **Commuter Route 215** operates between Annapolis and Baltimore, with three northbound trips in the morning and three southbound trips in the p.m. peak. Anne Arundel County stops at Anne Arundel Medical Center, Westfield Mall, and Cromwell Light Rail Station.
- **Commuter Route 220** operates between Annapolis and Washington, D.C. Six peak hour trips serve downtown Annapolis, an additional six operate directly from Harry S. Truman Park and Ride. Anne Arundel County stops include Harry S. Truman Park and Ride.
- **Commuter Route 230** operates between Severna Park, Parole/Annapolis, Washington, D.C. Five peak hour trips service Severna Park and Harry S. Truman Park and Ride, an additional five operate directly from Harry S. Truman Park and Ride. Anne Arundel County stops include Severna Park Park and Ride, Harry S. Truman Park and Ride.
- **Commuter Route 240** operates between Kent Narrows and Washington, D.C., with three westbound trips in the morning and four eastbound trips in the p.m. peak. The route does not have a stop in the county but passes through it.
- **Commuter Route 250** operates between Kent Narrows and Washington, D.C., with three westbound trips in the morning and three eastbound trips in the p.m. peak. The only Anne Arundel County stop is Davidsonville Park & Ride Lots.
- **Commuter Route 260** operates between Severna Park and Washington, D.C., with three westbound trips in the morning and four eastbound trips in the p.m. peak. Anne Arundel County stops are Severna Park and Davidsonville Park & Ride Lots.

Commuter Rail Service: MARC Penn Line and MARC Camden Line

- **MARC Penn Line:** Baltimore Penn Station to Washington Union Station: Fifteen southbound trips and sixteen northbound trips. Anne Arundel County stops include the BWI Marshall Rail Station, and Odenton
- **MARC Camden Line:** Baltimore Camden Station to Washington Union Station: Four southbound trips including three morning trips, and three northbound trips including three trips in the p.m. Anne Arundel County stops include Jessup and Savage—the line forms the County border, and there are additional stops in adjacent Howard (Dorsey) and Prince George's County (Laurel)

Vehicles operated on behalf of the Office of Transportation in demand-response services are equipped with Automatic Vehicle Locators (AVL), and Mobile Digital Terminals (MDTs). Routematch software is used for scheduling and dispatch of demand-response services. The County is working on a cashless fare payment system.

Anne Arundel County vehicles can potentially operate from the Central Maryland Transit Operations Facility, developed jointly with Howard County. It is located on the eastern edge of Howard County, near the Anne Arundel line. The facility was built in 2014-15 and is a LEED Silver Certified Facility with a capacity of 104 buses. It was recently modified to support electric buses, as the RTA has three fully electric vehicles in service.

Transit Governance

The Office of Transportation is under the Chief Administrative Officer, who reports to the Executive. The Office of Transportation's role is "to promote and establish multi modal transportation networks throughout Anne Arundel County, which will provide the necessary infrastructure to make Anne Arundel County an economically vibrant community enhancing the quality of life for the citizens by advising the County Executive and the County Council on the coordination and development of government policies, programs, services, and allocations of resources for citizens regarding transportation."

The Office of Transportation staffs one board—the Transportation Commission, whose mission is to provide recommendations to the County Executive regarding the County's current and future transportation plans and programs.

The Office of Transportation staffing includes five FTE positions, though they are responsible for several modes (see Figure A-8):

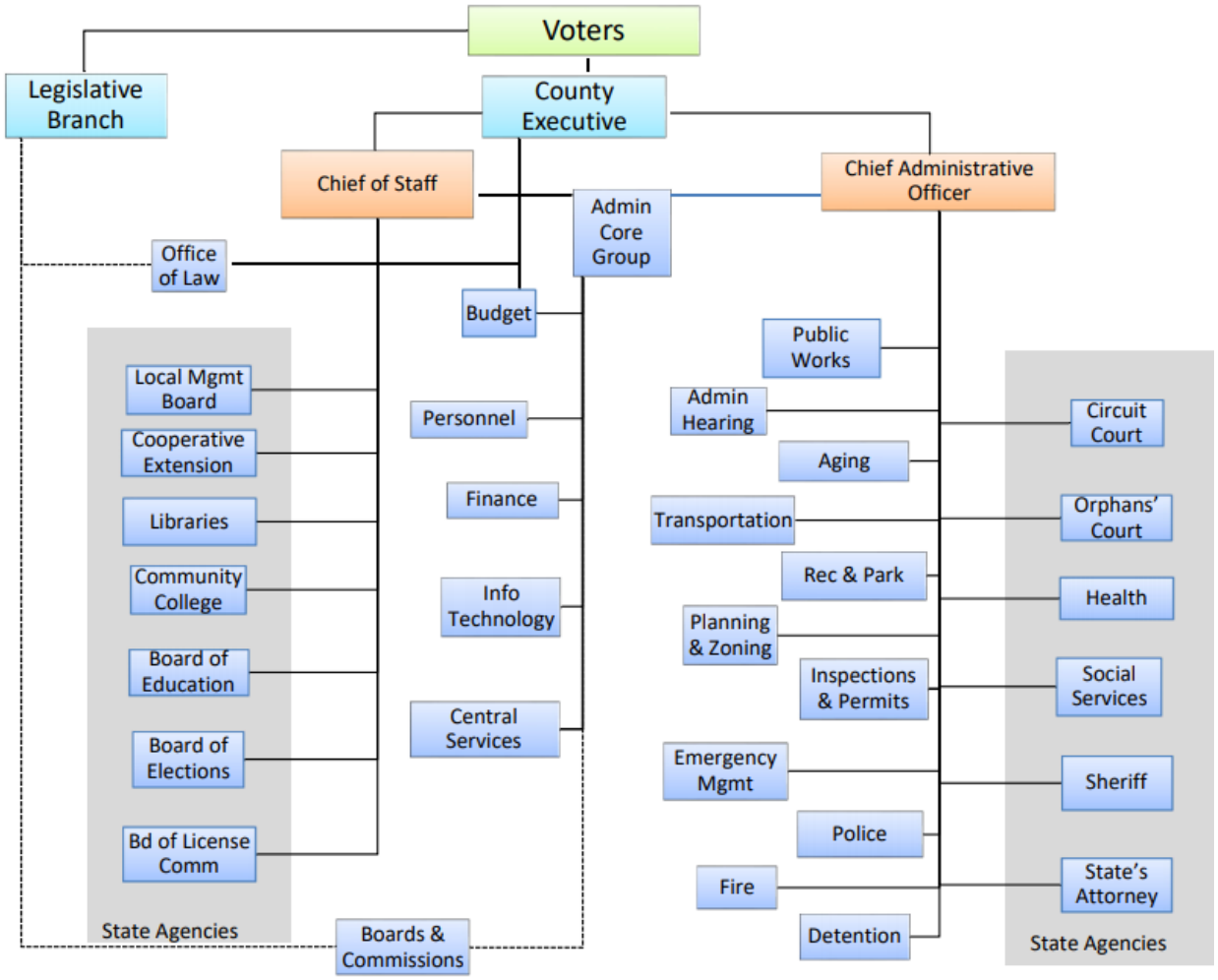
- Director
- Transportation Planner
- Program Manager
- Administrators (1)
- Office Support (3)

The contractor staffing includes:

- General Manager
- Dispatcher/Supervisors (4)
- Operators (54)

The budget is developed by the Anne Arundel County Office of Transportation with input from the Anne Arundel County Transportation Commission. It is reviewed and with changes as needed is included in the overall budget submission from the County Executive to the County Council. The ultimate policy board is the Anne Arundel County Council.

Figure A-8 Anne Arundel County Transit Organizational Chart



Agency Responsibilities, Public Engagement, and Planning

The Anne Arundel County Office of Transportation is responsible for compliance with federal and state regulations. This includes overseeing the different contractors to ensure compliance, developing, and maintaining required policies, reporting, and responding to periodic MTA compliance reviews. The contractors are primarily responsible for bus and paratransit operations, including operations, supervision, vehicle, and facility maintenance. The operators are employees of the contractors, who has drug and alcohol compliance responsibility.

The Office of Transportation also staffs the Transportation Commission, an advisory board appointed by the County Executive, and it also participates in the Central Maryland Transportation and Mobility Commission, the joint board providing guidance for transit in the region. Other initiatives include planning for all modes, including transit, bike, pedestrian, and highway transportation project, and it includes a role in the development of Anne Arundel

County's MDOT Priorities Letter, expressing County priorities for transportation projects of all modes.

Anne Arundel County routes connect with those of other transit systems at several locations. Key transfer points include the Arundel Mills Mall and Westfield Anne Arundel Mall. There are connections to a WMATA Metrobus service at Arundel Mills, to MTA Commuter Buses at Westfield Anne Arundel Mall and to MTA LocaLink and Commuter Bus service at Arundel Mills and BWI Marshall Airport. There are also connections to MTA Light Rail at Cromwell/Glen Burnie.

There are free transfers to/from RTA routes and Anne Arundel County routes, but none with MTA or WMATA services. There is no ongoing process for service coordination development with MTA, though the CMTMC is a forum for coordination policies with Prince George's and Howard Counties and staff do meet to address service changes.

A Transit Development Plan (TDP) is conducted every five years with MTA support, the last in 2018. That plan, the Central Maryland Regional Transit Development Plan, was a joint plan with Howard County. The Anne Arundel County aspect of the plan called for a major expansion of transit service in the County, spread over a five-phase implementation. In Phase I frequencies on existing routes would be improved to 30-minute headways. In subsequent phases microtransit Call n'Ride service areas would be developed to service lower-density previously unserved communities, and final phases would add new trunk routes to link the microtransit service areas on east-west and north-south routes. The entire implementation would have added approximately $10.5 million in annual operating costs and required $10 million in expansion capital.

The Central Maryland TDP was an input to Move Anne Arundel, the County's multimodal transportation functional master plan. Adopted by the County Council, this plan adds high-capacity transit corridors in some areas.

Transit Funding and Financial Data

In FY 2019, according to the National Transit Database (NTD), Anne Arundel County spent just over $6 million in transit operations and $0 on capital (see Figure A-9). County budget figures show different expenditures, with expected capital expenditures (see Figure A-10). County data also include expenditures for contracted service, raising the local County contribution significantly. Based on the County budget documents, the total program budget is somewhat higher, suggesting Anne Arundel County spends approximately $3 million annually in local funds to support transit, including planned capital investments.

Figure A-9 FY 2019 Financial Data – Anne Arundel County

FY 2019 Operating Expenses	
Fare Revenues	$224,045
Local Funds	$2,828,835
State Funds	$2,979,324
Federal Assistance	$0
Total Operating Funds Expended	**$6,032,204**

FY 2019 Capital Expenses	
Local Funds	$0
State Funds	$0
Federal Assistance	$0
Other Funds	$0
Total Capital Funds Expended	**$0**

Source: National Transit Database FY 2019

Anne Arundel County obtains funding from the MTA OLTS program for both operations and capital, but most funding for the services are raised through general funds. The RTA structure means Anne Arundel County funds a portion of shared routes and a share of the RTA management fee. In addition, there is funding from MDOT under the Washington transit program, provided to support service in Laurel, which is in the Washington region, and Anne Arundel is credited with a portion of that funding. In addition, the County Department of Social Services receives state Job Access and Reverse Commute Funding (JARC), which is then provided to the Office of Transit to support service related to employment needs. Anne Arundel County also receives MTA Rideshare program funding to support Transit Demand Management initiatives, including its rideshare program.

Figure A-10 Anne Arundel County Transit Budget FY2019 Actuals from Office of Transportation

	Total Expense	Fare and Other Program Revenues	MTA Grants	Local General Revenue Funding
Operating Budget				
Operating	$4,951,434	$224,045	$1,347,469	$3,406,568
Rideshare/TDM	$197,397		$197,397	$0
Total Operating	**$5,148,831**		**$1,544,866**	**$3,406,568**
Capital Budget				
Vehicles, Stops, Equip.	$395,000		$355,500	$39,500
Total Capital	**$395,000**		**$355,500**	**$39,500**
Total FY 2019 Totals	**$5,543,831**	**$224,045**	**$1,900,366**	**$3,446,068**

Community Statistics (2019)

Population: 579,234

Population density: 1,395.7 people per square mile

Top five employers:

- Fort George G. Meade (54,000 employees)
- Northrup Grumman (8,465)
- Southwest Airlines (4,835)
- Anne Arundel Health System (4,000)
- Live! Casino & Hotel (3,000)

Mean household income: $124,685

Residents below federal poverty level: 5.8%

Population aged 65+: 14%

Residents living in zero vehicle households: 3.6%

Percent minority: 34%

Figure A-11 Means of Transportation to Work and Mean Travel Time—Anne Arundel County

Commuting to Work	Number	Percent
Workers 16 years and over	**301,362**	
Car, truck, or van -- drove alone	240,534	79.8%
Car, truck, or van -- carpooled	22,455	7.5%
Public transportation (excluding taxicab)	10,606	3.5%
Walked	7,151	2.4%
Other means	3,927	1.3%
Worked from home	16,689	5.5%
Mean travel time to work (minutes)	**31.4**	

Source: ACS five-year estimates, 2015-2019

The mean travel time to work for Anne Arundel residents is 31.4 minutes (see Figure A-11). More than half (58.3%) of Anne Arundel County's workers over the age of 16 stay work in Anne Arundel County.

Figure A-12 Commuting Patterns-Anne Arundel County

Work Location	Number	Percent
Anne Arundel County	168,876	58.3%
Prince George's County	27,927	9.6%
Baltimore city	21,670	7.5%
Howard County	18,565	6.4%
District of Columbia	18,474	6.4%
Baltimore County	12,095	4.2%
Montgomery County	8,142	2.8%

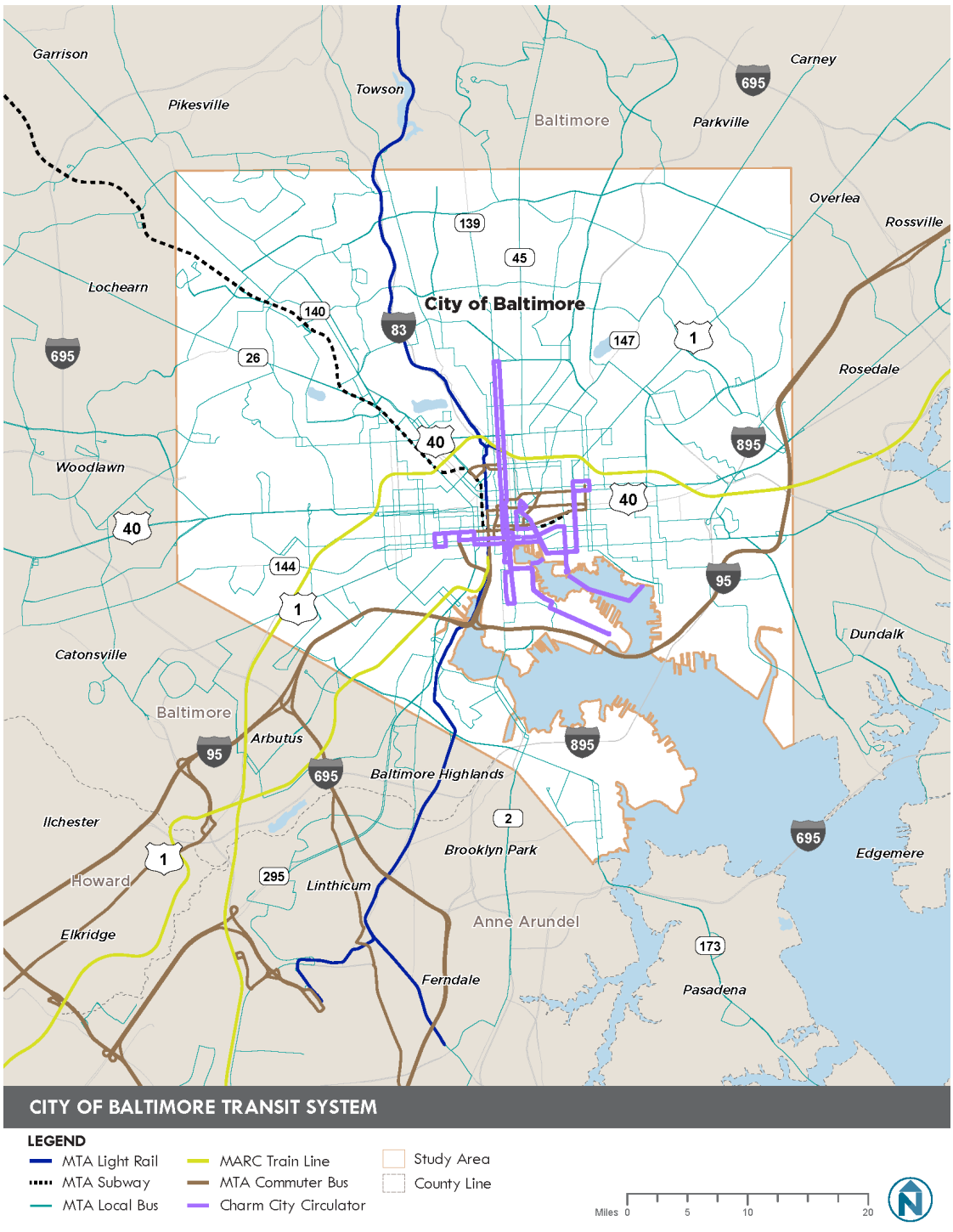
Source: U.S. Census Bureau, ACS, 2011-2015

CITY OF BALTIMORE TRANSIT PROFILE

Overview

The City of Baltimore is an independent city; it is the most populous city in the State of Maryland (see Figure A-13).

Figure A-13 City of Baltimore and LOTS Bus Routes



Transit Service Overview

Charm City Circulator

Public transit service provided by the MDOT-MTA is highlighted in a separate profile. This profile focuses on the additional public transportation programs managed by the City of Baltimore:

- **Charm City Circulator** (fixed route buses and ferryboats) administered by the Baltimore City Department of Transportation
- **TaxiCard program**, which provides taxi subsidies for seniors and people with disabilities and is administered by the Baltimore City Health Department Division of CARE Services.

Initiated in 2010, the Charm City Circulator (CCC) was initially funded through parking revenue but has since broadened its service and funding streams. Service is provided by a contractor, currently RMA Worldwide Chauffeured Transportation. The three-year contract period began in July 2019. The goals of the CCC are to:

- Limit air pollution
- Limit congestion growth
- Tie together growing communities
- Spread the use of the existing parking supply[2]

The CCC operates four routes in the central business district using a fleet of 24 vehicles. The four routes are:

- **Green Route** – City Hall - Fells Point - Johns Hopkins
- **Purple Route** – 33rd Street to Federal Hill
- **Orange Route** – Hollins Market to Harbor East
- **Banner Route** – Inner Harbor to Fort McHenry

The Harbor Connector is a maritime extension of the CCC, and provides the following ferry routes:

- **HC1** – Maritime Park (Landing 8) - Tide Point (Landing 10)
- **HC2** – Canton Waterfront Park (Landing 16) - Tide Point (Landing 10) – This route is currently suspended.

  HC3 – Pier Five (Landing 5) – Federal Hill (Landing 4)

The CCC operates during the following hours:

- **Monday-Thursday:** 7:00 a.m. - 8:00 p.m.
- **Friday:** 7:00 a.m.- midnight
- **Saturday:** 9:00 a.m.- midnight
- **Sunday:** 9:00 a.m. - 8:00 p.m.

The Harbor Connector operates during the following hours:

- **Monday-Friday:** 6:00 a.m. - 11:00 a.m. & 2:30 p.m. - 8:00 p.m.

[2] Charm City Circulator web page, viewed 2/5/2021

There are 24 vehicles in the CCC fleet and three ferry boats.

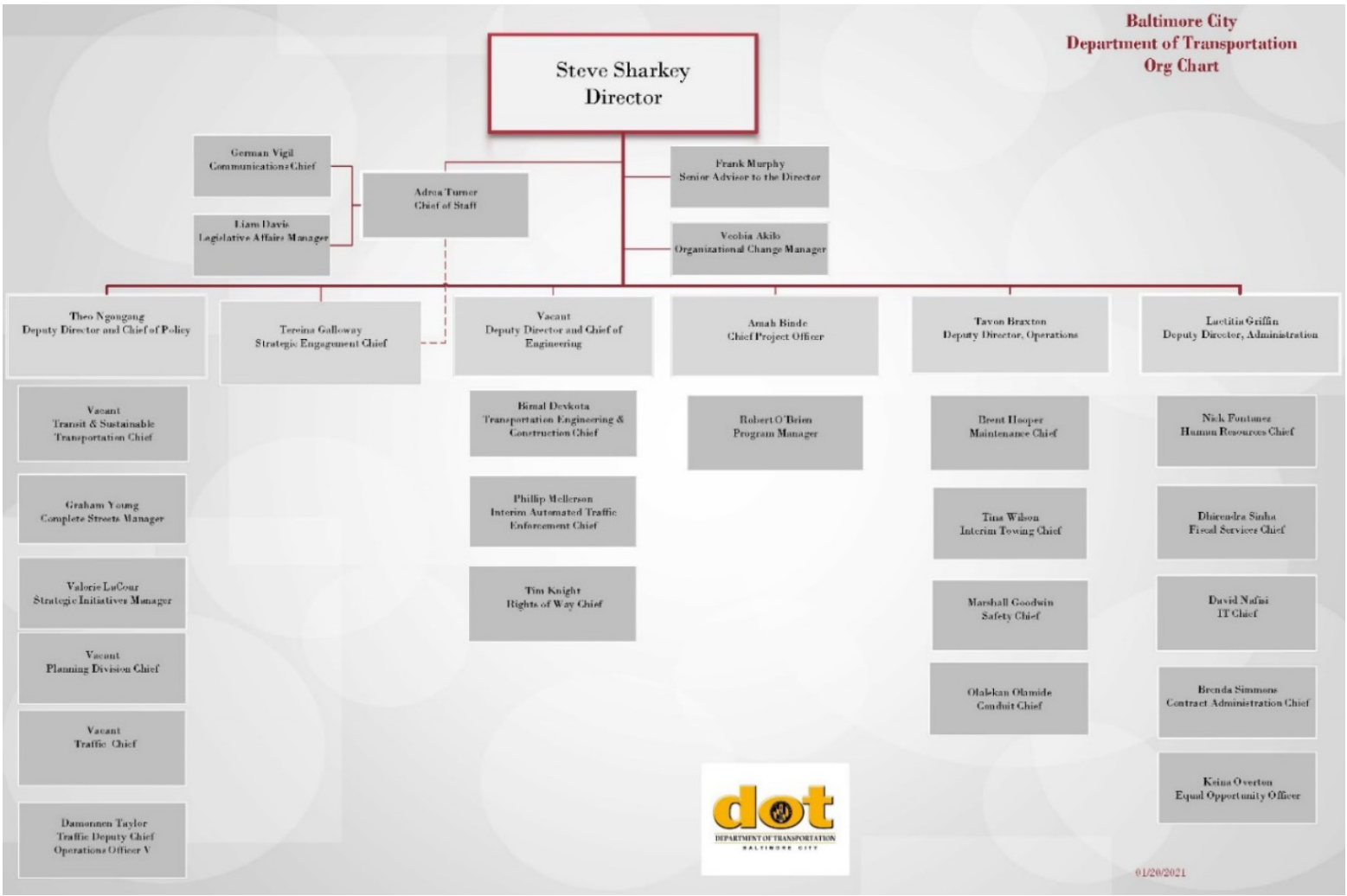
The CCC and Harbor Connector are fare-free. The fare revenue that is reported to the NTD is actually advertising revenue.

Real-time transit information is provided for the CCC through a program called "Ride Systems." The CCC vehicles are equipped with automatic vehicle locators (AVL) and automatic passenger counters (APC). The City owns the technology systems that are used for the program.

Transit Governance

Within the Baltimore City Department of Transportation, the Transit Services Administrator position is within the Transit and Sustainable Transportation unit, under the direction of the Deputy Director and Chief of Policy (see Figure A-14). The shared mobility and bicycle programs are also with in this unit.

Figure A-14 Baltimore City Department of Transportation Organizational Chart



Agency Responsibilities, Public Engagement, and Planning

The Transit Services Administrator is tasked with all facets of running the program, including federal and state compliance and contractor oversight. The administrator is currently working on the development of public engagement process that will be compliant with federal and state guidelines. There is not currently an advisory committee, though the development of one will be part of the new public engagement process.

The service connects to Amtrak, as well as to MDOT MTA services, including: LocalLink bus services; MARC; Light Rail; and Metro Subway. The Administrator is also included in bi-weekly coordinating calls with MDOT MTA.

The Baltimore City DOT will complete a Transit Development Plan (TDP) in FY 2022, including a service equity study. Until the TDP is completed, the program will continue with its current system with minor route adjustments as needed to improve on-time performance.

Figure A-15 FY 2019 Financial Data – Charm City Circulator

FY 2019 Operating Expenses	
Fare Revenues	$11,998
Local Funds	$1,725,407
State Funds	$3,000,000
Federal Assistance	$0
Total Operating Funds Expended	**$4,737,405**

FY 2019 Capital Expenses	
Local Funds	$0
State Funds	$0
Federal Assistance	$0
Other Funds	$0
Total Capital Funds Expended	**$0**

Source: National Transit Database

The CCC is funded through a combination of parking revenues, a small amount of advertising revenue, the general fund, and state grant funding. Program budgets are based on previous year expenses and revenues, plus information about state and/or federal grants (see Figure A-15). COVID-19 has impacted parking revenues and the Circulator's revenue stream. The state portion of the budget has also been reduced from $3 million to $2 million. The City will make up for these losses through Federal Cares Act funding and local revenue funds.

TaxiCard Program

The Baltimore City Health Department Division of CARE Services administers the TaxiCard program that provides a monthly subsidy to eligible Baltimore City residents who are ages 60 and older or who have a disability. The Baltimore City Health Department is the City's designated Area Agency on Aging.

Eligible participants are required to complete an application to enroll in the program. Once enrolled, they receive a TaxiCard. To use the service, participants make a payment toward the card and the card is also credited with the subsidy amount. The subsidy amount is added once per month when the participant makes their required monthly payment.

There are two subsidy categories: low income (less than $900 per month) and moderate income (more than $900 per month). For participants in the low-income category, their monthly payment of $6.00 is match with CARE funds of $23.00. For participants in the moderate-income category, their monthly payment of $12.00 is matched with CARE funds of $15.00. Program participants can choose from eight participating cab companies, two of which offer wheelchair accessibility. Participants call the companies directly and can also hail them, as needed.

Program Management and Operation

MJM Innovations has been the City's contractor for the program since 2003 and handles most aspects of the program for the City. While the City does periodically conduct procurement processes for the management and operation of the program, MJM Innovations has thus far been the most qualified vendor. MJM has worked with the City over the years to develop the program. The City conducts the annual grant application process for the SSTAP funds and oversees the contractor.

Technology

MJM Innovations uses its proprietary EZ Transport software and hardware package to run the program. The program can be integrated into most taxi company software systems. Data from the TaxiCards are transmitted through a private gateway for security purposes and function as debit cards. EZ Transport provides full electronic tracking for each trip provided.

This technology also includes an online platform where participants can make their payments and see how much money is available on their cards.

Taxicab Participation

Cab companies that have Maryland Public Service Commission approval are permitted to participate in the program. They are required to purchase the required hardware and software. The cab companies' invoice MJM for the trips, which can be verified through the EZ Transport program.

Public Engagement

Prior to the pandemic, MJM Innovations would hold public forums about the program, as well as conducting outreach at senior centers and senior residential buildings. MJM Innovations also works with local hospitals, dialysis centers, community organizations, and social service agencies to get the word out about the availability of the program.

Decision-Making and Budget Development

The City's Health Department and MJM Innovations work together on decision making for the program. Budget development is defined by the amount available to the City through SSTAP. The program funding is 75% SSTAP and 25% City. Once the City learns what the SSTAP funding will be for the following year, the budget is prepared for the program goes through the City budget process. While MJM indicated that the program could be a lot larger, the City is not likely to be in a financial position to increase its portion of the funding in the near-term.

Funding

The TaxiCard program is funded through MDOT-MTA's SSTAP with a match from the City of Baltimore. The FY2021 funding is as follows: SSTAP - $379,335; City - $126,445. These amounts have been stable for several years.

Trips Provided

In FY 2019 the program provided 41,763 taxi trips.

Community Statistics (2019)

Population: 593,490

Population density: 7,336 people per square mile

Top five employers:

- John's Hopkins Hospital and Health System (20,485 employees)
- Johns Hopkins University (18,600)
- University of Maryland Medical System (11,450)
- University System of Maryland (8,965)
- Medstar Health (6,175)

Mean household income: $74,246

Residents below federal poverty level: 6.7%

Population aged 65+: 13.6%

Residents living in zero vehicle households: 28.9%

Percent minority: 70.5%

Baltimore residents spent an average of 31.4 minutes traveling to work (see Figure A-16). Over sixty percent of city residents work in the City (see Figure A-17). The primary out-of-county work destination is Baltimore County.

Figure A-16 City of Baltimore Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	**275,900**	
Car, truck, or van -- drove alone	165,994	60.2%
Car, truck, or van -- carpooled	24,425	8.9%
Public transportation (excluding taxicab)	48,244	17.5%
Walked	17,762	6.4%
Other means	7,104	2.6%
Worked from home	12,371	4.5%
Mean travel time to work (minutes)	31.4	

Source: ACS five-year estimates, 2015-2019

Figure A-17 Commuting Patterns—Baltimore City

	Baltimore City Workers 16 and over	
Work Location	**#**	**%**
Baltimore city	163,042	61.4%
Baltimore County	55,895	21.0%
Anne Arundel County	17,180	6.5%
Howard County	10,804	4.1%
District of Columbia	4,765	1.8%

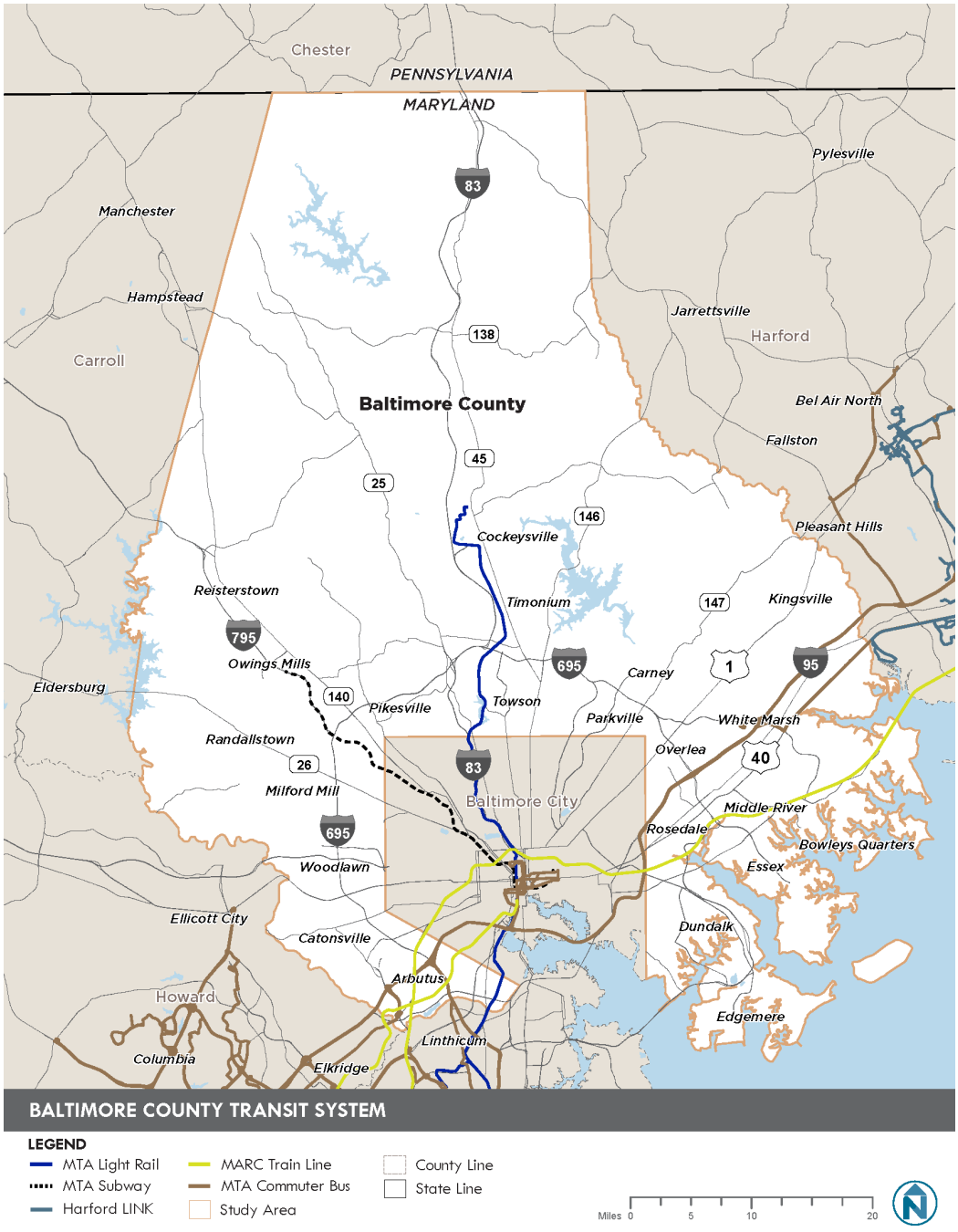
Source: ACS five-year estimates, 2015-2019

BALTIMORE COUNTY TRANSIT PROFILE

Overview

Baltimore County surrounds Baltimore City to the southwest, west, north, east, and southeast, with most of the county's land area (598 square miles) stretching from north of Baltimore City to the Pennsylvania border. The county seat is Towson, which is just north of the City of Baltimore. Baltimore County's shape is such that traveling from the southwest or south part of the county to the eastern part of the county involves crossing through Baltimore City (see Figure A-18).

Figure A-18 Baltimore County and MDOT MTA Regional Transit Services



Transit Service Overview

CountyRide

Baltimore County's Locally Operated Transit System (LOTS) is known as CountyRide, which is administered by the Baltimore County Department of Public Works (DPW) Transportation Bureau. CountyRide transitioned from the Baltimore County Department of Aging to the DPW in July 2020. Services described in this profile reflect the previous focus of services provided by the Department of Aging. Services planned for future implementation reflect a greater emphasis on public transit in Baltimore County.

County Ride provides demand response service to County residents who are age 60+ or who have a disability and are unable to use public transit services. As part of the CountyRide system, within the rural areas of Baltimore County also provides general public service to rural residents. Eligible residents must register for CountyRide before using CountyRide services.

The CountyRide demand-response system is organized around four geographic service hubs: Chesterwood, Glen Keith, Inwood, and Jacksonville. With the exception of a small amount of service purchased through Uber, the CountyRide system is directly operated. Drivers are unionized through the American Federation of State, County and Municipal Employees (AFSCME). The Uber-provided service is provided under a May 2020 agreement with Baltimore County to assist with capacity issues as needed.

Baltimore County is preparing to launch a new fixed route Towson Circulator in FY 2022. This service will be operated under contract to the County.

CountyRide services operate Monday through Friday from 7:00 a.m. to 5:00 p.m. To schedule a trip, customers call CountyRide during office hours (weekdays from 8:00 a.m. to 4:00 p.m.). Reservations can be made up to two weeks in advance for rides to medical appointments and up to one week in advance for other trip purposes. Standing order rides can be scheduled to partner hospital locations to receive repeat medical treatments such as chemotherapy. Same-day service can be scheduled on a space-available basis. If schedule capacity is full, customers may choose to be placed on stand-by in the event of cancellations.

CountyRide also operates a Shopping Shuttle program which serves each area of the county at least once a month, providing group trips to various shopping destinations in the county.

CountyRide operates a total of 25 vehicles: 24 small buses and one sedan, with 20 vehicles in operation during peak times. Baltimore County's Vehicle Operations and Maintenance (VOM) division maintains the CountyRide fleet. Under the current arrangement, CountyRide leases the vehicles from the County and is charged $1.10 per mile for maintenance and insurance, and future vehicle replacement, a cost typically borne entirely by the County (which has purchased all but two of the current vehicle fleet with County funds).

Baltimore County was awarded Federal Transit Administration (FTA) funding to purchase an additional 12 vehicles to be operated in the Towson Circulator service; procurement of these vehicles is under way.

CountyRide currently uses Trapeze PASS reservations, scheduling, and dispatching software. Baltimore County has issued a request for proposals for new software to update or replace the current system.

Adult one-way cash fares purchased in advance are $2.50 for travel within Baltimore County and $5.00 for trips that cross county lines. Prices increase for fares purchased on day of travel (see Figure A-19).

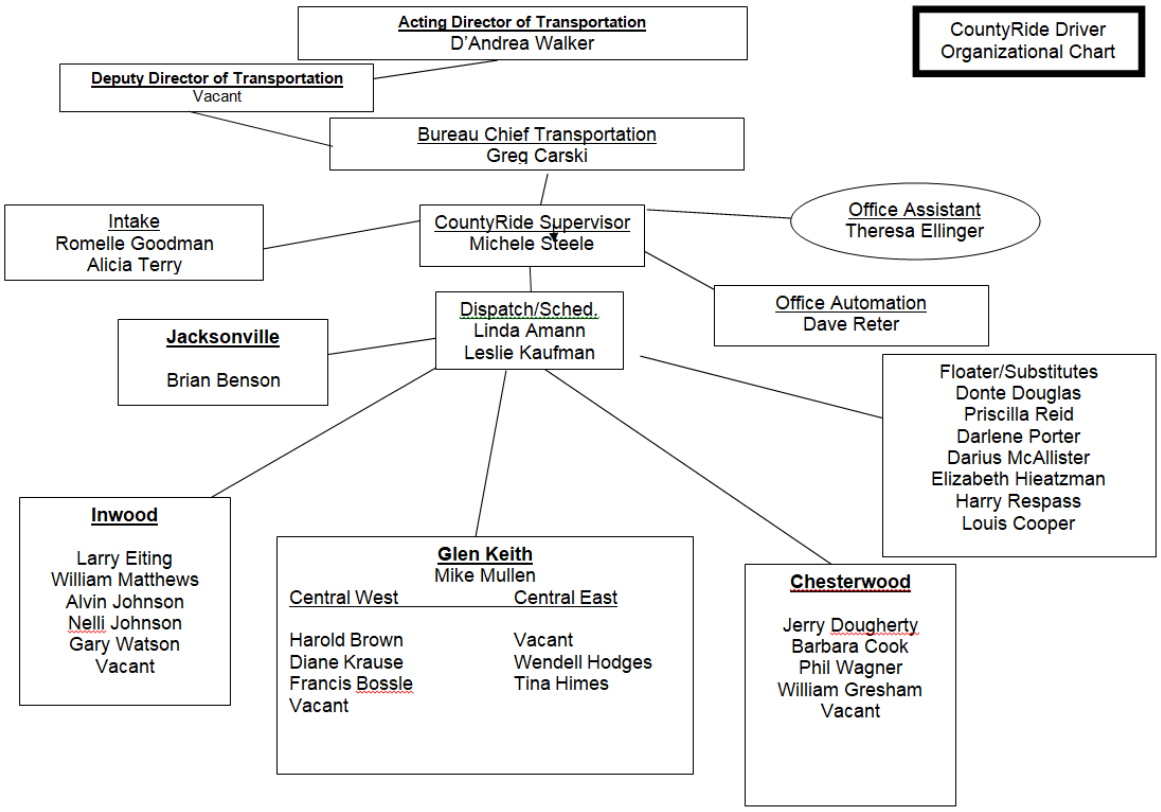
Figure A-19 CountyRide Fare Structure

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

Transit Governance

CountyRide is a program within the Baltimore County Department of Public Works (DPW) Transportation Bureau (see Figure A-20). The Deputy Director of DPW is the Acting Director of Transportation. Policy decisions and major service planning decisions for CountyRide are made by the County Executive. Decisions about funding are made by the County Council. DPW is considering setting up a transportation advisory committee.

Figure A-20 CountyRide Organizational Chart



Agency Responsibilities, Public Engagement, and Planning

DPW is responsible for ensuring compliance with all federal requirements that come with grants from the Federal Transit Administration (FTA).

DPW follows MDOT MTA guidelines for public notice for CountyRide fare changes. The 2021 TDP, nearing adopting, included public engagement efforts to identify transit needs and inform alternatives for service improvements and expansions. In-person outreach activities were not feasible during the COVID-19 pandemic; however, surveys of current CountyRide customers as well as the community at large were conducted.

Seniors and riders with disabilities can use CountyRide service to connect with MTA-operated services in the county. Upon request, CountyRide will drop off at nearest bus stop or light rail station.

DPW is responsible for transportation service planning and development. Baltimore County has been engaged in planning the Towson Circulator service since 2015. An update to the Towson Circulator Feasibility Study, prepared by a consultant under contract to Baltimore County, was completed in September 2020. The new circulator is anticipated to launch in the Fall of 2021.

DPW led the development of the Baltimore County TDP; the Draft Final Plan will be presented to the County Council on February 2021. Near-term service expansions proposed in the TDP include evening CountyRide services and microtransit service in Owings Mills, with longer-range expansion of microtransit to other areas, Saturday CountyRide service, crosstown services, and a circulator in Owings Mills.DPW staff meet monthly with MDOT MTA service planners to discuss service planning issues for MDOT MTA services operated in Baltimore County.

MDOT MTA

MDOT MTA serves Baltimore County with all of the MDOT MTA services: BaltimoreLink, Light RailLink, Metro SubwayLink, Commuter Bus, MARC Train, and MobilityLink.

- **BaltimoreLink** – A total of 47 BaltimoreLink routes serve Baltimore County: 9 CityLink, 31 LocalLink and 7 Express BusLink routes.
- **Light RailLink** – A total of 10 stations are located within Baltimore County, mostly north of Baltimore City. Five stations are in Hunt Valley, three are in Lutherville, and two are in Halethorpe. 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.
- **Metro SubwayLink** – Three stations are located in Baltimore County: Owings Mills, Old Court Station in Pikesville, and Millford Mill Station in Lochearn. Metro SubwayLink 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.
- **Commuter Bus** – Two commuter bus routes stop in Baltimore County:
  - Route 411 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 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 and only at U.S. 40 and Ebenezer Rd on the five trips during the P.M. peak.

- **MARC Train** – A total of three stations are in Baltimore County: Halethorpe (Arbutus) and Martin Airport (Middle River) on the Penn Line and St. Denis (Arbutus) on the Camden Line. In response to the COVID-19 pandemic and its impact on ridership, MDOT MTA reduced MARC service beginning in November 2020. Currently, on weekdays Halethorpe is served by 18 northbound trains and 13 southbound trains (spanning 4:58 a.m. to 11:35 p.m., Martin Airport is served by eight northbound trains and five southbound trains (6:15 a.m.-7:36 p.m.), and St. Denis is served by three morning westbound trains and three evening eastbound trains (5:11 a.m.-7:51 p.m.). On weekends, only the Penn Line operates, and on a more limited schedule than on weekdays.
- **MobilityLink –** MDOT MTA's ADA complementary paratransit service, operates within ¾ mile of MDOT MTA bus routes (excluding commuter bus) as well as ¾ of a mile radius of an MDOT MTA Light Rail or Metro Subway station, during the same days and hours as the fixed route services. MobilityLink eligibility is limited to people with disabilities who are unable to use the fixed route service due to their disability. MobilityLink customers are also eligible to ride MDOT MTA's Call-a-Ride service, a demand-response service provided under contract by participating area taxicab and sedan companies within the same service area as MobilityLink.

Funding and Financial Data

The operating expenditure amounts reported in the 2019 NTD estimate operating expenses at $1 million and capital expenses at $112,000 (see Figure A-21). Baltimore County data, however, shows an additional nearly $800,000 spent in FY 2019. These expenses were covered by partnerships with area hospitals, ticket sales, and local County funds (see Figure A-22). Together with the $1,000,897 in grant-related expenses, CountyRide operating expenses totaled $1,793,329 in FY 2019, with Baltimore County funds covering $1,105,676—about 62% of the total.

Figure A-22 Additional General Fund FY2019 Financial Data Not Reported in the NTD

Additional General Fund FY2019 Operating Expenses	
Ticket Revenues	$36,089
Hospital Revenues	$28,463
Local Funds	$727,880
Total Additional Operating Funds Expended	**$792,432**

Figure A-21 FY2019 Financial Data Reported in the NTD – CountyRide

FY 2019 Operating Expenses	
Fare Revenues	$63,649
Local Funds	$377,796
State Funds	$421,551
Federal Assistance	$137,901
Total Operating Funds Expended	**$1,000,897**

FY 2019 Capital Expenses	
Local Funds	$112,008
State Funds	$0
Federal Assistance	$0
Other Funds	$0
Total Capital Funds Expended	**$112,008**

Source: National Transit Database

Community Statistics (2019)

Population: 827,370

Population density: 1,383.6 people per square mile

Top five employers:

- U.S. Social Security Administration (10,820 employees)
- University System of Maryland (6,525)
- Centers for Medicare & Medicaid Services (4,525)
- T. Rowe Price Group (4,200)
- Community College of Baltimore County (4,185)

Mean household income: $102,337

Residents below federal poverty level: 8.9%

Population aged 65+: 16.8%

Residents living in zero vehicle households: 7.7%

Percent minority: 39.4%

Travel to Work

Just over half (50.2%) of Baltimore County's workers over the age of 16 are employed within the county. Out-of-county work destinations include Baltimore City (28.6%), Anne Arundel County (6.0%), Howard County (5.8%), and Harford County (2.1%). The remaining 6% commute to other counties in Maryland, Pennsylvania, and Virginia, as well as the District of Columbia.[3] The mean travel time to work is 29.8 minutes (see Figure A-23). Notably, 5% of Baltimore County residents commute to work using public transportation.

Figure A-23 Baltimore County Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	**415,113**	
Car, truck, or van – drove alone	328,409	79%
Car, truck, or van – carpooled	36,339	9%
Public transportation (excluding taxicab)	19,150	5%
Walked	6,841	2%
Other means	6,320	2%
Worked from home	18,054	4%
Mean travel time to work (minutes)	**29.8**	

Source: ACS five-year estimates, 2015-2019

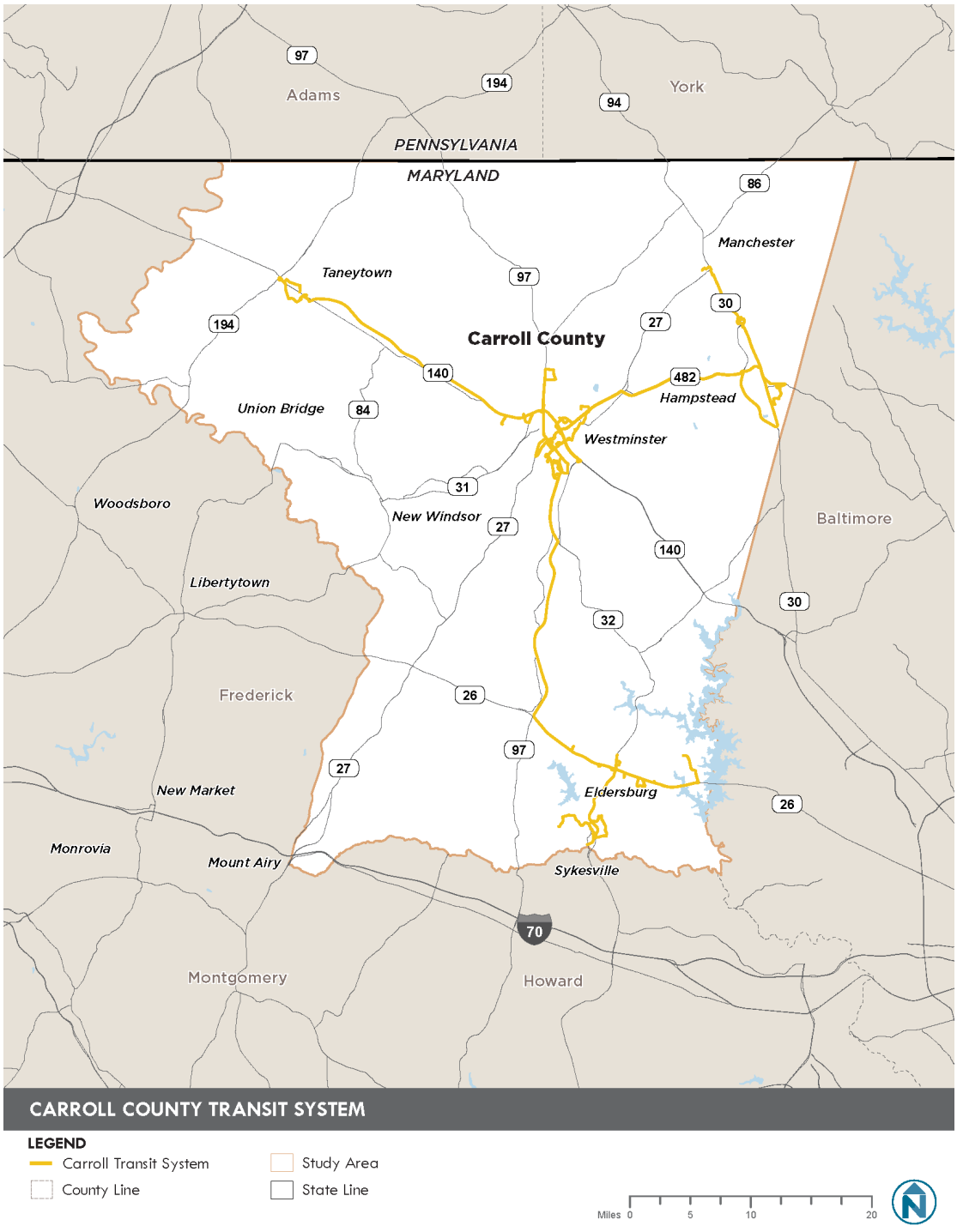
[3] U.S. Census, American Community Survey (ACS) five-year estimates, 2011-2015.

CARROLL COUNTY TRANSIT PROFILE

County Overview

Carroll County is in the north-central portion of Maryland and is bordered by Baltimore, Frederick and Howard counties and the State of Pennsylvania (see Figure A-24). Carroll County encompasses a land area of 447.6 square miles. The county seat is Westminster.

Figure A-24 Carroll County and LOTS Bus Routes



Transit Service Overview

Carroll Transit System

Public transportation in Carroll County is provided by the Carroll Transit System. The service began in 1974 as the Carroll Senior Overland Service (SOS) and was originally provided by the Carroll County Bureau of Aging and Disabilities. In 1984 SOS transitioned from the Bureau of Aging to form a non-profit, which was re-named the Carroll Area Transit System (CATS) in 1987. Carroll County contracted with CATS to provide public transportation services.

County oversight was provided by the Carroll County Department of Planning and then the Department of Citizen Services. CATS lost the contract through a competitive procurement in 2014 and in 2015 County oversight of the service was transitioned to the Department of Public Works.

The mission statement for the Carroll Transit System is:

"*Carroll Transit System is committed to providing safe, timely, service-oriented transportation for the residents of Carroll County. We strive to improve the quality and efficiency of the transportation system while providing excellent customer service. This includes our CTS Demand Response (reservation) service, Carroll Transit Shuttles and agency transportation*"[4]

Oversight and administration Carroll Transit is provided by the Carroll County Department of Public Works. One full-time staff person, the Transportation Grants Coordinator, administers the program, with support from other county staff as needed.

The operation of transit services is contracted to a private firm, Ride With Us, which is responsible for the day-to-day operation of the transit program. Ride With Us is the non-profit subsidiary of Butler Medical Transportation, which has a contract to provide transportation for the Medical Assistance Transportation Program run by the Carroll County Health Department.

The drivers are not represented by a Union.

The Carroll Transit System (CTS) operates three types of services for Carroll County:

- **Five deviated fixed routes (Trailblazers)** that focus on providing service from outlying communities to Westminster. These routes are:
  - **Westminster** – Purple
  - **Westminster** – Black
  - **Taneytown** – Green
  - **South Carroll** - Red
  - **North Carroll** – Orange
- **Demand response services** that provide door-to-door service throughout the county.
- **Veteran's Shuttle**, which provides service to the Veteran's Administration health facilities in Baltimore, Frederick (Fort Detrick), and Martinsburg, West Virginia.

[4] Carroll Transit System, Public Transit Riders Guide, 9/4/18, page 2.

Transit services are currently operating Monday through Friday from about 7:00 a.m. to 5:00 p.m.

Prior to the COVID-19 pandemic, the peak vehicle requirement was 29 vehicles. While the Trailblazer routes have recently added service, the demand-response program has been significantly reduced due to the pandemic and the current peak vehicle requirement is lower.

The transit program uses the Trapeze software program for reservations, scheduling, and dispatch. The program is also used for recordkeeping and reporting purposes. Drivers use tablets that are connected to Trapeze to record their trip information.

MDOT MTA

There are no MDOT-MTA public transportation services operated in Carroll County.

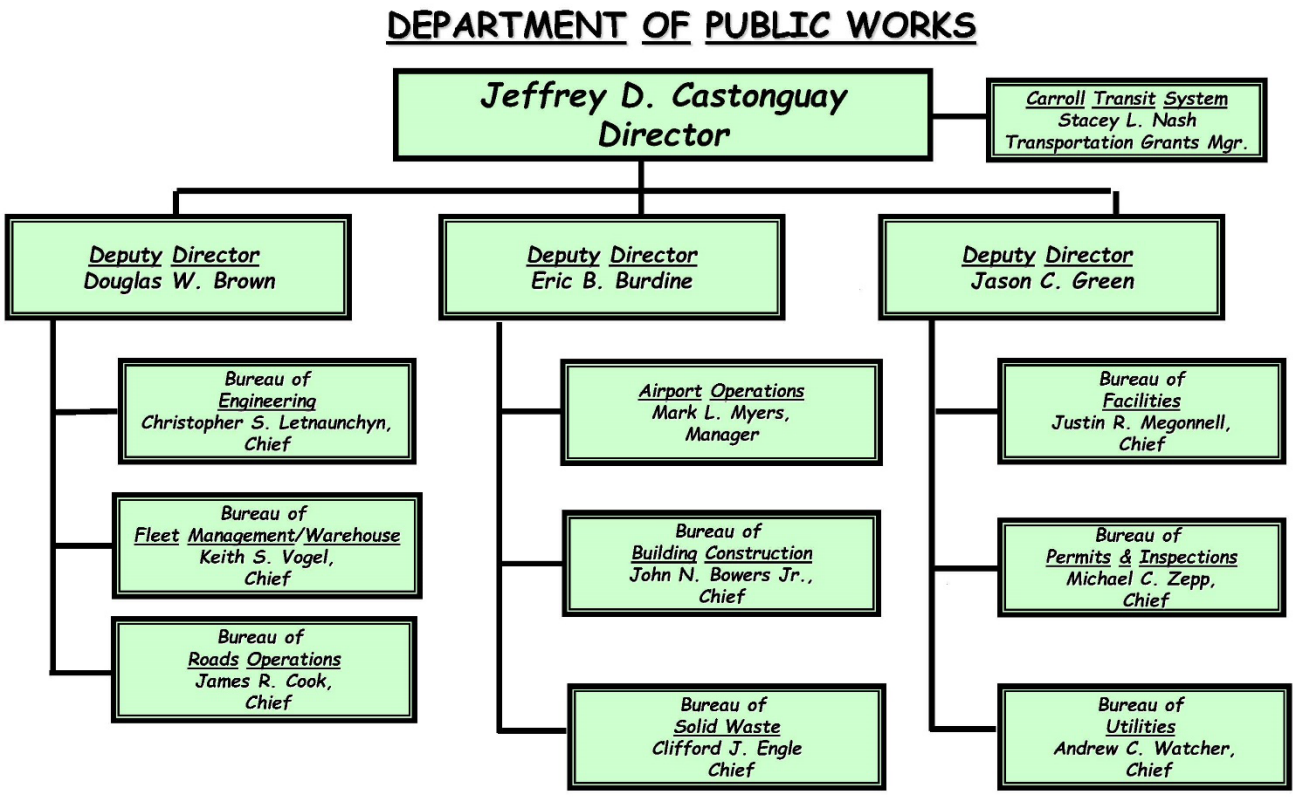
Transit Governance

Carroll Transit is a service of the Carroll County Department of Public Works. As a county service, the ultimate decision-making body for Carroll Transit Services is the Carroll County Commissioners (see Figure A-26).

Figure A-25 Carroll Transit System Fare Structure

Trailblazer Fares	One-Way Fare
Base Fare	$2.00
Senior Citizens, People with Disabilities, and Medicare Card Holders	$1.00
Deviations	$1.00
Demand Response Fares	**One-Way Fare**
Senior Citizens attending nearest Senior Center	$2.00
Dialysis outside of Westminster	$5.00
0-5 miles	$4.00
6-10 miles	$6.00
11-15 miles	$7.00
16-20 miles	$8.00
21-25 miles	$9.00
College Bus Pass	**Per Semester**
Option 1 - Trailblazer Routes	$80.00
Option 1 - Demand-Response	
Zones 1 & 2	$150.00
Zones 3 & 4	$175.00
Zone 5	$200.00

Figure A-26 Carroll Transit System Organizational Chart



Agency Responsibilities, Public Engagement, and Planning

The Transportation Grants Manager handles most grant-related compliance activities, including NTD reporting and serving as the primary point of contact for FTA triennial reviews and state oversight reviews. The contractor handles drug-testing responsibilities for the transit operating staff.

Carroll County has a Carroll County Transit Advisory Council (TAC) to provide input and guidance for transit services in the county. Members of the TAC are appointed by the Carroll County Commissioners and represent a variety of community transportation stakeholders. The TAC meets quarterly and holds periodic Transportation Summits.

CTS does not currently connect with any other transit programs.

As a result of significantly reduced demand for transportation during the pandemic from the group sites that CTS typically serves, CTS has been able to re-direct resources during to add two vehicles to the Westminster Trailblazer routes to reduce the headways. CTS also re-configured the North Carroll and South Carroll Trailblazer routes to improve service.

Funding and Financial Data

Transit budgets are developed by Transportation Grants Coordinator; this budget is adjusted based on expected federal and state grants. The Board of Commissioners have the final budgetary authority for the program. In FY 2019, Carroll County spent $2.6 million on operations and just under $200,000 on capital investments (see Figure A-27).

Figure A-27 FY 2019 Financial Data – Carroll Transit System

FY2019 Operating Expenses	
Fare Revenues	$571,746
Local Funds	$1,057,936
State Funds	$381,845
Federal Assistance	$568,348
Other Funds	$49,900
Total Operating Funds Expended	**$2,629,775**

FY 2019 Capital Expenses	
Local Funds	$27,417
State Funds	$19,168
Federal Assistance	$153,355
Other Funds	$0
Total Capital Funds Expended	**$199,940**

Source: National Transit Database

Community Statistics (2019)

Population: 168,447

Population density: 376.3 people per square mile

Top five employers:

- Carroll Hospital Center in Westminster (1,995 employees)
- McDaniel College (Westminster – 800)
- Penguin Random House (Westminster – 755)
- Integrace (now ACTS) (700)

Mean household income: $114,528

Residents below federal poverty level: 5.1%

Population aged 65+: 16.4%

Residents living in zero vehicle households: 4.6%

Percent minority: 9%

Figure A-28 Carroll County Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	86,353	
Car, truck, or van -- drove alone	73,211	85%
Car, truck, or van -- carpooled	5,578	6%
Public transportation (excluding taxicab)	683	1%
Walked	1,091	1%
Other means	489	1%
Worked from home	5,301	6%
Mean travel time to work (minutes)	**36.2**	

Source: ACS five-year estimates, 2015-2019

Figure A-29 Commuting Patterns—Carroll County

Work Location	Carroll County Workers 16 and Over	
	#	%
Carroll County	39,419	45.5%
Baltimore County	14,929	17.2%
Howard County	8,617	9.9%
Baltimore city	6,129	7.1%
Anne Arundel County	5,049	5.8%
Montgomery County	3,998	4.6%
Frederick County	3,102	3.6%

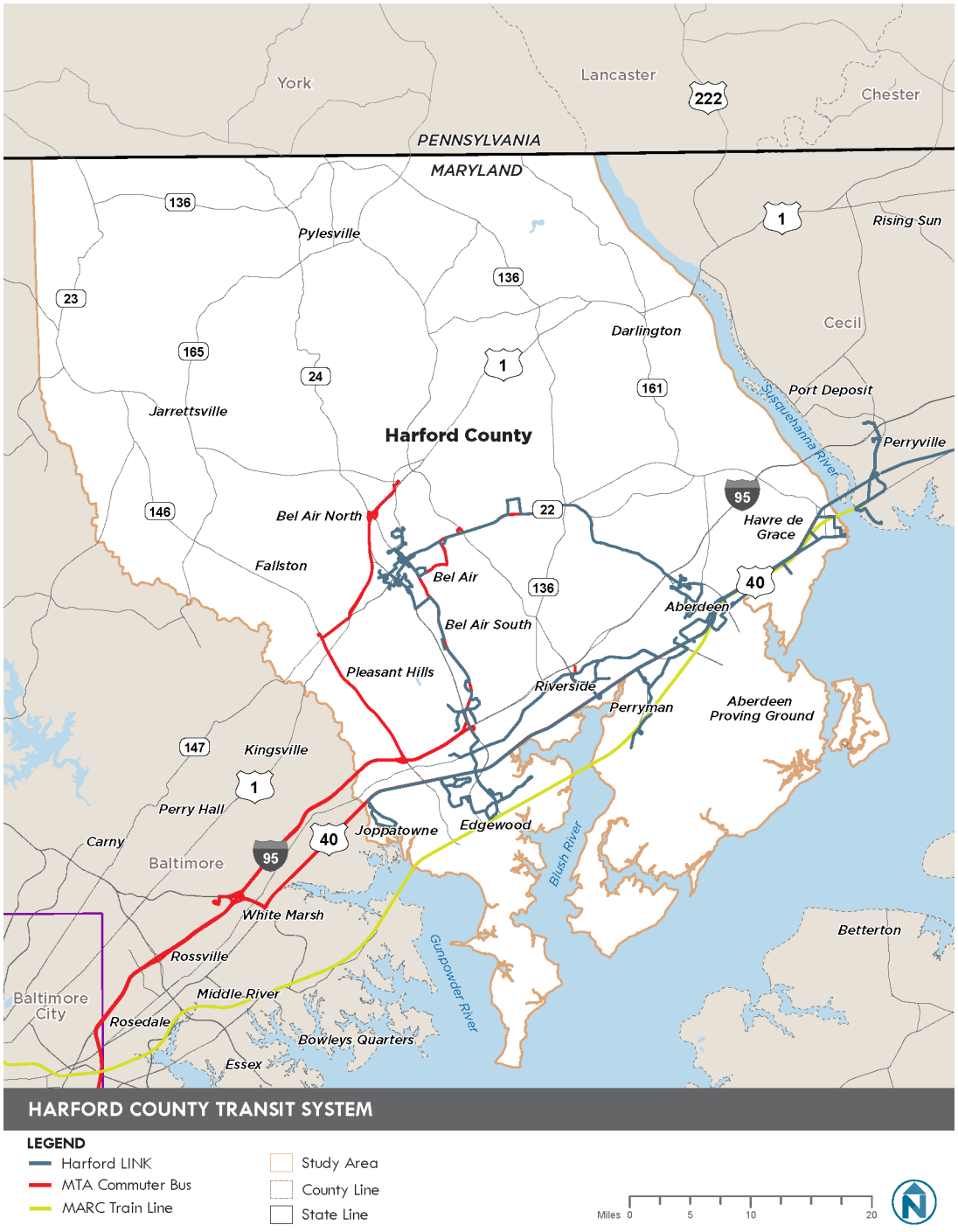
Source: ACS five-year estimates, 2015-2019

HARFORD COUNTY TRANSIT PROFILE

Overview

Harford County is located in northeastern Maryland on the western shore of the Chesapeake Bay. It is bordered by the Susquehanna River to the east, the State of Pennsylvania to the north, Baltimore County to the west, and the Chesapeake Bay to the south. Harford County encompasses a land area of 437 square miles. The county seat is Bel Air (see Figure A-30).

Figure A-30 Harford County and LOTS Bus Routes



Transit Service Overview

Harford Transit LINK

Harford Transit LINK provides public transportation in Harford County. The system began in 1973 as a service of the Harford County Office on Aging. As the program grew it transitioned from the Office on Aging to a separate agency within the Department of Community Services (2005). In 2014 the agency was moved to the Office of Economic Development. In 2018, the County merged the Department of Community Services and the Office of Economic Development and Harford Transit LINK became a department under the new merged agency. Service is directly operated by County employees.

Harford Transit LINK's mission is to provide "*the public with a safe and efficient transportation system that increases access and mobility, reduces congestion, improves the environment and supports economic development, thereby enhancing the quality of life throughout Harford County*."

Harford Transit Link operates seven fixed routes that focus on providing service for the more populated corridors and municipalities in the County. These routes are:

- **Route 1:** Green Line (Havre de Grace, Aberdeen, Bel Air)
- **Route 2:** Blue Line (Bel Air, Abingdon, Edgewood)
- **Route 3:** Silver Line (Aberdeen, Edgewood, Joppatowne)
- **Route 4:** Yellow Line (Aberdeen Circulator)
- **Route 5:** Teal Line (Aberdeen, Perryville, Havre de Grace, Perryman)
- **Route 6:** Orange Line (Bel Air Circulator)
- **Route 7:** Red Line (Aberdeen, Riverside, Edgewood)

Two of the routes (Routes 4 and 6) have been suspended during the pandemic and service frequency has been reduced on the remaining five routes. Harford Transit LINK expects to resume full service once all of the vehicle operators have been fully vaccinated against COVID-19.

Harford Transit also operates two categories of demand response service, including:

- ADA complementary paratransit to support the fixed routes.
- Broader demand response service for seniors and people with disabilities. Services are primarily provided south of U.S.1 for this service.

In addition to directly providing these transit services, Harford Transit Link also operates a commuter assistance program.

Transit services are currently operating Monday through Friday from about 5:00 a.m. to 6:30 p.m. Prior to the pandemic service was provided until 10:00 p.m. on five of the seven routes.

Harford Transit LINK requires 28 vehicles to provide peak service.

Harford Transit LINK uses RouteMatch software to coordinate services. The software uses real-time vehicle locations to measure on-time performance. Each vehicle's automated passenger counters (APCs) feed into RouteMatch to measure system productivity. For customers, LINK provides the RouteShout app, which can display real-time arrival information for any Harford Transit LINK stop. Adult one-way fares are set at $1.00 (see Figure A-31). The agency also uses Token Transit, which allows fares to be pre-paid via a smart phone application.

Figure A-31 Harford Transit LINK Fare Structure

Fixed Route Service	
General Public	$1.00
Persons Ages 60 and Over (with a Medicare card or other ID indicating age)	$0.50
Persons with Disabilities (who have a Harford Transit reduced-fare card or ADA certification)	$0.50
Children under 46 inches in height	Free

Demand Response & ADA Paratransit Service	
Demand Response Service Fares	$2.00
Seniors Traveling Only To or From Harford County Senior Activity Centers	$1.00

Token Transit Passes	
All-Day General Public Pass	$3.00
All-Day Senior/Disabled Pass	$1.50
5-Day General Public Pass	$15.00
5-Day Senior/Disabled Pass	$7.50

MDOT MTA

There are three MDOT MTA commuter bus routes that serve Harford County. These are:

- **Route 410** - originates in Churchville at the Campus Hills Shopping Center near Harford Community College and serves stops in Bel Air and along MD 924 before traveling to downtown Baltimore. There are five morning trips into Baltimore and four afternoon trips back to Harford County.
- **Route 411** - links park and ride lots along US 1 and MD 152 with downtown Baltimore and Johns Hopkins University. There are five morning trips into Baltimore and five afternoon trips back to Harford County.
- **Route 420** - links Havre de Grace, Aberdeen, Belcamp, Edgewood, and Joppa with downtown Baltimore. There are five morning trips into Baltimore and five afternoon trips back to Harford County. There is also an early afternoon northbound trip on Fridays and on the day before holidays.

The Maryland Area Regional Commuter (MARC) train system serves Harford County, with stops in Edgewood and Aberdeen. Trains travel south through Baltimore to Washington, D.C. and north to Perryville, in Cecil County across the Susquehanna River from Havre de Grace. There are currently a total of seven northbound trains and six southbound trains that serve Harford County stations (M-F).

Transit Governance

Harford Transit LINK is a department within the Harford County Office of Community and Economic Development (see Figure A-33) for an organizational chart). Prior to the pandemic, the agency was in the process of forming a coordinating council/transit advisory committee. It is

anticipated that this effort will resume post-pandemic. Harford County does not currently have a transit advisory committee.

Agency Responsibilities, Public Engagement, and Planning

The Administrative Supervisor handles most federal and state compliance tasks. Harford County's Human Resources department handles drug testing responsibilities.

The formal engagement process for Harford Transit LINK is the publication of the annual notices each year as part of the grant application process. Less formal public engagement occurs through a variety of civic meetings that are attended by Harford Transit LINK staff.

While the Harford County LINK schedules are not coordinated with the MDOT-MTA Commuter Bus schedules, the two agencies are jointly working to combine bus stops where applicable.

Harford Transit LINK has bus stops at the two MARC stations in the County (Aberdeen and Edgewood), as well as the Perryville station in Cecil County. Local transit services are not specifically timed with the MARC train schedule. The Aberdeen Train Station serves as a service hub for four of the Harford Transit LINK routes (Routes 1,3,5 and 7).

Direct connections are made between Harford Transit LINK and Cecil Transit, and the Harford service extends into Cecil County as far as the Amazon warehouse, which is located along U.S. Route 40, about 4 miles east of Perryville.

In 2018 Harford County LINK completed a five-year Transit Development Plan (TDP) with funding and consultant assistance through MDOT-MTA. The plan included a major overhaul of the fixed routes that resulted in the development of a timed-transfer hub at the Aberdeen Train Station. These changes significantly reduced headways and increased ridership by about 20% pre-pandemic.

In addition to the route changes, the hours of service were also extended on five of the routes until 10:00 p.m. This change has been curtailed during the pandemic but will likely be reinstated post-pandemic. The next service improvement is slated to be Saturday service, though there will not likely be funding for to implement this improvement until the economy has recovered from the pandemic.

Harford Transit LINK does not have a funding model but does prepare five-year budget plans to help forecast financial needs. The annual budget is prepared and follows the County's budget process.

Funding and Financial Data

In FY 2019 the operating expenses for Harford Transit LINK was $4.9 million (see Figure A-32). Capital expenditures amounted to just over $1 million.

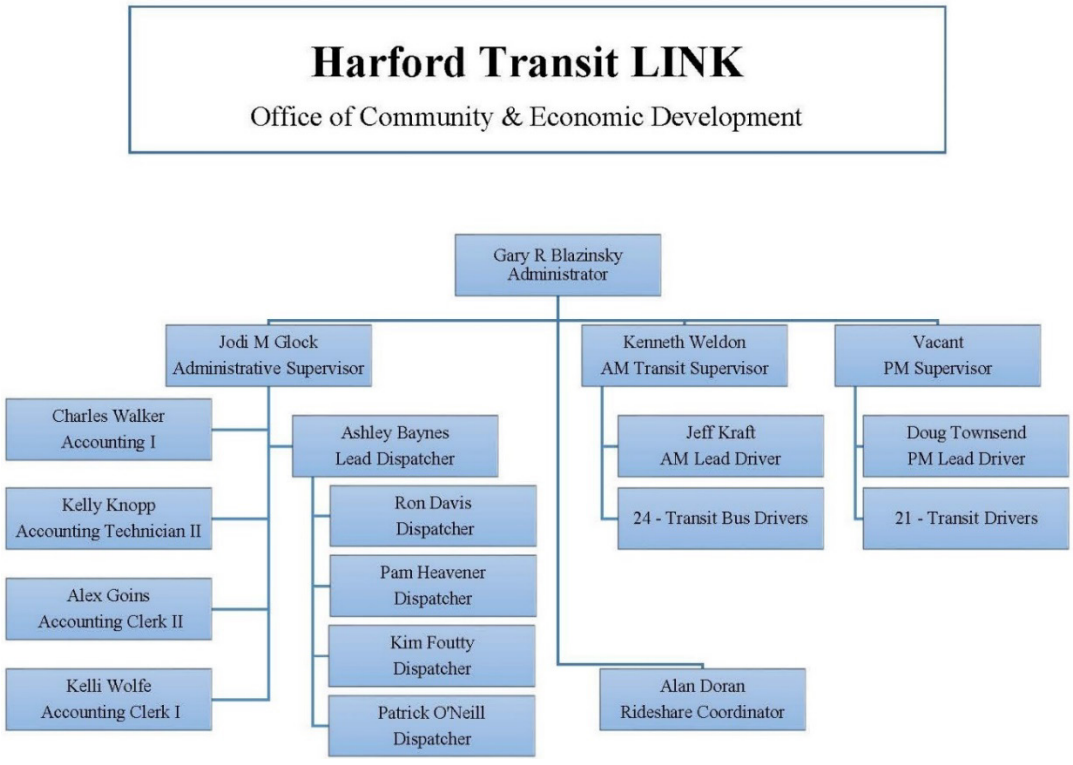
Figure A-32 FY 2019 Financial Data – Harford Transit LINK

FY 2019 Operating Expenses	
Fare Revenues	$306,097
Local Funds	$1,983,802
State Funds	$662,760
Federal Assistance	$1,977,664
Total Operating Funds Expended	**$4,930,323**

FY 2019 Capital Expenses	
Local Funds	$105,261
State Funds	$105,261
Federal Assistance	$842,079
Other Funds	$8,868
Total Capital Funds Expended	**$1,061,469**

Source: National Transit Database

Figure A-33 Harford County LINK Organizational Chart



Community Statistics (2019)

Population: 255,441

Population density: 584.5 people per square mile

Top five employers:

- U.S. Army's Aberdeen Proving Ground (APG) (21,000 employees)
- University of Maryland's Upper Chesapeake Health (Bel Air - 3,300)
- Kohl's E-Fulfillment Center (Edgewood - 1,200)
- Rite Aid Mid-Atlantic Customer Support (Perryman - 1,030)
- Harford Community College (Bel Air - 1,000)

Mean household income: $108,305

Residents below federal poverty level: 6.7%

Population aged 65+: 15.8%

Residents living in zero vehicle households: 4.9%

Percent minority: 21.4%

The mean travel time to work for Harford County residents was 32 minutes (see Figure A-34). Just over half (55.4%) of Harford County's workers over the age of 16 stay within Harford County for employment (see Figure A-35). Most Harford County residents leaving the county for work travel to Baltimore County and Baltimore City.

Figure A-34 Harford County Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	129,751	
Car, truck, or van -- drove alone	108,706	83.8%
Car, truck, or van -- carpooled	10,373	8.0%
Public transportation (excluding taxicab)	1,716	1.3%
Walked	1,451	1.1%
Other means	1,042	0.8%
Worked from home	6,463	5.0%
Mean travel time to work (minutes)	**32**	

Source: ACS five-year estimates, 2015-2019

Figure A-35 Harford County Commuting Patterns

	Harford County Workers 16 and over	
Work Location	Number	Percent
Harford County	69,927	55.4%
Baltimore County	25,929	20.5%
Baltimore city	17,386	13.8%
Anne Arundel County	3,420	2.7%
Howard County	1,980	1.6%
Cecil County	1,831	1.4%

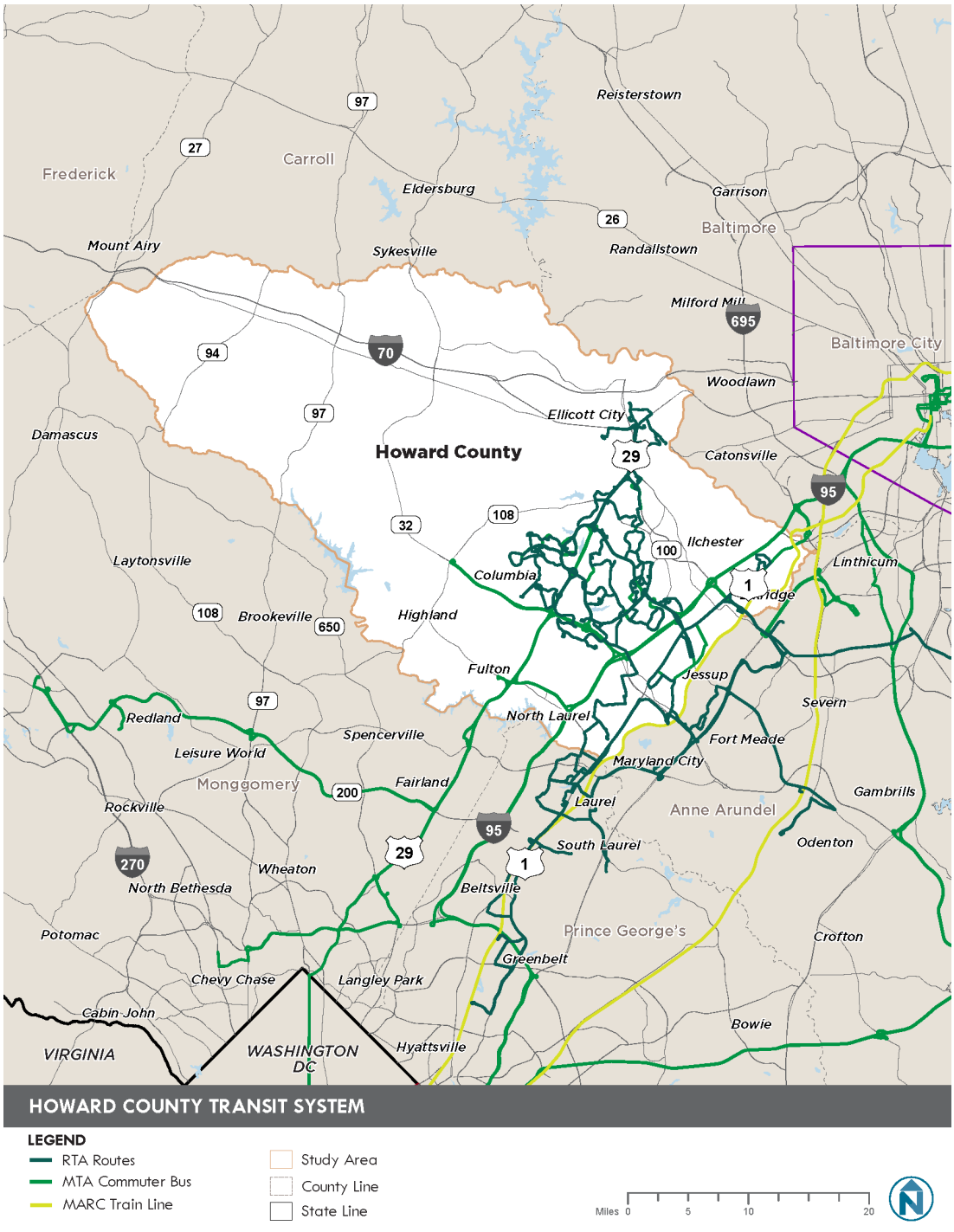
Source: ACS five-year estimates, 2015-2019

HOWARD COUNTY TRANSIT PROFILE

Overview

Howard County is in central Maryland in the southwest corner of the Baltimore region, bordered by the Anne Arundel, Carroll, Baltimore, Prince George's, and Montgomery counties. Howard County covers 251 square miles; the county seat is Ellicott City (see Figure A-36).

Figure A-36 Howard County and LOTS Bus Routes



Transit Service Overview

Regional Transportation Agency of Central Maryland

Local public transportation in Howard County is provided by the Regional Transportation Agency of Central Maryland (RTA). Howard County contracts with the RTA for local bus service (with oversight provided by the Howard County Office of Transportation. Howard County has been providing public transportation since 1967, but the County role in overseeing the provision of public transportation dates from 1996.

The Office of Transportation manages and oversees the contract under which the Regional Transportation Agency (RTA) provides fixed route bus and paratransit services in Howard County, Anne Arundel County, Prince George's County, and the City of Laurel. Funding is shared by the partner jurisdictions with support from federal and state sources to offset the gap between farebox and other revenues and capital and operating costs.

Eleven fixed routes are provided, along with ADA complementary paratransit. General paratransit services (GPT) are also provided for Howard County residents who are unable to use the fixed routes due to a disability or age.

RTA operates eleven fixed routes that focus on providing service for the more populated corridors and neighborhoods of Howard County, serving the more densely population eastern half of the County. The routes also service to connect key activity centers in the region, linking Columbia with Ellicott City, Laurel, and Arundel Mills. These routes are:

- **Route 301:** Towne Centre Laurel and South Laurel.
- **Route 302:** Town Centre Laurel, Greenbelt Metro Station, and Laurel Main Street.
- **Route 401:** Clary's Forest, Harper's Choice, Mall in Columbia
- **Route 402:** Mall in Columbia, Columbia Medical Campus, Shalom Square, Dobbin Center
- **Route 403:** Mall in Columbia, Dorsey Hall, Columbia 100 Parkway
- **Route 404:** Mall in Columbia, Hickory Ridge Place, Atholton High School, Hickory Ridge Village Center
- **Route 405:** Mall in Columbia, Government Center, Ellicott City Walmart, EC Senior Center
- **Route 406** (not operating as of February 2021): Mall in Columbia, Broken Land Parkway, Snowden Square, Columbia Gateway
- **Route 407:** Mall in Columbia, Oakland Mills Village Center, Owen Brown Village Center, Snowden Square, Kings Contrivance Village Center
- **Route 408:** Mall in Columbia, Dobbin Center, Snowden Square, Waterloo Park
- **Route 409:** Towne Centre Laurel, Savage MARC Station, MD Food Center, Elkridge Corners Shopping Center
- **Route 414:** (not operating as of February 2021): Mall in Columbia, Howard Community College, Old Columbia Road Circle, Kings Contrivance Village Center
- **Route 501:** Mall in Columbia, Dobbin Center, Snowden Square, MD Food Center, Dorsey MARC Station, Arundel Mills
- **Route 502:** Town Centre Laurel, Savage MARC, Arundel Mills Mall

- **Route 503:** Mall in Columbia, Owen Brown Village Center, North Laurel Community Center, Towne Centre Laurel

Two of the routes (Routes 406 and 414) have been suspended during the pandemic.

RTA Transit also operates two categories of demand response service (RTA Mobility) for those unable to ride RTA fixed route transit system due to a disability or age, including:

- ADA complementary paratransit where required, and
- General paratransit (GPT) for persons with disabilities over age 18, and persons over the age of 60. Riders must pre-register to schedule trips.

The GPT services are not restricted to within ¾ mile of the fixed routes, but each rider is only permitted to use the service for one round-trip per day.

RTA Transit services are currently operating Monday through Friday, with limited service on Saturday and Sunday on some routes, from about 6:00 a.m. to 9:00 p.m. Adult one-way fares are $2.00 (see Figure A-37).

For fixed route peak service, Howard County required 27 vehicles before COVID and currently require 23 vehicles (during COVID). For paratransit service, Howard County required 21 vehicles before COVID and currently require 17 vehicles.

Figure A-37 RTA Fare Structure (Effective January 2, 2021)

Fixed Route Service	
General Public	$2.00
Children Age 5 and Under	Free
Seniors 60+ years of age or Persons with a Disability (with ID)	Free

RTA Mobility Demand Response Service	
ADA Fares	$4.00
General Paratransit (GPT)	$5.00
10-Ride Ticket Book	$35.00
GPT 10-Ride Ticket Book	$50.00

Transit Passes	
All-Day General Public Pass	$5.00
Monthly Pass	$40.00
10-Ride Ticket Booklet	$15.00
Monthly Student Pass (with student ID)	$20.00

The RTA uses a variety of technologies:

- **Fareboxes** - RTA buses have manual drop fareboxes, but the agency is transitioning to mobile ticketing scheduled to be launched in March 2021. Mobile ticketing will be integrated with Transit App to provide real-time arrival information, trip planning, and mobile ticketing on a single platform.
- **Real-Time Information** – Fixed routes buses uses Swiftly to provide real-time bus and trip planning. In addition to being available on Transit App, it is also on other platforms such as Google transit. Riders without a smartphone can also use SMS texting at bus stops for bus arrival times.
- **Automatic Passenger Counters (APC)** - RTA has APCs on all vehicles and is testing integration with Swiftly's data management systems to provide crowding data.
- **Scheduling Software** – RTA uses Routematch to schedule and dispatch demand response services.
- **Bus stop annunciators** – Scheduled for FY 2022.

RTA vehicles operate from the Central Maryland Transit Operations Facility; a facility developed jointly with Anne Arundel County. The facility was built in 2014-15 and is a LEED Silver Certified Facility with a capacity of 104 buses. It was recently modified to support electric buses, as the RTA has three fully electric vehicles in service.

MDOT MTA Services

MTA operates nine fixed routes that operate on populated corridors and in larger municipalities in Howard County with destinations including Baltimore (two routes) and Washington, D.C., or the Maryland suburbs of Washington (seven routes):

- **ExpressLink 150** operates between Baltimore and Mall in Columbia, with five westbound and eastbound trips.
- **Route 203** operates between Snowden River Park & Ride, Mall in Columbia, and Rockville Pike & North Wood Rd. There are three southbound trips and one northbound trip in the p.m.
- **Route 305** operates between Mall in Columbia, Silver Spring, and Washington D.C. There are six southbound trips and one northbound trip in the p.m.
- **Route 310** operates between Mall in Columbia and Baltimore, with four southbound trips and one northbound trip in the p.m.
- **Route 315** operates between Mall in Columbia and Washington, D.C., with three southbound trips and northbound trips.
- **Route 320** operates between Laurel and Snowden River Park & Ride, with three northbound and southbound trips.
- **Route 325** operates between Harpers Farm Road & Cedar Lane, Mall in Columbia, and Washington, D.C., with two southbound trips and northbound trips.
- **Route 335** operates between Clarksville Park & Ride, Broken Land Park & Ride, and 18th St. & M St. NW. There are four southbound trips and northbound trips.
- **Route 345:** Long Gate Park & Ride, Snowden River Park & Ride and Washington, D.C. There are four southbound trips and five northbound trips.

Route 201 traverses Howard County but has no stops in it. These commuter routes all operate in peak hours on weekdays, with limited opportunities for mid-day return trips. The fare levels are higher—MTA Commuter Bus fares are zoned, and many of the Howard County stops are in Zone 2, with a base cash fare of $4.00, and a variety of multi-ride tickets and passes, and reduced fares for seniors and persons with disabilities. In addition to key transfer points, many of the MTA commuter bus routes deviate into residential areas and serve stops shared with or near RTA stops, though there is not any coordination of schedules.

MARC's Camden Line also serves Howard County with stops in Dorsey and Savage, providing peak hour commuter rail service with three morning trips to Washington's Union Station, and one to Baltimore's Camden Yards station—and the reverse in the evening.

Transit Governance

The Office of Transportation is part of the County's Department of Administration, reporting to the Executive. The Office of Transportation's primary focus is to increase the efficiency and effectiveness of public transportation services, walking, and bicycling in and around Howard

County and ensure that connectivity is front and center in land use planning and site development.

The Office oversees the following programs:

- Public Transportation
- Bicycle and Pedestrian Planning and Implementation: BikeHoward and WalkHoward
- Transportation Demand Management
- Transportation Plans and Projects
- Howard County Multimodal Transportation Board
- Transit and Pedestrian Advisory Group
- Bicycle Advisory Group
- Complete Streets Policy Implementation
- Boards and Advisory Groups

The Office of Transportation staffs one board—the Multimodal Transportation Board—and two advisory groups: Bicycle Advisory Group and Transit and Pedestrian Advisory Group.

The Office of Transportation assigns 2.0 FTE to transit services, comprised of four part-time staff:

- Director responsible for operations management and planning,
- Planner responsible for bus stop improvements
- Planner for transit planning projects
- Administrative staff member and another planner assisting with initiatives, marketing, and community outreach.

The Office of Transportation oversees Howard County's contract with the RTA, the operator of the transit services. The RTA staff includes:

- Management – 3 (FT)
- Administration - 16 (FT) and 6 (PT)
- Dispatchers – 2 (FT)
- Street Supervisors – 7(FT)
- Mechanics – 18 (FT)

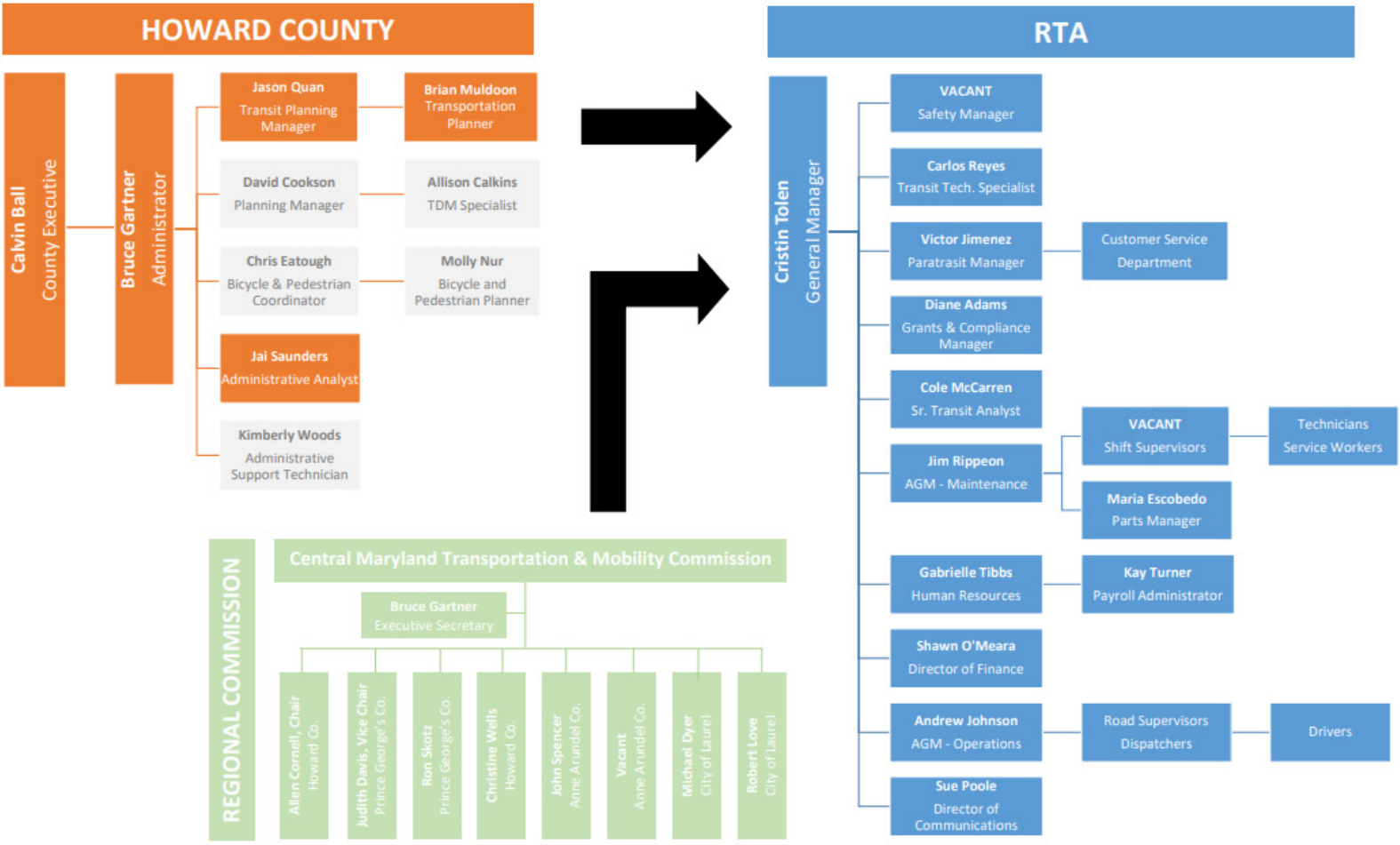
The structure of the RTA is somewhat unique in Maryland because it is designed as a regional response to the multi-jurisdictional travel patterns (see Figure 2). Both Howard County and the Central Maryland Transportation and Mobility Commission (CMTMC) support the RTA and the Transit Management of Central Maryland, Inc. (TMCM). The RTA contracts with a private provider for service.

The CMTMC is a regional group comprised of two representatives from participating entities (Howard County, Anne Arundel County, the City of Laurel and Prince George's County). The CMTMC is responsible for promoting the interests of the parties in providing transit services by the RTA and has its own by-laws. The CMTMC functions to coordinate service policies among the jurisdictions.

Funding for the RTA comes through the Howard County Office of Transportation, which oversees the contract with the RTA. The RTA management fee is shared between Howard County and the CMTMC. The RTA is unionized, with employees represented by the Teamsters.

Howard County's budget is developed by the Office of Transportation with input from the Howard County Multimodal Transportation Board (MMTB) and Transit and Pedestrian Advisory Group, along with the CMTMC. It is reviewed and with changes as needed is included in the overall budget submission from the County Executive to the County Council. The ultimate policy board is the Howard County Council.

Figure A-38 Howard County Transit Organizational Chart



Transit Funding and Financial Data

Expenditure data, as published in the National Transit Database, show that the Howard County RTA spent $14.7m in operating funds and $59,000 on capital (see Figure A-39). County budgets, however, show different numbers (see Figure A-40). Differences likely reflect procurements that have not been completed.

Howard County obtains funding from the MTA for both operations and capital, but most funding comes from general funds. However, local funding includes support from Anne Arundel County to support shared services and a portion of the RTA management fee. Howard County is also funded from MDOT under the Washington transit program, to support services in the City Laurel, which is in the Washington region. Howard County also received MTA Rideshare program funding to support Transit Demand Management initiatives, including the rideshare program.

Figure A-39 FY2019 Financial Data – Howard County RTA

FY 2019 Operating Expenses	
Fare Revenues	$1,154,506
Local Funds	$9,546,869
State Funds	$4,061,751
Federal Assistance	$0
Total Operating Funds Expended	**$14,763,148**

FY 2019 Capital Expenses	
Local Funds	$58,916
State Funds	$0
Federal Assistance	$0
Other Funds	$0
Total Capital Funds Expended	**$58,916**

Source: National Transit Database FY 2019

Figure A-40 Howard County Transit Budget FY 2019 Actuals from FY 2021 Approved Budget

	Total Expense	Fare and Other Program Revenue	MTA Grants	Local Funding
Operating Budget				
Operating Contract	$15,355,658	$2,453,309	$4,268,698	$8,633,651
Bus Lease	$514,346			$514,346
Personnel	$1,021,642		$ 187,028	
Total Operating	**$16,891,646**	**$2,453,309**	**$4,455,726**	**$9,147,997**
Capital Budget				
Bus and Shelters	$1,467,646		$657,000	$810,646
Total Capital	**$1,467,646**		**$657,000**	**$810,646**
FY 2019 Totals	**$18,359,292**	**$2,453,309**	**$5,112,726**	**$9,958,643**

Agency Responsibilities, Public Engagement, and Planning

The County Office of Transportation is responsible for compliance with federal and state regulations. This includes overseeing the contractor to ensure compliance, developing, and maintaining required policies, reporting, and responding to periodic MTA compliance reviews. The contractor is primarily responsible for bus and paratransit operations, including operations, supervision, vehicle, and facility maintenance. The operators are employees of the contractor, who has drug and alcohol compliance responsibility.

The Office of Transportation also staffs the County's Multimodal Transportation Board, the Transit and Pedestrian Advisory Group, and a Bicycle Advisory Group. It also provides staff support for the Central Maryland Transportation and Mobility Commission, the joint board providing guidance for transit in the region.

Other initiatives besides oversight of all non-highway transportation projects include a role in the development of Howard County's MDOT Priorities Letter, expressing County priorities for transportation projects of all modes.

RTA routes connect with those of other transit systems at several locations. Key transfer points include the Mall in Columbia, Snowden River Park and Ride, Town Centre Laurel, Arundel Mills Mall, and Lotte Plaza. There are connections to WMATA Metrobus services at Town Centre Laurel, to MTA Commuter Buses at Snowden River Parkway and the Mall in Colombia, and to MTA LocaLink and Commuter Bus service at Arundel Mills.

There are free transfers to/from other RTA routes and Anne Arundel County routes, but none with MTA or WMATA services. There is no ongoing process for service coordination development with MTA, though the CMTMC is a forum for coordination policies with Prince George's and Anne Arundel Counties and staff do meet to address service changes.

Howard County prepares a Transit Development Plan (TDP) every five years with MTA support. The last plan, completed in 2018, was done jointly with the Central Maryland Regional Transit Development Plan and Anne Arundel County. It called for a two-phase implementation.

- **Phase I:** increase service by 22,900 service hours to improve frequencies, add evening and weekend service, plus a realignment of routes. Actual FY 2019 service hours are below the FY 2017 base, though many of the realignments have taken place. Other initiatives include Bus Rapid Transit planning and a new central transfer point.
- **Phase II:** add five new routes (39,388 revenue hours). This has not yet been implemented.

Community Statistics (2019)

Population: 325,690

Population density: 1,297.6 people per square mile

Top five employers:

- Johns Hopkins University's Applied Physics Laboratory (6,400 employees)
- Howard County General Hospital (1,765)
- Verizon (1,700)
- Howard Community College (1,410)
- Lorien Health Systems (1,190)

Mean household income: $150,203

Residents below federal poverty level: 5.0%

Population aged 65+: 13.4%

Residents living in zero vehicle households: 3.8%

Percent minority: 50%

Figure A-41 Means of Transportation to Work and Mean Travel Time—Howard County

Commuting to Work	Number	Percent
Workers 16 years and over	169,339	
Car, truck, or van -- drove alone	136,567	80.6%
Car, truck, or van -- carpooled	12,429	7.3%
Public transportation (excluding taxicab)	6,050	3.6%
Walked	1,688	1.0%
Other means	2,046	1.2%
Worked from home	10,559	6.2%
Mean travel time to work (minutes)	**31.2**	

Source: ACS five-year estimates, 2015-2019

Howard County residents spend an average of 31.2 minutes commuting (see Figure A-41). Roughly 40.7% of Howard County's workers over the age of 16 stay within Howard County for employment (see Figure A-42). County residents travel to several other jurisdictions for work in roughly equal numbers, including Anne Arundel County.

Figure A-42 Commuting Patterns-Howard County

County	State	Work Location	Number	Percent
Howard County	Maryland	Howard County	65,811	40.7%
Howard County	Maryland	Anne Arundel County	17,598	10.9%
Howard County	Maryland	Baltimore city	17,104	10.6%
Howard County	Maryland	Montgomery County	16,240	10.0%
Howard County	Maryland	Prince George's County	14,783	9.1%
Howard County	Maryland	Baltimore County	12,784	7.9%
Howard County	District of Columbia	District of Columbia	9,226	5.7%
Howard County	Virginia	Fairfax County, VA	1,858	1.1%
Howard County	Maryland	Carroll County	1,465	0.9%

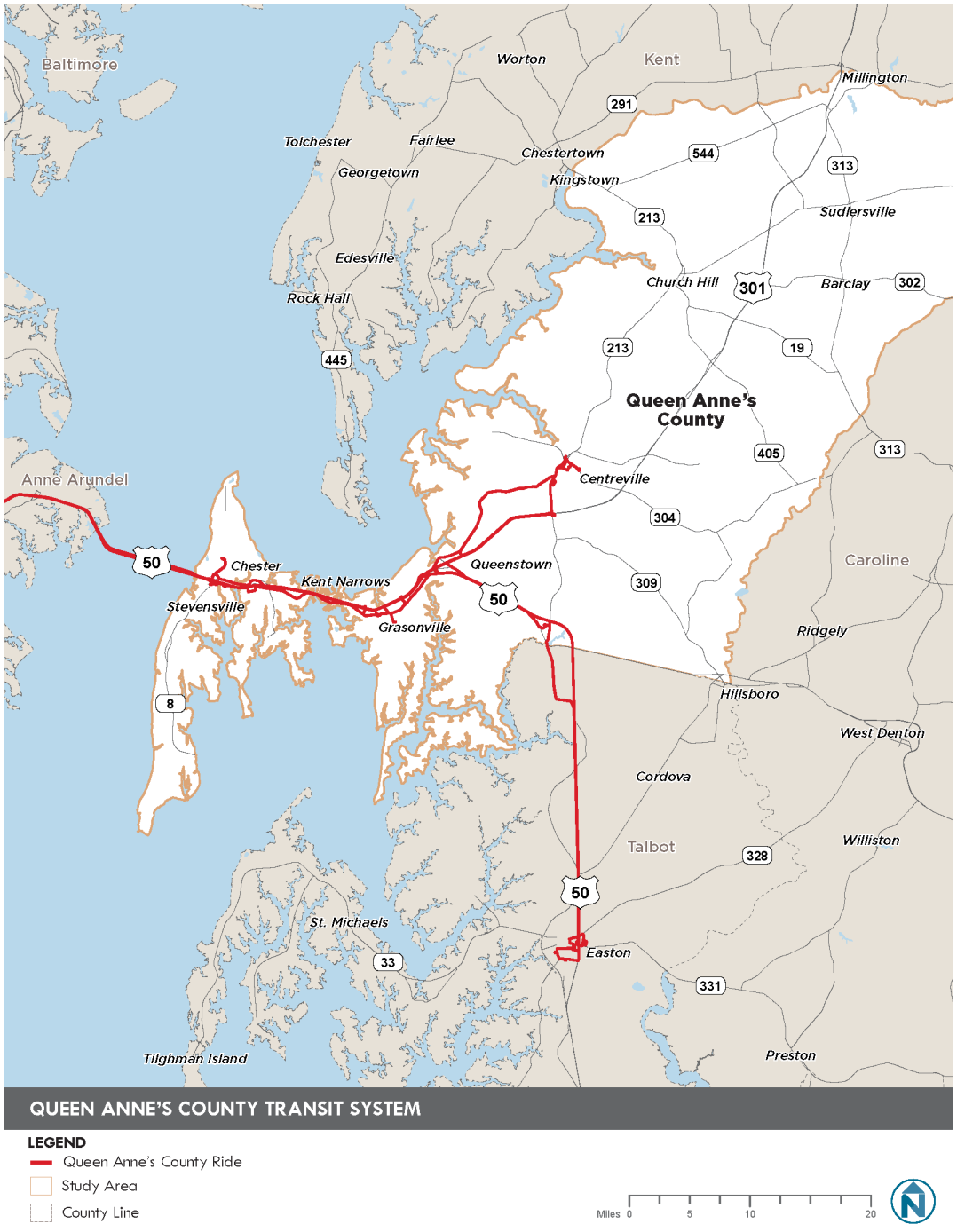
Source: U.S. Census Bureau, ACS, 2011-2015

QUEEN ANNE'S COUNTY TRANSIT PROFILE

Overview

Queen Anne's County is located on Maryland's Eastern Shore and is bordered by the Chesapeake Bay to the west; Kent County to the north; the State of Delaware and Caroline County to the East and Talbot County to the south (see Figure A-43). Queen Anne's County covers 372 square miles; the county seat is Centreville, though the major population base is located on Kent Island.

Figure A-43 Queen Anne's County and LOTS Bus Routes



Transit Services

Queen Anne's County Ride

Public transportation in Queen Anne's County is provided by Queen Anne's County Ride, which is administered and operated by the Queen Anne's County Department of Aging. The County Ride program was initiated in 1981 when Queen Anne's County pulled out of the senior and transportation programs operated by the regional entity, Upper Shore Aging, Inc.

County Ride currently operates three public transit routes. These deviated fixed routes operate Monday through Friday from 6:45 a.m. to 4:30 p.m., though times vary slightly between routes. Routes can deviate up to ¾ mile and there is a $2 deviation fee. Deviations must be requested two hours ahead of time. The three routes are:

- **Route 1:** Kent Island and Grasonville to Easton
- **Route 2:** Centreville to Stevensville
- **Route 3:** Centreville to Annapolis

In addition to the three deviated-fixed routes, County Ride also operates specialized transportation services under a variety of programs for older adults and individuals with disabilities who are unable to access the fixed public routes. County Ride Specialized Services provide door-to-door transportation to seniors and people with disabilities. These services are:

- **An escort demand response service** that is open to the general public.
- **Door-to-door service** for people ages 60 and older and people with disabilities unable to use existing public transit routes. This service is funded through Maryland's Statewide Specialized Transportation Assistance Program (SSTAP).
- **Special services to military veterans** who need a ride to mental, medical, or behavioral health appointments. Veterans can ride at no cost to/ from those facilities. Funding is provided through donations.

Figure A-44 Queen Anne's County Ride Fare Structure

Fixed Public Routes	
General Public	
One-Way Trip	$3.00
Day Pass	$5.00
10-Ticket Booklet	$30.00
Monthly Pass	$80.00
Student Monthly Pass	$40.00
Seniors, Disabled and Medicare Cardholders	
1 Way	$1.50
10-Ticket Booklet	$15.00
Monthly Pass	$35.00
Independence Card	
Presentation of picture ID and Independence Card	$1.00
Easton Shuttle	
One-Way Trips	
General Public	$3.00
Senior/Disabled	$1.50
Ride All Day	$5.00
Monthly Passes	
General Public	$80.00
Senior/Disabled	$35.00
Student	$40.00
Escort	
Up to 25 Miles	
General Public	$5.00
Senior/Disabled	$2.50
25-50 Miles	
General Public	$10.00
Senior/Disabled	$5.00
Over 50 Miles	
General Public	$20.00
Senior/Disabled	$10.00

Specialized services generally operate Monday through Friday, 6 a.m. through 4:30 p.m. The fare structure sets different fares based on service type with discounts for bulk purchases (see Figure A-44).

Beyond typical administrative tools and technologies, Queen Anne's County Ride employs a range of advanced technology including the use of TripMaster by CTS hardware and software. TripMaster provides many of the core support functions including trip scheduling, vehicle tracking, and data analysis. Each bus has a tablet that details the driver's daily itinerary based on TripMaster scheduling. The County Ride website has a Trip Planner powered by Google Transit that helps find transit routes between locations within the county.

According to the 2019 NTD data, County Ride uses fourteen vehicles for demand response service and five vehicles for the three deviated fixed routes.

MDOT MTA

MDOT MTA operates commuter bus service from Queen Anne's County to Baltimore and Washington, D.C. Figure A-43 shows the three MDOT MTA Commuter Bus Routes that serve Queen Anne's County including:

- **Route 210** – Kent Island to Baltimore. Three morning northbound trips and three afternoon southbound trips.
- **Route 240** – Kent Narrows to Washington, D.C. Five morning westbound trips and six afternoon eastbound trips.
- **Route 250** – Kent Island to Washington, D.C. Six morning westbound trips and six afternoon eastbound trips.

Transit Governance

Queen Anne's County Ride is a service of the Queen Anne's County Office of Aging. The ultimate decision-making body is the County Board of County Commissioners.

Agency Responsibilities, Public Engagement, and Planning

The formal engagement process for Queen Anne's County Ride is the publication of the annual notices each year as part of the grant application process. County Ride is also a member of the of Maryland Upper Shore Transit (MUST), a regional coordinating agency, that includes Delmarva Community Transit (DCT) and County Ride in Dorchester, Kent, Caroline, Talbot, and Queen Anne's Counties.

Coordinating service includes DCT's Route 4, which operates from Rock Hall to Easton. County Ride also connects with Annapolis Transit and Anne Arundel County Transportation via its Route 3. While it is possible to connect from County Ride to both Annapolis Transit and Anne Arundel County Transportation, schedules are not timed.

In 2019 Queen Anne's County completed a five-year Transit Development Plan (TDP). The plan recommended expanded fixed route bus service, improved marketing and over time, improved frequencies, and hours.

Financial Data

Queen Anne's County Ride spent $1.1 million in FY 2019 on operating expenses plus another $142,000 on capital expenses (see Figure A-45).

Figure A-45 FY2019 Financial Data – Queen Anne's County Ride

FY 2019 Operating Expenses	
Fare Revenues	$37,755
Local Funds	$520,551
State Funds	$374,396
Federal Assistance	$122,230
Total Operating Funds Expended	**$1,054,932**

FY 2019 Capital Expenses	
Local Funds	$14,224
State Funds	$14,224
Federal Assistance	$113,795
Other Funds	$0
Total Capital Funds Expended	**$142,243**

Source: National Transit Database

Community Statistics (2019)

Population: 50,381

Population density: 135.4 people per square mile.

Top five employers:

- Chesapeake College (Wye Mills) (455 employees)
- Paul Reed Smith Guitars (Stevensville) (250)
- Federal Resources Supply (Stevensville) (255)
- S.E.W. Friel Cannery (200)

Mean household income: $117,490

Residents below federal poverty level: 6.0%

Population aged 65+: 18.4%

Residents living in zero vehicle households: 3.4%

Percent minority: 10.8%

Residents of Queen Anne's County spent an average of 37.3 minutes commuting (see in Figure A-46).

Figure A-46 Queen Anne's County Commuting Characteristics

Commuting to Work	Number	Percent
Workers 16 years and over	**25,089**	
Car, truck, or van -- drove alone	19,873	79.2%
Car, truck, or van -- carpooled	2,269	9.0%
Public transportation (excluding taxicab)	494	2.0%
Walked	377	1.5%
Other means	244	1.0%
Worked from home	1,832	7.3%
Mean travel time to work (minutes)	**37.3**	

Source: ACS five-year estimates, 2015-2019

MDOT MTA TRANSIT PROFILE

Transit Service Overview

Introduction

The Maryland Department of Transportation (MDOT) Maryland Transit Administration (MTA) is a provider of public transit services in the Baltimore region and beyond. MDOT MTA is also a State agency that receives grants from the Federal Transit Administration (FTA) as well as Sources and administers FTA and State grants to the locally operated transit systems (LOTS) as well as other local and regional organizations across Maryland. This profile describes the functions of MDOT MTA that provide public transit services.

MDOT MTA's mission and visions statement is "To provide safe, efficient and reliable transit across Maryland with world-class customer service." The system consists of six modal components:

- **BaltimoreLink – local bus service**
- **MetroSubwayLink** – subway service
- **LightRailLink** – light rail service
- **MARC Train** – commuter rail service
- **Commuter Bus** – commuter bus service
- **MobilityLink** – ADA paratransit service

In 2019, the combined services managed by MDOT MTA provided 94 million passenger trips (see Figure A-47 and Figure A-48). Services include a combination of directly operated services (BaltimoreLink, Metro SubwayLink, Light RailLink, and a small portion of MobilityLink services) and contracted services (MARC Train, Commuter Bus, and most of the MobilityLink service). MDOT MTA directly operated services are unionized; portions of the contracted services are also unionized.

Figure A-47 MDOT MTA Service in Baltimore Region

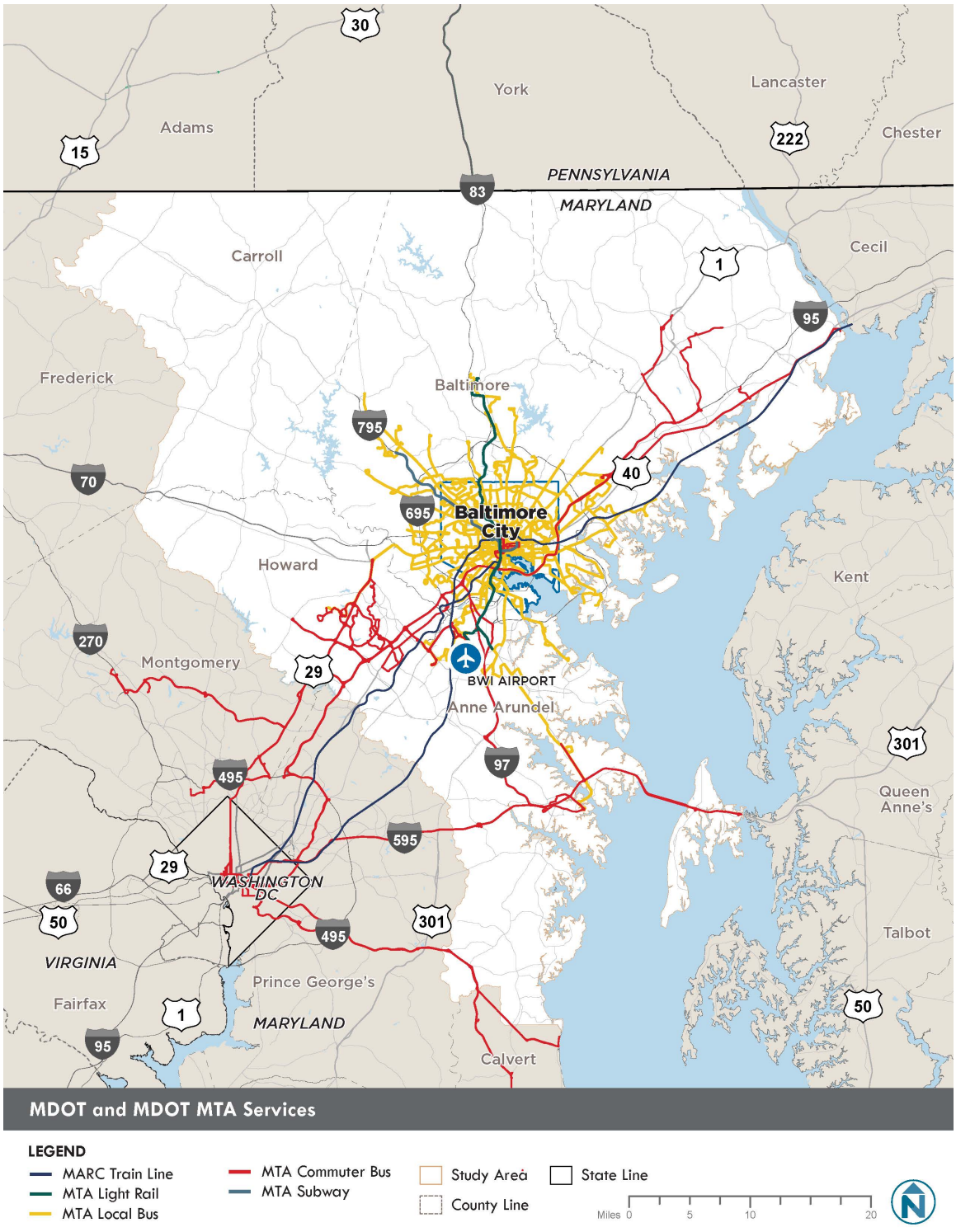


Figure A-48 2019 Peak Vehicles and Ridership for Each MDOT MTA Mode

MDOT MTA Service	Mode in NTD Report	Vehicles Operated in Maximum Service - 2019			Ridership - 2019
		Directly Operated	Contracted	Total	
BaltimoreLink	Bus	615	-	615	63,988,571
Metro SubwayLink	Heavy Rail	54	-	54	7,275,335
Light RailLink	Light Rail	38	-	38	6,966,072
MARC Train*	Commuter Rail	-	149	149	9,190,885
Commuter Bus*	Commuter Bus	-	280	280	3,623,587
MobilityLink	Demand Response	12	461	473	2,152,642
MobilityLink – Call-a-Ride	Demand Response - Taxi	-	38	38	839,857
Total		**719**	**928**	**1,647**	**94,036,949**

* Includes service operated outside of the Baltimore region

Source: National Transit Database (NTD), 2019

BaltimoreLink

BaltimoreLink is the local bus system operated by MDOT MTA in the Baltimore Region; it includes CityLink, LocalLink, and Express BusLink:

- **CityLink** – High-frequency service available 24 hours a day. CityLink routes form a downtown grid and radiate out from the city on major streets. There are 12 CityLink routes, named as colors.
- **LocalLink** – lower frequency daily service that operates on neighborhood streets and provide crosstown service. There are 44 LocalLink routes. Operating hours vary by route.
- **Express BusLink** – limited-stop weekday peak service connecting suburbs to downtown as well as to other suburbs. As of May 2020, there were 8 Express BusLink routes; numbers are slightly reduced due to COVID-19.

Metro SubwayLink

Metro SubwayLink is a 15.5 heavy rail mile line that runs from Owings Mills in the northwest to Johns Hopkins Hospital in Baltimore City in the southeast. The Metro SubwayLink system serves 14 stations: 11 in Baltimore City and 3 in Baltimore County. Service 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.

LightRailLink

Light RailLink is a 58-mile light rail system that operates between Hunt Valley to the north to BWI Thurgood Marshall Airport and Glen Burnie/Cromwell to the south (two different termini at the south end). Light RailLink serves 33 stations, including 10 in Baltimore City, 20 in Baltimore City, and 3 in Anne Arundel County. Service 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.

MARC Train

MDOT MTA's MARC (Maryland Area Regional Commuter) Train system is a regional commuter rail system that spans much of the state as well as stations in West Virginia and the District of Columbia. The MARC Train system is made of three lines, two of which serve the Baltimore region and connect Baltimore to Washington, DC.

The two MARC Train lines that serve the Baltimore region are the Penn Line and the Camden Line.

- **The 77-mile Penn Line** spans Perryville to Baltimore to Washington, DC (serving Baltimore City and Anne Arundel, Baltimore, Cecil, Harford, and Prince George's Counties). Nine Penn Line stations are within the Baltimore region: Perryville, Aberdeen, Edgewood, Martin State, Penn, West Baltimore, Halethorpe, BWI, and Odenton. Prior to the COVID-19 pandemic, 57 trains per day served this corridor from 4:00 a.m. to 12:00 a.m. In response to the COVID-19 pandemic and its impact on ridership, MDOT MTA reduced MARC service beginning in November 2020. As of February 2021, 31 trains serve the Penn Line corridor on weekdays with reduced services on weekends.
- **The 39-mile Camden Line** spans Baltimore to Howard County to Washington, DC (serving Baltimore City and Baltimore, Howard, and Prince George's Counties). Five Camden Line stations are within the Baltimore region: Camden, St. Denis, Dorsey, Jessup, and Savage. Prior to the COVID-19 pandemic, 21 trains per day served this corridor from 5:00-9:30 a.m. and 3:30-9:00 p.m. As of February 2021, 8 trains per day serve the Camden Line corridor on weekdays.

Commuter Bus

The MDOT MTA's Commuter Bus network consists of 38 routes making 642 daily vehicle trips (Figure A-49):

- 9 routes focused on Baltimore, operating daily 95 trips
- 6 routes focused on Central Maryland, operating daily 102 trips
- 23 routes focused on Washington, D.C. operating 445 daily trips

Figure A-49 Commuter Bus Routes that Serve Part of the Baltimore Region

Route No.	Annapolis	Anne Arundel County	Baltimore City	Baltimore County	Harford County	Howard County	Queen Anne's County
201		■					
203						■	
210	■	■	■				■
215	■	■	■				
220	■	■					
230	■	■					

Route No.	Annapolis	Anne Arundel County	Baltimore City	Baltimore County	Harford County	Howard County	Queen Anne's County
240							■
250		■					■
260		■					
305						■	
310						■	
315						■	
325						■	
335						■	
345						■	
410			■		■		
411			■	■	■		
420			■	■	■		

MobilityLink

MobilityLink is MDOT MTA's ADA complementary paratransit service for people with disabilities who are unable to use the fixed route service due to their disability. MobilityLink operates within ¾ mile of MDOT MTA bus routes (excluding commuter bus) as well as ¾ of a mile radius of an MDOT MTA Light Rail or Metro Subway station, during the same days and hours as the fixed route services.

MobilityLink customers are also eligible to ride MDOT MTA's Call-a-Ride service, a demand-response service provided under contract by participating area taxicab and sedan companies within the same service area as MobilityLink. This service is also referred to as the Taxi Access program. Although it is only available to individuals who are eligible for MobilityLink, Call-a-Ride is considered a separate, premium service.

Technology

MDOT MTA has a sophisticated set of transit technologies:

- Fare collection technology includes the CharmCard and the CharmPass mobile transit fare app.
- Vehicle Fuel Technology: Over 400 diesel electric hybrid buses are equipped with hybrid rooftop batteries.

- Vehicle Tracking Technology: GPS tracking are on all MDOT MTA buses. Swiftly and Transit App to use the GPS data to provide real-time arrival information, simple trip planning, and step-by-step navigation. Real-time bus arrival information is also displayed at select bus shelters and transfer stations
- Transit Signal Priority (TSP) - installed on the entire bus fleet and at intersections along two major corridors. Smaller deployments are planned on additional corridors.

The MDOT MTA Bus Cornerstone Plan also calls for investing in additional technologies in the near- or medium term:

- Bus-Unified System Architecture – to provide a proven, integrated, state-of-the-art suite of on-board bus systems that are standardized throughout the fleet as well as information to support daily fleet management and control. The planned Bus-USA project, which was expected to be completed in 2020, includes new radio and cellular data communications, a new camera system, a fixed end subsystem (CAD/AVL, CCTV server), and onboard vehicle subsystems (automatic vehicle location, automated voice annunciation, automatic passenger counting, vehicle health monitoring, supervisor mobile data terminal).
- Transit Signal Priority (TSP) on additional corridors.
- New fare collection technology
- Replacement of radio equipment, radio towers, and two-way handheld radios and relevant base stations

MobilityLink uses the following technologies: Global Positioning System (GPS), Automated Vehicle Locator (AVL), mobile data terminal (MDT) hardware, PassWeb online reservations, and Mobility Direct, an automated system accessible by phone. The MDOT MTA MobilityLink Cornerstone Plan calls for transitioning to electronic fare collection (CharmPass and CharmCard integration).

Fare Structure

The fare structure for MDOT MTA's non-commuter fixed routes (BaltimoreLink, Metro SubwayLink and Light RailLink) are shown in Figure A-50.

Figure A-50 Fares for BaltimoreLink, Metro SubwayLink and Light RailLink

Fare or Pass	Full Fare	Senior/Disability Fare	Student Fare
One-way	1.90	.90	1.40
1-Day Pass	4.40	2.20	--
7-Day Pass	21.00	--	--
31-Day Pass	74.00	22.00	--
Express BusLink Upcharge	.60	.60	.60
Express BusLink 31-Day Pass	93.00	--	--

The fare for MobilityLink is $2.10 for a one-way trip (or $42 for a monthly 20-trip book). For MobilityLink Call-a-Ride/Taxi Access service, the fare is $3 ($2 for dialysis trips) for the first $20 of the taxi meter (with the customer responsible for the taxi meter above $20).

Fares for Commuter Bus and MARC Train services are distance-based. One-way fares on Commuter Bus are determined by zone, ranging from $3.00 to $6.00 for a one-way trip on routes serving the Baltimore region. One-way trips on the MARC Penn Line range from $5.00 to $12.00 and on the Camden Line from $5.00 to $8.00. Reduced senior/disability fares and Multi-ride tickets and passes are also available.

In addition to cash, fares, tickets, and passes may be loaded onto a CharmCard or paid using the CharmPass mobile transit fare app.

Transit Governance

MDOT MTA is directed by an Administrator, appointed by the Secretary. The MDOT MTA manages three distinct transit programs and plays a slightly different role in each:

- Local and regional bus service in the Baltimore Region – MTA funds, operates and manages local bus, light rail, subway, and paratransit services provided in accordance with the Americans with Disabilities Act (ADA).
- Regional commuter bus and train service – MTA funds and manages contracts for both regional commuter bus and the Maryland Rail Commuter (MARC) service.
- Statewide management and funding of the Locally Operate Transit Systems (LOTS) – MTA provides funding, oversight and planning support.

The MTA makes decisions about the allocation of funds to capital and operating projects as well as the allocation across modes. Investment decisions are determined based on existing commitments made through operating contracts with service operators, railroads, and unions. MTA also has internal priorities for capital planning, based on both federal and state legislative mandates. Many of these priorities are laid out in MTA's Transit Asset Management Plan (TAMP), which is a federally mandated program that tracks assets, focusing on achieving a State of Good Repair. The TAMP feeds into a Ten-Year Capital Plan that identifies individual projects and initiatives, and it in turn is coordinated with MDOT's CTP, which includes all state transportation projects. Consistent within this approach, allocations to the LOTS program are not based on a formula but is driven largely by history. LOTS capital needs (primarily vehicles) are addressed in the TAMP plan.

There are no regional or local representation into MTA's funding or service allocation decisions, in terms of how funds are allocated across programs or spent within programs. MTA does have an advisory Citizens Advisory Committee, which meets monthly, but is not legislatively created or an empowered policy board. The one exception to this rule is the LOTS program. As noted, OLTS administers operating and capital grants to the LOTS, meaning LOTS are individual subrecipients of MTA and operate as part of local government. Decisions about how LOTS allocate funds and invest in services, therefore, are made at a local level (see also LOTS section).

Agency Responsibilities, Public Engagement, and Planning

Transit program governance in the Baltimore region has three elements, all of which are defined in the state statutes, whose Transportation Article encompasses some 1500 pages. As chronicled

in Technical Memorandum No. 1, the overall state Maryland Department of Transportation (MDOT) was created in 1970, and it included what is now known as the Maryland Transit Administration (MTA) as one its modal administrations.

MDOT includes all the modal transportation administrations. It has a Secretary, appointed by the Governor, and a Transportation Commission. The Transportation Commission is composed of seventeen members: ten members appointed by the Governor, and seven ex-officio members who are the regional members of the State Roads Commission (§2-202). The Transportation Commission advises and makes recommendations to the Secretary.

MDOT is funded by a consolidated Transportation Trust Fund (TTF), which is separate from the state's General Fund. The TTF is funded by all transportation user fees, such as fuel taxes, titling taxes, registration fees, operating revenues (such as fares) and corporate income taxes. Toll revenues are separate and are dedicated to financing of toll facilities which are under the Maryland Transportation Authority (MDTA) which is also part of MDOT. The state's transportation program is constrained by revenues raised by the TTF, unless an exception is made to utilize General Fund to address a specific project or need.

MDOT, including its modal administrations, allocates TTF funding among the modes. Funding decisions are made annually and guided by the Secretary of Transportation and Governor and balance the needs across MDOT's six modal agencies, including the Maryland Transit Authority together with the Maryland Aviation Administration, State Highway Administration, Maryland Port Commission, Motor Vehicle Administration, and the Maryland Transportation Authority.

MDOT develops an annual State Transportation Report and the Consolidated Transportation Plan (CTP), which is a six-year projection of project funding needs for all modes, including transit. There is an appointed Advisory Committee to provide input to these plans. It is statewide, and not dedicated to any mode. The CTP process includes annual input from all the jurisdictions regarding their needs and priorities, provided through a formal priorities letter and in person during the annual tours in which the Secretary and modal administrators visit each jurisdiction.

One other significant organizational aspect of MDOT regarding transit is its role in overseeing Maryland's transit programs as they relate to the Washington area. The Washington Area Transit Office reports to the Assistant Secretary for Transportation Policy and Freight in the Secretary's office. This office manages and provides oversight in the budgeting and implementation of Maryland's annual contributions to the Washington Metropolitan Area Transit Authority (WMATA) capital and operating budgets, and it coordinates grants to local transit providers in the region. The staff of this office also provides support to the Maryland members (two voting and two alternates) of the WMATA Board of Directors. The MDOT Secretary is one of the voting members.

Financial Data

In FY 2019, MDOT MTA spent $867.3 million operating service and invested another $242.9 m in capital projects (see Figure A-51).

Figure A-51 FY2019 Financial Data Reported in the NTD – MDOT MTA

FY 2019 Operating Expenses	
Fare and Other Revenues	$142,207,862
Local Funds	$0
State Funds	$705,730,195
Federal Assistance	$19,329,835
Total Operating Funds Expended	**$867,267,892**

FY 2019 Capital Expenses	
Local Funds	$0
State Funds	$67,983,903
Federal Assistance	$174,888,372
Other Funds	$0
Total Capital Funds Expended	**$242,872,275**

Source: National Transit Database

Service Area Statistics (2019)

Population: 2,270,027

Population density: 3,166.4 persons per square mile

Top five employers:

- Fort George G. Meade (54,000 employees)
- U.S. Army's Aberdeen Proving Ground (21,000)
- John's Hopkins Hospital and Health System (20,485)
- Johns Hopkins University (18,600)
- State of Maryland government (12,132)

Median household income: $78,589

Residents below federal poverty level: 10.4%

Population aged 65+: 15.5%

Residents living in zero vehicle households: 12.3%

Percent minority: 52%

Appendix B

LOTS Funding Programs and Profiles

Appendix B: LOTS Funding Programs and Profiles

This appendix first provides a summary of relevant Federal and State funding programs for eligible transit operations and capital investment in the State of Maryland. This is followed by funding profiles for each of the eight locally operated transit systems (LOTS) in the Baltimore region. Data for this appendix is drawn from information from MDOT MTA, data provided directly by individual LOTS programs, and data available through the National Transit Database (NTD).

FUNDING PROGRAMS

The transportation grant programs administered by MDOT MTA offer operating, capital, and technical assistance for the LOTS as well as other eligible recipients. These programs, supporting both public transit and specialized transportation services, utilize a combination of Federal and State funds and generally require a match from the local community. Most of the LOTS systems are funded through a variety of Federal and State programs, along with local matching funds and additional local investment. Some combine all their funds to create an overall transit budget. Others attempt to create separate services funded under the different programs (requiring internal cost allocations). Maryland's LOTS include systems that operate public transportation and receive funding under one or more of the following programs administered by the MDOT MTA's Office of Local Transit Support (OLTS):

- Federal Section 5307 – Urbanized Area Formula Program
- Federal Section 5311 – Formula Grants for Rural Areas
- Federal Section 5311(f) – Intercity Bus Program
- Federal Section 5303/5304 – Planning and Technical Assistance Funds
- Federal Section 5339 – Bus and Bus Facilities Formula Program
- State Large Urban Program
- State Transit Operating and Capital Matching Funds
- State Americans with Disabilities Act (ADA) Funding Program
- Statewide Special Transportation Assistance Program (SSTAP)
- Statewide Coordination and Technical Assistance
- Senior Ride
- Congestion Mitigation and Air Quality (CMAQ)—Rideshare

A general description of each of these programs is provided below:

Section 5303/5304 Planning Assistance –This program provides Federal and State funding for technical assistance projects. Each LOTS is eligible for Transportation Development Plan (TDP) funding under this program on a five-year cycle. A minimum ten percent local match is typically required.

Section 5307 Capital and Operating Assistance – Federal (and State matching when State finances allow) funding for small urban areas of the State (areas with population 50,000 to 200,000). Funds can be used to subsidize operating, capital, or administrative costs. For operating and administrative expenses, the FTA will fund up to 50percent with the other 50percent being funded locally (sometimes with State support). For capital expenses, the FTA will fund up to 80 percent, with a minimum 20 percent State and local match required. These funds are allocated by the FTA to the small urban areas. The State provides some of the non-Federal share and MTA staff are responsible for the administration of these grant funds. The systems apply annually for funds to be used for operating or capital. Many of these systems also receive Section 5311 funds for the rural portions of their service area.

Section 5311 Capital and Operating Assistance – Federal (and State matching when State finances allow) funding for Rural Public Transportation (in areas less than 50,000 population). Funds can be used for operating, capital, or administrative costs. Local match is a minimum of 25 percent of net operating expenses and minimum ten percent for capital expenses. The State allocates Section 5311 funds to eligible jurisdictions through the annual application process.

Section 5339 Capital Assistance –This program provides Federal (and State matching, if available) capital assistance for public transit projects. This program funds most larger capital projects, such as facilities design and construction, as well as many vehicle purchases. A minimum ten percent local match is required.

Large Urban Capital and Operating Assistance – State funds for operating and capital assistance in large urban areas. In FY 2019, eligibility for these funds was limited to the City of Annapolis, Anne Arundel County, Cecil County, Howard County, Montgomery County, Prince George's County, and Queen Anne's County.

Americans with Disabilities Act Funding – State funding for public transit systems that operate fixed routes are eligible to apply for these funds, as these are the only systems required by law to provide complementary paratransit service to individuals with disabilities. The State ADA funding program requires a minimum ten percent local match and can only be used for operating expenses. In some cases, this funding has been used to leverage additional 5307 funding.

Senior Ride – State funding for governmental agencies, non-profits and faith-based agencies that come under Section 501(c)3. The purpose of the program is to encourage and facilitate the development of volunteer and/or paid transportation services for low-income to moderate-income seniors. Projects must provide door-to-door transportation for persons age 60 and above for persons whose individual income does not exceed 400% of the Federal poverty threshold. Services must be provided by volunteer drivers using their own vehicles, and there is a requirement for a dispatching system and defined service area.

Statewide Coordination and Technical Assistance – State funding to support efforts to improve coordination among available transportation services by assisting in the design and implementation of training and technical assistance projects and other support services tailored to meet the specific needs of transit operators in nonurbanized areas to support the coordination of public, private, specialized, and human service transportation services. Eligible recipients include local government agencies and transit operators.

Congestion Mitigation and Air Quality (CMAQ) Rideshare – Uses Federal CMAQ funds to support local transportation demand management (TDM) programs with the goal of reducing traffic congestion, improving local air quality, and saving time and money for commuters. Program

activities are designed to motivate solo-vehicle drivers to consider alternatives to driving alone, such as transit, carpooling, biking, walking and teleworking or alternative work hours. There is no State share.

Washington Area Grant: -- State funding for Montgomery and Prince George's County to support eligible Local Bus Service operated in those counties. The program was established through State legislation in 1980 to complement the State aid provided to support Washington Metropolitan Area Transit Authority (WMATA) bus and rail services in Maryland. It provides both capital and operating funding for services provided by Montgomery and Prince George's Counties, subject to particular eligibility requirements, definitions and performance measures. It is administered by the OLTS program despite being part of the overall Washington area transit funding provided by MDOT.

As can be seen there is no single LOTS funding program, but rather several State and Federal program sources that are administered by the OLTS at MDOT MTA to support transit and specialized transportation programs at the local level.

FINANCIAL PROFILES

The remainder of this appendix includes brief funding profiles for the eight LOTS systems included in the study. Data comes from the National Transit Database (NTD) and supplemental data provided by LOTS program managers. For each, this appendix provides a brief overview of funding structures and sources of funding and then provides expenditure and funding data for a five-year period, FY 2016-FY 2020, for capital and operating costs. This includes the annual operating expenses and the use of capital funds by mode and the sources of operating and capital funds expended. Additional information on each program can be found in Technical Memorandum #2.

CITY OF ANNAPOLIS FUNDING PROFILE

Transit Funding Structure & Sources

Funding for Annapolis Transit includes directly generated revenues (e.g., fares and advertising revenues), Federal and State operating and capital grants from MDOT MTA, City match for operating and capital grants, Anne Arundel County operating subsidy from Anne Arundel County, and additional City funds to close any net operating deficit (transit operating expenses that are not covered by other sources).

The City of Annapolis applies for MDOT MTA State and State-administered Federal funding under Large Urban (LU), ADA, and LU Preventive Maintenance programs (and, in FY2020, CARES Act funds) to support Annapolis Transit operations. Although the Large Urban funds are delivered to the City by the State, the Department of Transportation notes that MDOT MTA uses the Large Urban program to match Federal Transit Administration (FTA) funds awarded to MDOT MTA under the Section 5307 program. Also, it should be noted that LU Preventive Maintenance grants are funded as capital grants for matching purposes, but support an operations function, and thus the City of Annapolis considers them as operating support for budgeting purposes.

State grant amounts have been relatively stable in previous years (not increasing with increased operating expenses such as driver wage raises). However, State funding was reduced in 2020 and further reduced in 2021 due to the State's financial situation.

Local match support for operating grants comes from the City of Annapolis and Anne Arundel County. The County contribution varies from year to year. When the County took over operations of two former Annapolis Transit routes in FY 2019, funding was reduced to reflect the transfer of the two routes.

The City's General Fund revenues make up the largest operating funding source for Annapolis Transit, covering the net operating deficit. At the end of the fiscal year, the Department of Transportation calculates the total amount of fares, advertising revenue, grant funding, and other non-City funds received during the year, compares with total transit operating expenses, and determines the total amount of City funds needed (including grant overmatch) to be transferred to the Department. Administrative expenses are largely borne by the City.

Capital funding is provided primarily through Federal and State grants from MDOT MTA, with City funds providing the local match. Whenever grant awards with 10 percent match do not fully cover capital costs, the City covers the difference.

Historic Transit Expenditures and Funding

Table 1 Annapolis Transit Operating Expenses, FY2016-FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$4,584,098	$259,165	$4,843,263
2017	$4,610,753	$262,222	$4,872,975
2018	$4,610,524	$282,811	$4,893,335
2019	$4,264,264	$266,159	$4,530,423
2020	$4,346,605	$249,845	$4,596,450

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 2 Annapolis Transit Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other (1)	Local	State	Federal	Total
2016	$814,667	$10,484	$70,448	$2,394,039	$1,553,625	$0	$4,843,263
2017	$716,655	$8,921	$74,235	$2,519,539	$1,553,625	$0	$4,872,975
2018	$684,784	$8,962	$120,631	$2,480,333	$1,598,625	$0	$4,893,335
2019	$609,905	$5,239	$118,746	$2,197,908	$1,598,625	$0	$4,530,423
2020	$535,494	$5,497	$96,175	$1,751,731	$1,466,785	$740,768	$4,596,450

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

(1) "Other" funding source is Advertising Revenue.

Table 3 Annapolis Transit Use of Capital Funds, FY2016-FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$950,586	$105,621	$1,056,207
2017	$408,845	$45,427	$454,272
2018	$246,246	$87,823	$334,069
2019	$266,393	$0	$266,393
2020	$10,549	$0	$10,549

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 4 Annapolis Transit Sources of Capital Funds Expended, FY2016-FY2020

Fiscal Year	Local	State	Federal	Total
2016	$105,622	$575,681	$374,904	$1,056,207
2017	$49,021	$405,251	$0	$454,272
2018	$115,515	$218,554	$0	$334,069
2019	$109,840	$156,553	$0	$266,393
2020	$1,371	$9,178	$0	$10,549

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

ANNE ARUNDEL COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

Anne Arundel County secures transit funding through the MTA OLTS program for both operations and capital, but the bulk of the funding for the County program has been County general funds. Because of the RTA structure it is somewhat more complicated, with funding provided by Anne Arundel County for the portion of shared routes and that County's share of the RTA management fee. In addition there is funding from MDOT under the Washington transit program, provided to support service in Laurel, which is in the Washington region, and Anne Arundel is credited with a portion of that funding. In addition, the County Department of Social Services receives State Job Access and Reverse Commute Funding (JARC), which is then provided to the Office of Transit to support service related to employment needs. Anne Arundel County also receives MTA Rideshare program funding to support Transit Demand Management initiatives, including its rideshare program.

Capital funding is provided primarily by Federal and State grants through MDOT MTA, with County funds providing the local match. Whenever grant awards with 10 percent match do not fully cover capital costs, the County covers the difference.

The budget is developed by the Anne Arundel County Office of Transportation with input from the Anne Arundel County Transportation Commission. It is reviewed and with changes as needed is included in the overall budget submission from the County Executive to the County Council. The ultimate policy board is the Anne Arundel County Council.

Historic Transit Expenditures and Funding

Table 5 Anne Arundel County Office of Transportation Transit Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$1,980,723	$2,466,559	$4,447,282
2017	$1,905,945	$2,532,281	$4,438,226
2018	$3,291,845	$2,104,883	$5,396,728
2019	$2,444,307	$3,587,897	$6,032,204
2020	$1,166,631	$4,093,481	$5,260,112

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 6 Anne Arundel County Office of Transportation Transit, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other	Local	State	Federal	Total
2016	$322,828	$0	$0	$3,185,200	$939,254	$0	$4,447,282
2017	$211,786	$0	$0	$3,172,618	$1,053,822	$0	$4,438,226
2018	$204,650	$0	$0	$3,191,139	$2,000,939	$0	$5,396,728
2019	$224,045	$0	$0	$2,828,835	$2,979,324	$0	$6,032,204
2020	$46,393	$0	$0	$4,178,121	$1,035,598	$0	$5,260,112

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 7 Anne Arundel County Office of Transportation Transit, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$0	$0	$0
2017	$0	$0	$0
2018	$0	$68,000	$68,000
2019	$0	$0	$0
2020	$0	$0	$0

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD

Table 8 Anne Arundel County Office of Transportation Transit, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$0	$0	$0	$0
2017	$0	$0	$0	$0
2018	$68,000	$0	$0	$68,000
2019	$0	$0	$0	$0
2020	$0	$0	$0	$0

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

BALTIMORE CITY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

The Charm City Circulator (CCC) and Harbor Connector (HC), administered through the Baltimore City Department of Transportation, were originally designed to function as part of the City's parking program by shuttling passengers from more remote parking areas to downtown attractions. As such, the original program was funded through parking revenue. Over the years the program has grown and the funding mechanisms have changed.

Both the CCC and HC operate fare free, so the only directly generated revenue is through advertising. The program is funded through a combination of parking revenues, a small amount of advertising revenue, the general fund, and State grant funding.

In Fiscal Years 2016 and 2017, local funds provided the largest component of the program's budget. For the past three years, the budget has been reduced considerably and the funding situation has shifted such that the largest single funding source was MDOT MTA State funding.

Since the beginning of the pandemic parking revenue has been down considerably in the City of Baltimore, which affects the local portion of the Circulator's funding stream. The State portion of the budget also has been reduced from $3 million to $2 million. The City will make up for these losses through Federal Cares Act funding and local revenue funds.

The City has not had capital expenses for the program for past several years. In past years the City purchased vehicles for the program, which is operated by a contractor.

Budget development begins after the end of each fiscal year when the City's Fiscal Department calculates the expenses and revenues/funding sources for the program for the year. The budget for the following year is then developed based on this information, coupled with information regarding the availability of State and/or Federal grants.

Once the budget has been developed for the program for the upcoming fiscal year, it is included within the DOT's budget and goes through the City's annual budget process. The City's Board of Estimates approves the budget for the City.

Historic Transit Expenditures and Funding

Table 9 Charm City Circulator and Harbor Connector Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Ferry Boat	Total
2016	$7,457,363	$642,326	$8,099,689
2017	$7,518,032	$762,089	$8,280,121
2018	$3,258,901	$833,977	$4,092,878
2019	$3,660,857	$836,356	$4,497,213
2020	$6,195,903	$670,222	$6,866,125

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 10 Charm City Circulator and Harbor Connector, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Other	Local	State	Federal	Total
2016	$0	$25,615	$6,579,558	$2,000,000	$0	$8,605,173
2017	$0	$33,267	$5,719,886	$3,000,000	$0	$8,753,153
2018	$0	$19,315	$1,276,448	$3,000,000	$0	$4,295,763
2019	$0	$11,998	$1,725,407	$3,000,000	$0	$4,737,405
2020	$0	$4,698	$4,472,343	$2,000,000	$0	$6,477,041

Note - Operating Expense (OE) figures are lower than Source amounts reflecting NTD requirements reconciling non-operating costs included in purchased transportation.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 11 Charm City Circulator and Harbor Connector, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Ferry Boat	Total
2016	$0	$0	$0
2017	$0	$0	$0
2018	$0	$0	$0
2019	$0	$0	$0
2020	$2,787,520	$0	$2,787,520

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 12 Charm City Circulator and Harbor Connector, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$0	$0	$0	$0
2017	$0	$0	$0	$0
2018	$0	$0	$0	$0
2019	$0	$0	$0	$0
2020	$7,227,578	$2,000,000	$0	$9,227,578

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

BALTIMORE COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

The Baltimore CountyRide expenses, revenues, and funding described in this funding profile reflect the previous focus of services provided by the Department of Aging. As the program transitions from the Department of Aging to the Department of Public Works, the services planned for future implementation reflect a greater emphasis on public transit in Baltimore County than was previously provided.

Policy decisions and major service planning decisions for CountyRide are made by the County Executive. Decisions about funding are made by the County Council.

Financial data provided by Baltimore County indicates that the NTD data does not reflect the entire program, only the expenses and operating funds associated with providing service under the Federal Section 5311 program and the State's SSTAP. During FY2019, Baltimore County spent an additional $792,432 beyond the grant-related expenses reported in the 2019 NTD. These additional expenses were covered by $28,463 from partner hospitals, $36,089 in ticket sales, and $727,800 in additional local County funds.

Historic Transit Expenditures and Funding

Table 13 Baltimore CountyRide, Operating Expenses, FY2016 – FY2020

Fiscal Year	Demand Response	Total
2016	$1,093,270	$1,093,270
2017	$1,055,150	$1,055,150
2018	$1,025,221	$1,025,221
2019	$1,000,897	$1,000,897
2020	$1,045,534	$1,045,534

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 14 Baltimore CountyRide, Sources of Operating Funds Expended FY2016 – FY2020

Fiscal Year	Demand Response Fares	Other	Local	State	Federal	Total
2016	$68,033	$0	$465,785	$491,329	$68,123	$1,093,270
2017	$56,274	$0	$470,910	$416,595	$111,371	$1,055,150
2018	$68,267	$0	$407,640	$427,698	$121,616	$1,025,221
2019	$63,649	$0	$377,796	$421,551	$137,901	$1,000,897
2020	$56,755	$0	$348,755	$417,644	$222,380	$1,045,534

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 15 Baltimore CountyRide, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Demand Response	Total
2016	$0	$0
2017	$0	$0
2018	$0	$0
2019	$112,008	$112,008
2020	$121,118	$121,118

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 16 Baltimore CountyRide, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$0	$0	$0	$0
2017	$0	$0	$0	$0
2018	$0	$0	$0	$0
2019	$112,008	$0	$0	$112,008
2020	$12,112	$12,112	$96,894	$121,118

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

CARROLL COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

Funding for Carroll Transit includes directly generated revenues through fares, human service agency contracts, and advertising revenue; as well as Federal and State operating and capital grants through MDOT MTA; and local County funds.

Carroll County receives MDOT MTA State and State-administered Federal funding under the Sections 5307 (small urban) and 5311 (rural) programs. The County also receives SSTAP State funding to provide service for older adults and people with disabilities. State grant amounts increased significantly between FY2016 and FY2017, but have been relatively stable in the past three fiscal years.

Local funds for transit operations are budgeted under the Transit Grants Fund and the administrative expenses are budgeted within the General Fund, under the Department of Public Works and Transportation. In Fiscal Years 2016 through 2019, local funds represented the largest single source of operating funds. In FY2020, with the influx of Federal dollars through the CARES Act, Federal funds represented the single largest source of operating funds.

The budget process starts each year in November with the Transportation Grants Coordinator putting together the budget for the following fiscal year. She is assisted in the process by a County Budget Analyst. This budget is then adjusted based on the amount of Federal and State funds likely to be available and MDOT MTA's Annual Grant Application is prepared for submission in March.

The County's budget sessions typically start in May of each year and the final CTS budget is subject to this process. The Board of Commissioners have the final budgetary authority for the program.

Capital funding is provided primarily by Federal and State grants through MDOT MTA, with County funds providing the local match. Whenever grant awards with 10 percent match do not fully cover capital costs, the County covers the difference.

Historic Transit Expenditures and Funding

Table 17 Carroll Transit System Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$ 356,163	$1,966,744	$2,322,907
2017	$ 384,060	$2,086,534	$2,470,594
2018	$ 337,124	$2,249,672	$2,586,796
2019	$ 517,070	$2,112,705	$2,629,775
2020	$ 487,249	$2,039,582	$2,526,831

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 18 Carroll Transit System, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other	Local	State	Federal	Total
2016	$22,577	$177,739	$406,770	$901,437	$240,606	$573,778	$2,322,907
2017	$23,947	$183,290	$479,540	$993,826	$393,250	$396,741	$2,470,594
2018	$25,625	$570,029	$51,178	$1,012,420	$382,446	$545,098	$2,586,796
2019	$25,097	$546,649	$49,900	$1,057,936	$381,845	$568,348	$2,629,775
2020	$26,558	$381,931	$30,360	$798,834	$386,770	$902,378	$2,526,831

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 19 Carroll Transit System, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$0	$0	$0
2017	$22,960	$283,440	$306,400
2018	$60,972	$0	$60,972
2019	$31,631	$168,309	$199,940
2020	$132,350	$62,498	$194,848

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 20: Carroll Transit System, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$0	$0	$0	$0
2017	$30,640	$30,640	$245,120	$306,400
2018	$6,097	$6,097	$48,778	$60,972
2019	$27,417	$19,168	$153,355	$199,940
2020	$19,486	$19,484	$155,878	$194,848

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

HARFORD COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

Funding for Harford Transit Link includes directly generated revenues through fares and advertising revenue as well as Federal and State operating and capital grants through MDOT MTA and County funds.

Harford County receives MDOT MTA State and State-administered Federal funding under the Sections 5307 (small urban) program, as well as the CMAQ program. The County also receives SSTAP State funding to provide service for older adults and people with disabilities. The total program has grown significantly over the five-year period, from about $3.5 million to almost $4.9 million in annual operating expenses.

In Fiscal Years 2016 through 2019, local county funds represented the largest single source of operating funds. In FY2020, with the influx of Federal dollars through the CARES Act, Federal funds represented the single largest source of operating funds (about $9,700 more than the local contribution).

Capital funding is provided primarily by Federal and State grants through MDOT MTA, with County funds providing the local match. Federal capital sources include Section 5307 (small urban) and Section 5339 (bus and bus facilities). Whenever grant awards with 10 percent match do not fully cover capital costs, the County covers the difference.

As a department under the County's Office of Community and Economic Development, Harford Transit Link participates in the annual county budget process.

Historic Transit Expenditures and Funding

Table 21 Harford Transit Link Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$2,426,068	$1,077,937	$3,504,005
2017	$2,710,127	$951,772	$3,661,899
2018	$3,194,074	$1,173,077	$4,367,151
2019	$3,496,021	$1,434,302	$4,930,323
2020	$3,433,949	$1,454,207	$4,888,156

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 22 Harford Transit Link, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other	Local	State	Federal	Total
2016	$234,177	$69,744	$0	$1,547,523	$571,626	$1,080,935	$3,504,005
2017	$221,995	$76,400	$0	$1,841,122	$496,774	$1,025,608	$3,661,899
2018	$207,972	$83,245	$0	$1,839,942	$649,211	$1,586,781	$4,367,151
2019	$217,278	$88,819	$0	$1,983,802	$662,760	$1,977,664	$4,930,323
2020	$186,229	$74,674	$64,816	$2,154,907	$568,680	$2,164,641	$5,213,947

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 23 Harford Transit Link, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$0	$457,072	$457,072
2017	$0	$36,864	$36,864
2018	$0	$296,998	$296,998
2019	$0	$1,061,469	$1,061,469
2020	$0	$398,531	$398,531

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 24 Harford Transit Link, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Other	Total
2016	$45,708	$45,708	$365,656	$0	$457,072
2017	$3,687	$3,686	$29,491	$0	$36,864
2018	$29,700	$29,700	$237,598	$0	$296,998
2019	$105,261	$105,261	$842,079	$8,868	$1,061,469
2020	$44,131	$35,575	$318,826	$0	$398,532

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

HOWARD COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

Howard County's Office of Transportation manages and oversees the contract under which the Regional Transportation Agency (RTA) provides fixed route bus and paratransit services in Howard County, Anne Arundel County, Prince George's County and the City of Laurel. Funding is shared by the partner jurisdictions with support from Federal and State sources to offset the gap between farebox and other revenues and capital and operating costs.

Howard County obtains funding for public transportation services through MDOT MTA for both operations and capital, though the bulk of the funding has been County general funds. Because of the RTA structure it is somewhat more complicated, with funding provided by Anne Arundel County for the portion of shared routes and that County's share of the RTA management fee. In addition, there is funding from MDOT under the Washington transit program, provided to support service in Laurel, which is in the Washington region. Howard County also received MTA Rideshare program funding to support Transit Demand Management initiatives, including its rideshare program.

State funding support for transit services in Howard County is provided through the state's ADA and Large Urban programs, as well as SSTAP. The only Federal funds that the County receives for operating purposes are the CMAQ funds for rideshare. Howard County also receives Federal funding for capital under the Section 5339 program.

Historic Transit Expenditures and Funding

Table 25 Howard Transit, Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$4,625,435	$3,676,925	$8,302,360
2017	$4,313,552	$4,501,487	$8,815,039
2018	$7,928,856	$3,530,250	$11,459,106
2019	$10,595,834	$3,439,446	$14,035,280
2020	$10,284,874	$3,795,543	$14,080,417

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 26 Howard Transit, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other	Local	State	Federal	Total
2016	$700,096	$236,698	$132,131	$4,964,486	$2,215,943	$132,418	$8,381,772
2017	$666,557	$234,833	$118,676	$5,708,074	$2,215,943	$0	$8,944,083
2018	$550,353	$198,854	$82,378	$8,362,786	$2,768,758	$0	$11,963,129
2019	$548,100	$248,206	$358,202	$9,546,889	$4,061,751	$0	$14,763,148
2020	$417,890	$265,656	$108,008	$9,972,392	$4,061,771	$0	$14,825,717

Note - Operating Expense (OE) figures are lower than Source amounts reflecting NTD requirements reconciling non-operating costs included in purchased transportation.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 27 Howard Transit, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Service Vehicle	Total
2016	$0	$0		$0
2017	$0	$0		$0
2018	$0	$722,681		$722,681
2019	$58,916	$0		$58,916
2020	$736,822	$285,230	$72,578	$1,094,630

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 28 Howard Transit, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$0	$0	$0	$0
2017	$0	$0	$0	$0
2018	$128,520	$0	$594,161	$722,681
2019	$58,916	$0	$0	$58,916
2020	$517,630	$73,000	$504,000	$1,094,630

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

QUEEN ANNE'S COUNTY TRANSIT FUNDING PROFILE

Transit Funding Structure and Sources

Funding for Queen Anne's County Ride includes directly generated revenues through fares, human service agency contracts, and advertising revenue as well as Federal and State operating and capital grants through MDOT MTA and local County funds.

Queen Anne's County Ride receives MDOT MTA State and State-administered Federal operating funding under the Federal Section 5311 (rural) program and the state's Large Urban (L.U.) program. The County also receives SSTAP state funding to provide service for older adults and people with disabilities.

Local funds for transit operations are budgeted under the Queen Anne's County Department of Aging. In Fiscal Years 2016 through 2019, local funds represented the largest single source of operating funds.

Capital funding is provided primarily by Federal and State grants through MDOT MTA, with County funds providing the local match. Federal capital grant sources include: Section 5311 (rural) and Section 5339. State L.U. funding is also provided to Queen Anne's County for capital. Whenever grant awards with 10 percent match do not fully cover capital costs, the County covers the difference.

Historic Transit Expenditures and Funding

Table 29 Queen Anne's County Ride Operating Expenses, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$714,611	$253,115	$967,726
2017	$890,118	$307,914	$1,198,032
2018	$896,231	$236,878	$1,133,109
2019	$833,512	$221,420	$1,054,932
2020*			

*2020 data requested.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 30 Queen Anne's County Ride, Sources of Operating Funds Expended, FY2016-FY2020

Fiscal Year	Fixed Route Fares	Demand Response Fares	Other	Local	State	Federal	Total
2016	$29,029	$19,596	$7,000	$473,975	$246,389	$191,737	$967,726
2017	$27,672	$21,421	$0	$652,313	$252,889	$243,737	$1,198,032
2018	$25,858	$21,335	$0	$586,455	$377,231	$122,230	$1133,109
2019	$18,908	$18,847	$0	$520,551	$374,396	$122,230	$1,054,932
2020*							

*2020 data requested.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 31 Queen Anne's County Ride, Use of Capital Funds, FY2016 – FY2020

Fiscal Year	Fixed Route	Demand Response	Total
2016	$55,140	$0	$55,140
2017	$40,000	$0	$40,000
2018	$0	$134,108	$134,108
2019	$0	$142,243	$142,243
2020*			

*2020 data requested.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Table 32 Queen Anne's County Ride, Sources of Capital Funds Expended, FY2016 – FY2020

Fiscal Year	Local	State	Federal	Total
2016	$10,140	$5,000	$40,000	$55,140
2017	$4,000	$4,000	$32,000	$40,000
2018	$13,411	$13,411	$107,286	$134,108
2019	$14,224	$14,224	$113,795	$142,243
2020*				

*2020 data requested.

Sources: FY2016 – FY2019, National Transit Database Published Data. FY2020 - Data submitted by agencies to the National Transit Database, not yet finalized by NTD.

Appendix C

Peer Agency Summaries

Table of Figures

Page

Table of Figures

Page

Appendix C: Peer Agency Summaries

Charlotte Area Transit System (CATS)

Agency Overview and History

The Charlotte Area Transit System ("CATS") is a department within the City of Charlotte and was created in 2000 after a successful public referendum in 1998 to fund future transit initiatives. The CATS service area covers 11 municipalities. It serves Mecklenburg County, Cabarrus county, Gaston county, Union county and York county, S.C. CATS employ 587 full-time employees and contracts with 900 more (800 full-time drivers and 100 full-time security staff). The following tables provide an overview of Metro's ridership, revenue, and fleet size, including details on its assets, ridership, operations, revenue, and performance by mode of service.[1]

Figure C-1 CATS Key Facts

Ridership

Annual Passenger Miles
1.3B

Average Weekday Ridership
0.08M

Annual Unlinked Trips
24M

Average Sunday Unlinked Trips
0.05M

Average Saturday Unlinked Trips
0.03M

Revenue

Annual Vehicle Revenue Miles
17M

Annual Vehicle Revenue Hours
1M

Fleet

Vehicles Operated In Maximum Service
411

Vehicles Available for Maximum Service
617

Source: *National Transit Database*

Figure C-2 CATS Summary Data by Mode of Transportation

Commuter Bus	Demand Response	Light Rail	Bus	Streetcar Rail	Vanpool

[1] Based on data from FY2019.

Assets	No. of total vehicle	65	73	36	187	2	48
	Vehicles available for maximum service	96	85	42	300	3	91
Ridership	Annual unlinked trips (M)	0.7	0.3	8	14.9	0.3	0.11
Operations	No. of vehicles directly operated	-	73	36	-	2	48
	Fixed guideway directional route miles	7.7	-	37.3	7.7	2.6	-
Revenue	Revenue miles (M)	1	2.4	2.3	10.3	0.03	0.97
	Revenue hours (M)	0.05	0.14	0.14	0.77	0.006	0.02
Uses of capital funds	Systems and guideways ($M)	-	0.02	69	0.15	-	-
	Facilities and stations ($M)	-	-	5.2	0.5	-	-

Source: *National Transit Database*

Representative Population

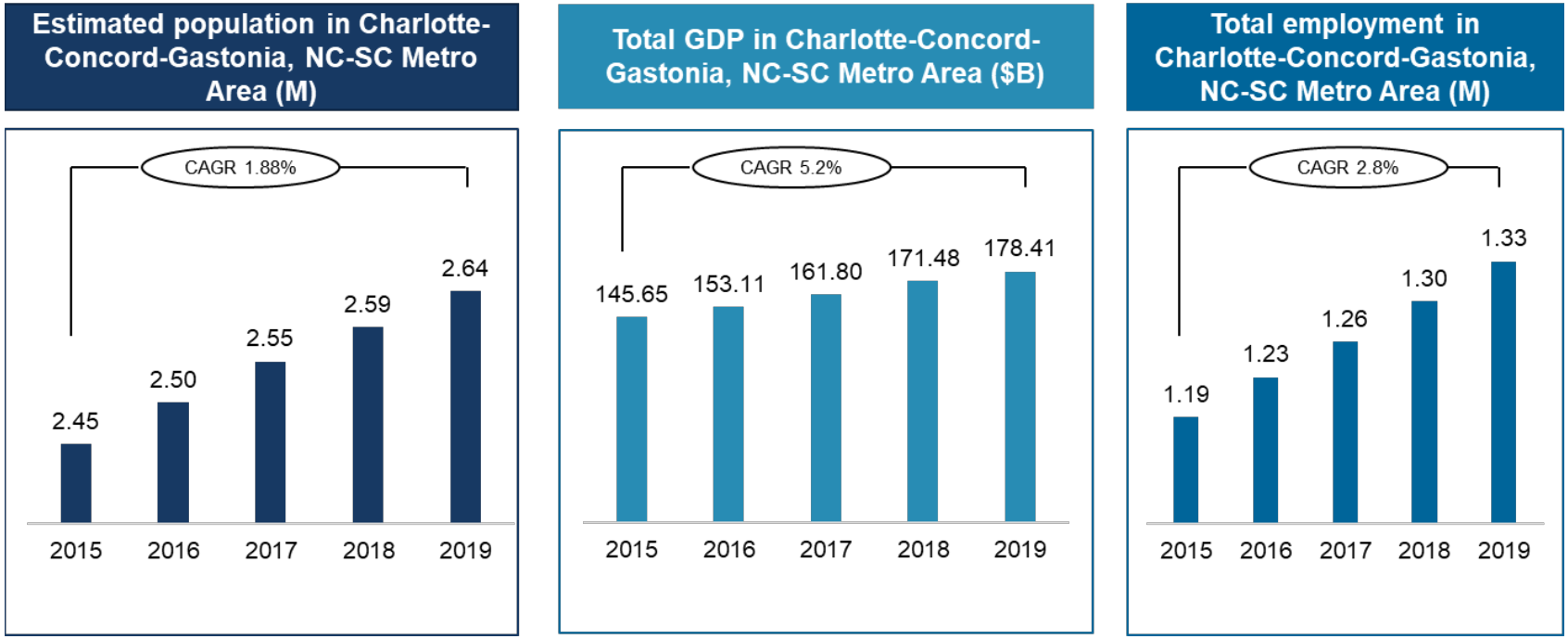
With a service area of 675 square miles, CATS serves approximately 90% of the total urbanized area of Charlotte-Concord-Gastonia, NC-SC metro area. While the total estimated population in metro area increased by 1.88% from 2015-2019, total GDP contributed by all sectors grew at a CAGR of 5.2% during the same time period, and the real GDP for the same period grew by 2.8%. The median income in region grew at a CAGR of 4.9% in the same period. Workers 16 years and over traveling by public transportation grew by 0.3% from 2015-2019.[2]

The metro area region has consistently employed over 1.3 million people, and, although total employment in metro area increased from 2015-2019, the labor force had an estimated decline in 2020, with an estimated total unemployment rate of 5.8% as of December 2020, when compared to 3.1% in 2019. Due to the impact of COVID-19 pandemic, employment across all sectors declined in 2020 except trade, transportation, and utilities, professional and business services and financial activities. The leisure and hospitality sector faced the largest decline in 2020 due to travel restrictions and lockdowns.

The following charts summarize trends in population growth, total GDP, total employment, housing units, median income, and public transportation users in Charlotte-Concord-Gastonia, NC-SC metro area from 2015-2019.

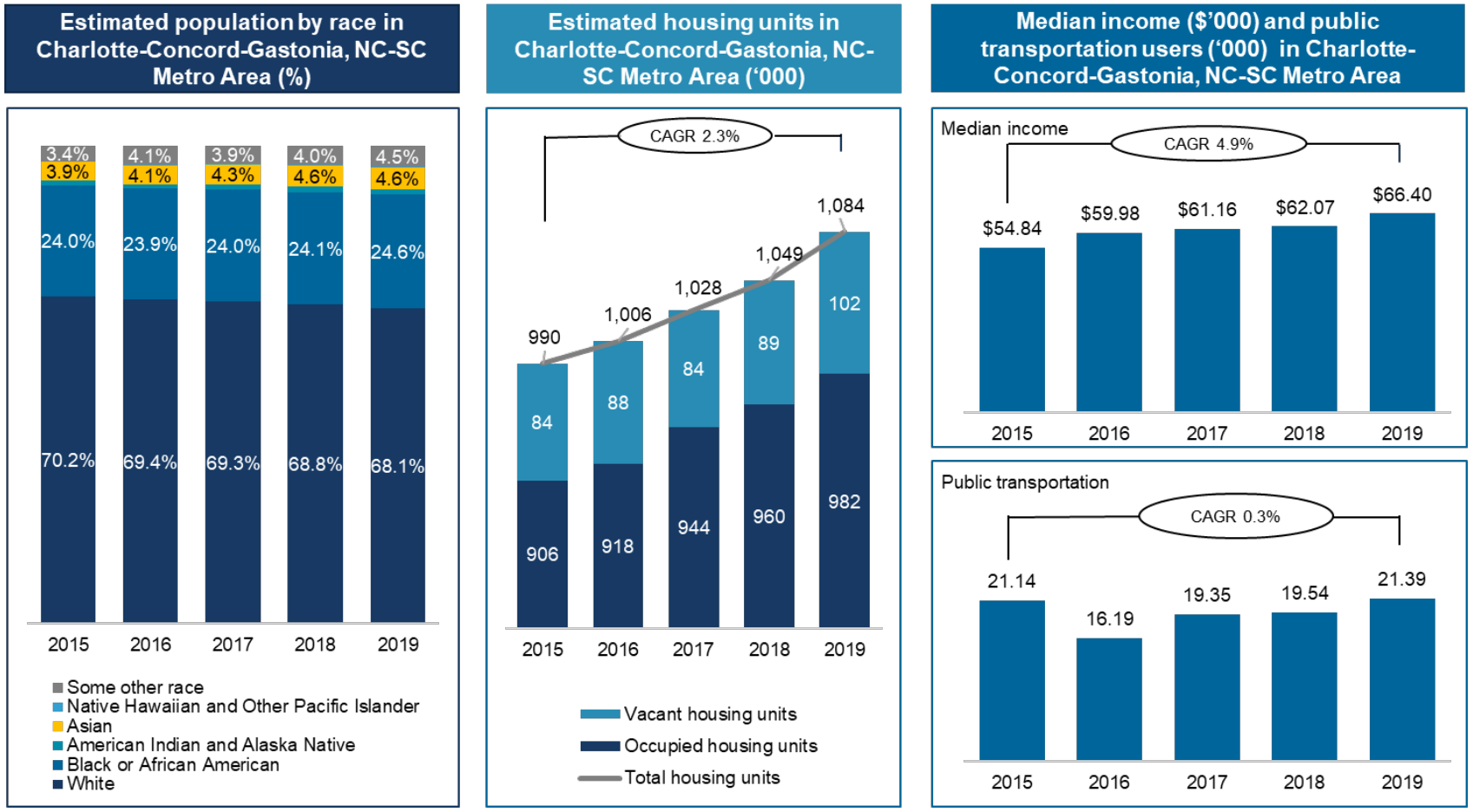
[2] Public transportation excluding taxicabs used by workers 16 years and over.

Figure C-3 Charlotte-Concord-Gastonia, NC-SC Metro Area Population, Total GDP, and Employment Trends



Source: *Federal Reserve Bank of St. Louis for population and GDP; Bureau of Labor Statistics for employment*

Figure C-4 Charlotte-Concord-Gastonia, NC-SC Metro Area Population by race, Total Housing Units, Median income, and Public Transportation Users



Source: *American community survey: Race; Households; Median income and transportation*

Of the approximately 1.33 million employed in the metro area, 1.25 million are employed in the non-farming sectors. The average hourly wage in the metro area is $0.65 less than the US national average.[3] The average weekly wage in the area is $31 less than the US national average. The average weekly wage in Mecklenburg county is $143 more than the US national average.[4]

Figure C-5 Non-Farm Employment in Charlotte-Concord-Gastonia, NC-SC Metro Area ('000)

	Dec-20	Dec-19	Change
Total nonfarm	**1,190.7**	**1,253.3**	●
Trade, transportation, and utilities	257.6	256.1	●
Professional and business services	212.7	210.6	●
Government	147.0	159.1	●
Education and health services	119.7	128.1	●
Financial activities	109.2	107.1	●
Leisure and hospitality	108.1	143.9	●
Manufacturing	104.3	112.1	●
Mining, logging, and construction	69.4	69.5	●
Other services	39.4	42.2	●
Information	23.3	24.6	●

Source: *Bureau of Labor Statistics*

Figure C-6 Average Hourly Wage ($) for Sample Occupations

Occupation	Charlotte, NC-SC area	US	Charlotte NC-SC area v/s US
All occupations	**$25.07**	**$25.72**	●
Financial managers	79.88	70.93	●
Computer systems analysts	47.17	46.23	●
Credit analysts	41.49	40.83	●
Registered nurses	31.71	37.24	●
Heavy and tractor-trailer truck drivers	21.92	22.52	●
Retail salespersons	13.71	14.12	●

Source: *Bureau of Labor Statistics*

[3] Average hourly wage as of May 2019.

[4] Average weekly wage by county as of Q2 2020.

Ridership and Performance

The CATS ridership declined significantly in 2020 due to the COVID-19 pandemic, with ridership down to 18.1 million for FY2020[5] representing a 16% drop from the previous year's total of 21.6 million. In early 2020, CATS received $57 million from CARES Act funding. In addition, a second COVID relief package CATS will share $50 million with Iredell, Union and Mecklenburg county transportation services. For FY2021, fare revenue is projected to fall short of expectations by 36%. Ridership is currently projected to be 11.5 million, or 39% below the budget forecast of 18.9 million.

The table on the following page compares the FY2019 and FY2018 operations, revenues, service efficiency, and asset condition across CATS' six modes of transportation.

[5] FY2020 is period from July 01, 2019 to June 30, 2020.

Figure C-7 Summary of Performance and Operations for CATS, FY2018-2019

		Commuter Bus			Demand response			Light Rail			Bus			Streetcar Rail			Vanpool		
		2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲
Operations	Annual passenger miles (m)	9.79	12.89	●	2.71	2.68	●	45	29.8	●	63	64.9	●	0.25	0.31	●	5	5.63	●
	Annual vehicle revenue hours (M)	0.052	0.058	●	0.142	0.143	●	0.141	0.089	●	0.78	0.77	●	0.006	0.008	●	0.019	0.02	●
Revenues	Fare revenues ($M)	2.94	4.36	●	0.77	0.82	●	7.64	3.97	●	15.86	17.04	●	-	-	-	0.39	0.38	●
Service efficiency and effectiveness	Operating expenses per vehicle revenue mile ($)	12.74	12.56	●	4.91	5.32	●	15.43	15.04	●	9.03	9.01	●	44.61	31.44	●	1.34	1.98	●
	Operating expenses per passenger mile ($)	1.4	1.17	●	4.38	4.86	●	0.79	0.72	●	1.47	1.42	●	6.21	4.86	●	0.26	0.36	●
Asset condition	Average fleet age in years*	13.2	15.4	●	1.8	1.8	●	56.7	64.6	●	19.2	19.6	●	41.5	41.8	●	5.7	6.5	●

* Call-on-ride- Taxi (DT) and non-dedicated fleets do not report fleet age data.

Source: *National Transit Database*

Strategic Plans and Priorities

Figure C-8 2030 Transit Corridor System Plan

Source: *2030 Transit Corridor System Plan*

CATS' policy board Metropolitan Transit Commission adopted CATS' long-range plan "2030 Transit Corridor System Plan" in November 2006. This long-range plan consists of multiple rapid transit improvements in five corridors, a series of Center City improvements, and bus service and facility improvements throughout the region. Once the plan is completed, it will encompass 25 miles of commuter rail, 45 miles of light rail, 10 miles of streetcar, and an expanded network of buses and other transit services. CATS progressed towards the 2030 plan with the opening of the LYNX Blue Line light rail service in 2007, CityLYNX Gold Line streetcar service in 2015, extension of the Blue Line in 2018. The Phase 2 of the CityLYNX is under construction with expected service start date in 2021. In November 2016, the MTC approved and adopted a light rail alignment for Charlotte's Southeast corridor, the LYNX Silver Line. This line replaced the initially proposed 14-miles of bus rapid transit planned for the southeast corridor. With the newly adopted LYNX Silver Line alignment, CATS conducted analysis studies for the remaining transit corridors within the 2030 Transit Corridor System Plan, including the LYNX Red Line/ North Corridor and LYNX West Corridor.

Recently, CATS priority is upgrading its services. In January 2021, CATS discussed with a local publicly traded company regarding upgrading of CATS bus fleet with potential new electric buses and the infrastructure to support those. In March 2021, it announced plans for a roadmap to full bus fleet electrification. A Federal Transit Administration award of $3.4 million, matched by the city, will pay for six Battery Electric Buses plus accompanying charging infrastructure and workforce development. As of February 2021, CATS is also planning to move to a new vendor to provide an enhanced ticketing app that will not only allow for important ticketing features like fare capping but can also integrate real-time route planning data. This will enable riders to buy tickets and plan trips in the same app. Also, in its FY2021 budget, CATS decided not to increase the fare and will provide passes to its employees.

Governance Structure

Metropolitan Transit Commission (MTC) is the policy board for the Charlotte Area Transit System. The Board reviews the transit system's operating and capital programs and makes recommendations to the affected governments for their approval and funding of those programs. It has responsibility for reviewing and recommending all long-range public transportation plans. The MTC is staffed by the City of Charlotte Public Transit Department. MTC comprises of voting and non-voting members. The voting members include Mayors of Charlotte, Cornelius, Davidson, Huntersville, Matthews, Mint Hill and Pineville, Chairman of the Board of Mecklenburg County Commissioners and regional representative from the North Carolina Board of Transportation. The

non-voting members include 5 non-voting members representing local governments outside Mecklenburg County to ensure regional involvement including from the South Carolina Department of Transportation.

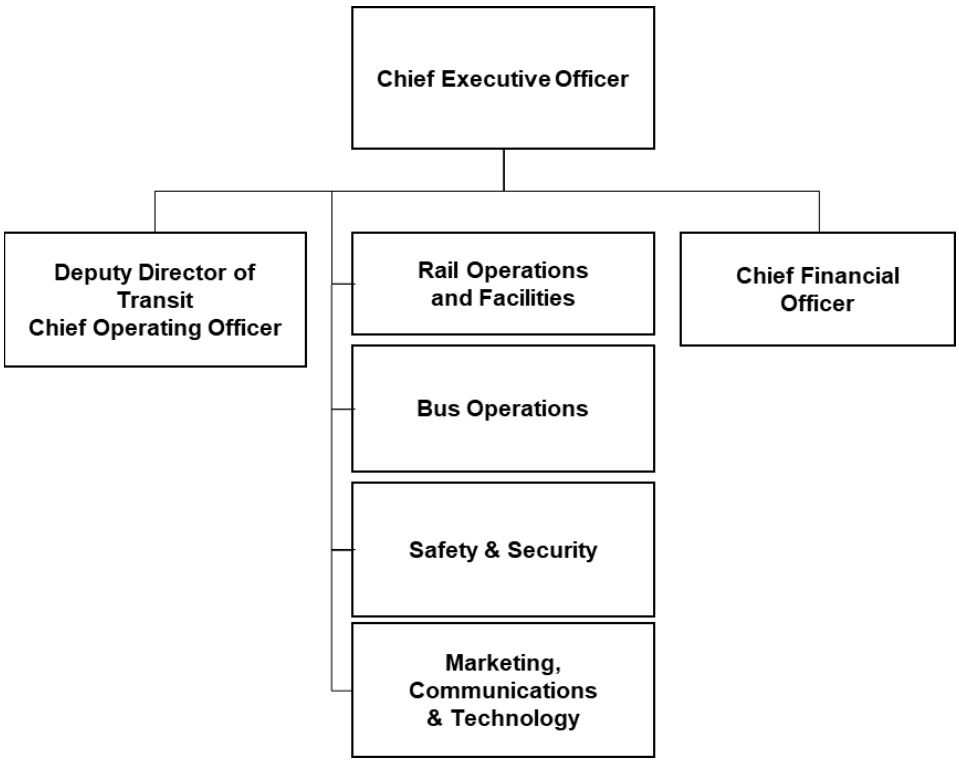
The board is provided public input and guidance by two citizens committees namely The Citizens Transit Advisory Group (CTAG) and The Transit Services Advisory Committee (TSAC). CTAG reviews long range planning whereas TSAC reviews short range transit operations.

CTAG is an advisory committee that reviews the long-range transit system planning and proposed operating and capital programs from the community's perspective and makes recommendations to the MTC. While it is not a policy-making body, its recommendations to the MTC fulfill the requirement levied by the Interlocal Agreement that the MTC ensures public involvement in transit planning. The CTAG is made up of members of the community appointed by the Mecklenburg County Board of Commissioners, the Charlotte City Council, each of the six Towns in Mecklenburg County, and the Charlotte-Mecklenburg Board of Education.

TSAC reviews, makes recommendations and provides input into short-range transit operations. It makes recommendations to the MTC on issues within its sphere of interest, and acts as a vehicle to promote public involvement in short-term transit planning. The TSAC is made up of customers of the CATS and are appointed by the City of Charlotte, Mecklenburg County, and the six Towns.

CATS operations are overseen by the Chief Executive Officer with help of other departments within CATS.

Figure C-9 Organization Structure of CATS

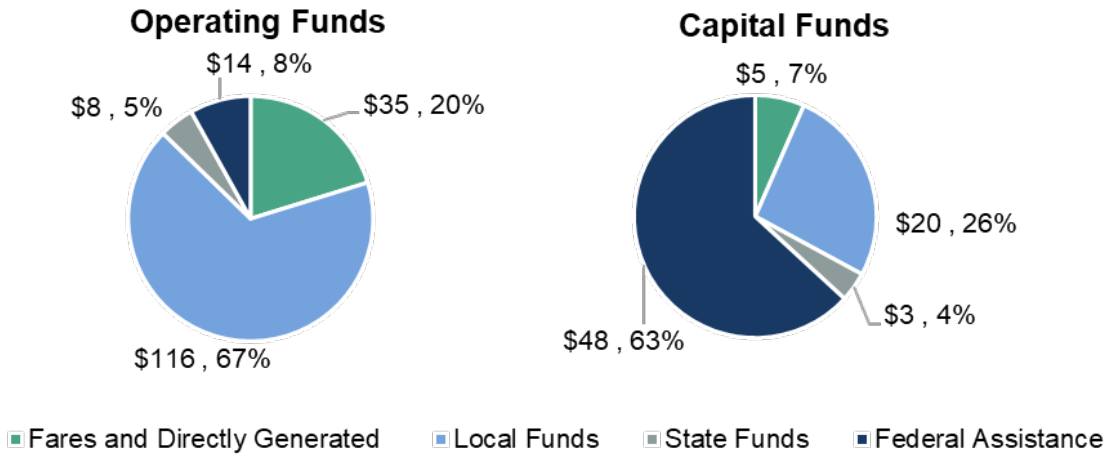


Source: *CATS' Leadership team and FY21 adopted budget*

Funding

Funding for CATS is derived from fares, local funds, state funds, and Federal assistance. A combination of local, Federal, state funds, and fares and directly generated revenue contribute to operating and capital funds for CATS. Funding from local contributions is derived from sales tax receipt and interlocal agreements etc. The below charts summarize CATS' funding sources based on the FY2019 budget.

Figure C-10 CATS FY2019 Budget ($M)



Source: *National Transit Database*

Figure C-11 CATS Projected Budget

Operating fund sources of revenue ($M)	FY2020 Budget	FY2021 Projected
Federal	23.87	17.58
State	8.1	11.28
Local	110.14	106.19
Passenger Fares	28.16	23.55
Others	30.83	34.74
Total	**$201.11**	**$193.34**

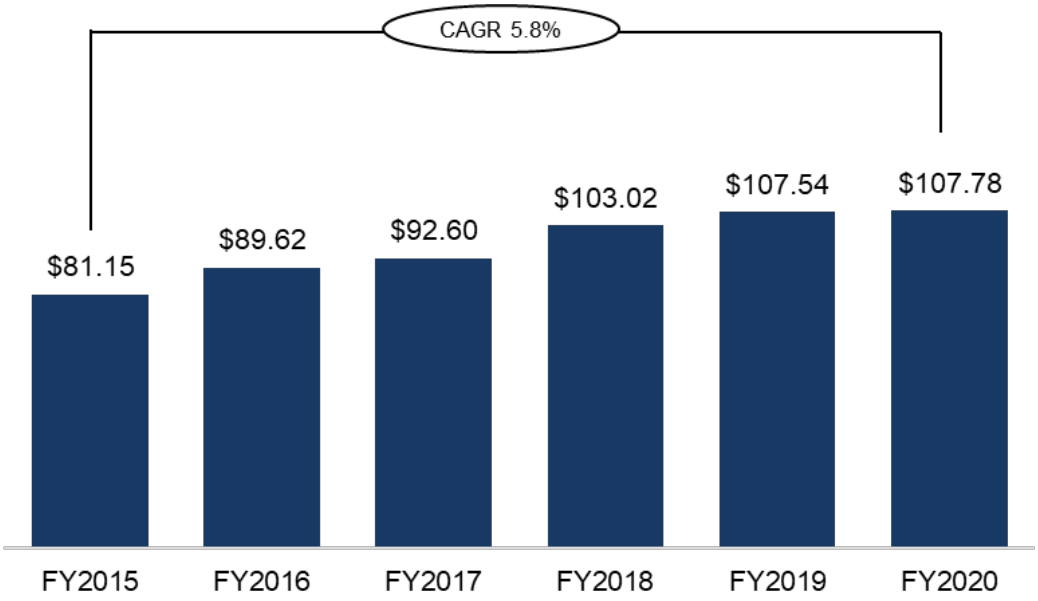
Source: *City of Charlotte FY2021 adopted budget*

CATS capital fund budget FY2021 is ~$46 million including $13 million from federal and $2 million from state sources. It plans to spend about $21 million on Silver Line Light rail and another $12 million on transit vehicles.

CATS has reported an increase in sales tax receipts over the last five years. It grew at a CAGR of 5.8% from 2015 to 2019. Due to the COVID-19 pandemic, the forecast for FY2020 was reduced

from $112.14 million to $107.39 million. FY2021 sales tax budget is $105.98M. However, the model forecasts for year-end receipts are $107.94 million, about $2 million above the budget.

Figure C-12 CATS sales tax receipt ($M)



Source: *Metropolitan Transit Commission's minutes of the meeting Sept 2020*

Metro Transit St. Louis

Agency Overview and History

Metro Transit ("Metro") St. Louis is the public transportation system in the City of St. Louis, Missouri and the surrounding regions of St. Louis County, St. Clair County, Madison County, and Monroe County in Illinois. Metro serves more than 60% of the St. Louis urbanized area, serving an estimated population of 1,566,004.[6] Metro provides three modes of service to the public: MetroBus (bus service), MetroLink (light rail), and Call-a-Ride (demand response service).

Metro, formerly known as the Bi-State Development, was created through an interstate compact amongst Missouri and Illinois, approved by Congress in 1949 and signed by President Truman in 1950. Metro was founded in 1963 after Bi-State Development purchased 15 privately-owned transit operations and consolidated them into the Metro system. Metro has been operating MetroBus since 1963 and MetroLink since 1993.

The following tables provide an overview of Metro's ridership, revenue, and fleet size, including details on its assets, ridership, operations, revenue, and performance by mode of service.[7]

Figure C-13 Metro St. Louis Key Facts

Ridership

Passenger Boarding
36.6M

Average Weekday Ridership
0.12M

Average Saturday Unlinked Trips
0.08M

Average Sunday Unlinked Trips
0.05M

Revenue

Annual Vehicle Revenue Miles
29.7M

Annual Vehicle Revenue Hours
1.9M

Fleet

Vehicles Operated In Maximum Service
484

Vehicles Available for Maximum Service
612

Source: *National Transit Database*

Figure C-14 Metro St. Louis Summary Data by Mode of Transportation

		MetroLink	MetroBus	Metro Call-A-Ride
Assets	No. of total vehicles	87	397	124
	Facilities	2 rail yards 2 maintenance facilities	3 garages and 1 maintenance facility 6 MetroBus Transit Centers	Paratransit maintenance facility at Main Shop

[6] Estimate based on 2010 US Census data.

[7] Based on data from FY2019.

		38 stations 27 park and ride lots	27 free park and ride lots	
Ridership	Average weekday ridership	41,140	72,590	1,875
	Boarding (M)	13	23	0.5
Operations	Coverage	46 miles	84 routes	-
	No. of vehicles at peak	57	332	104
	No. of operators	107	876	180
Revenue	Revenue miles (M)	3.1	18.6	5.3
	Revenue hours (M)	0.13	1.4	0.29
Performance	On-time performance (%)	98	93	95.50

Source: *National Transit Database and St. Louis Metro system profile*

Representative Population

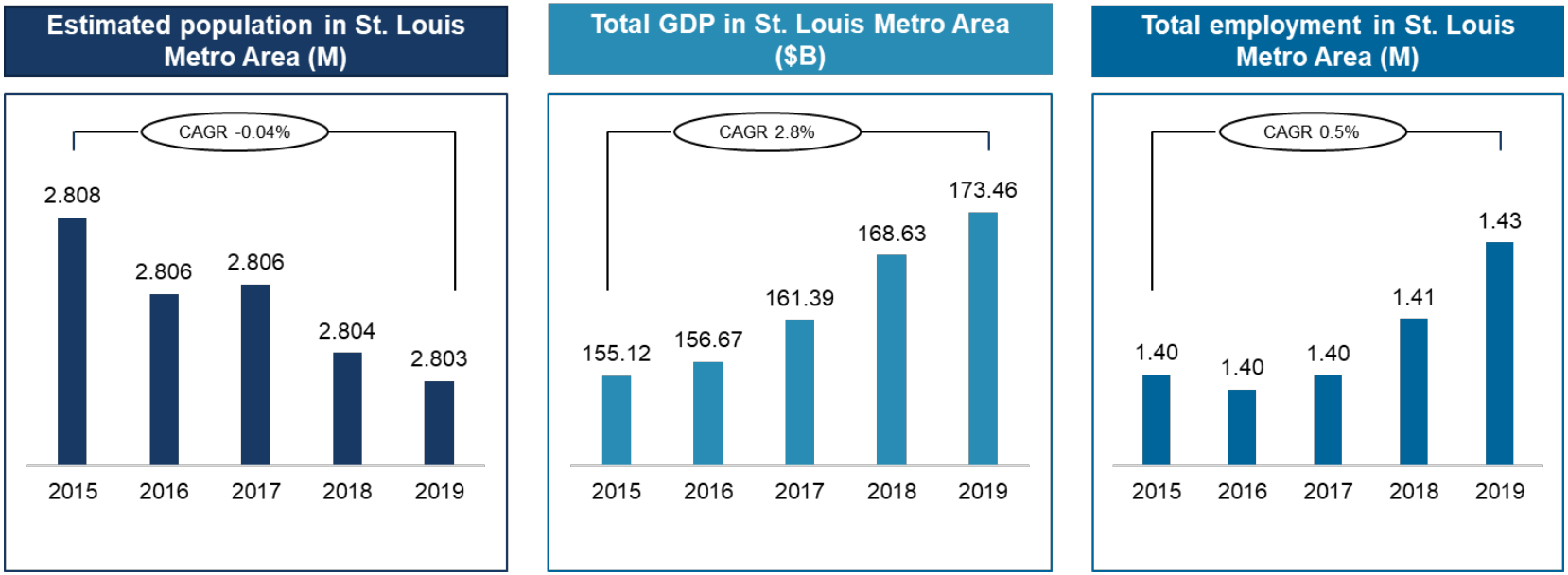
With a service area of 588 square miles, Metro St. Louis serves approximately 60% of the total urbanized area of St. Louis. While the total estimated population in St. Louis declined by 0.04% from 2015-2019, total GDP contributed by all sectors grew at a CAGR of 2.8% during the same time period, and the real GDP for the same period grew by 1.04%. The median income in region grew at a CAGR of 4.1% in the same period. Workers 16 years and over traveling by public transportation decline by 8.7% from 2015-2019.[8]

The St. Louis region has consistently employed over 1.4 million people, and, although total employment in St. Louis increased from 2015-2019, the labor force had an estimated decline in 2020, with an estimated total unemployment rate of 5.9% as of December 2020, when compared to 3.3% in 2019. Employment across all sectors declined in 2020 due to the impacts of the COVID-19 pandemic, with the leisure and hospitality sector facing the largest decline in 2020 due to travel restrictions and lockdowns.

The below charts summarize trends in population growth, total GDP, total employment, housing units, median income, and public transportation users in St. Louis metro area from 2015-2019.

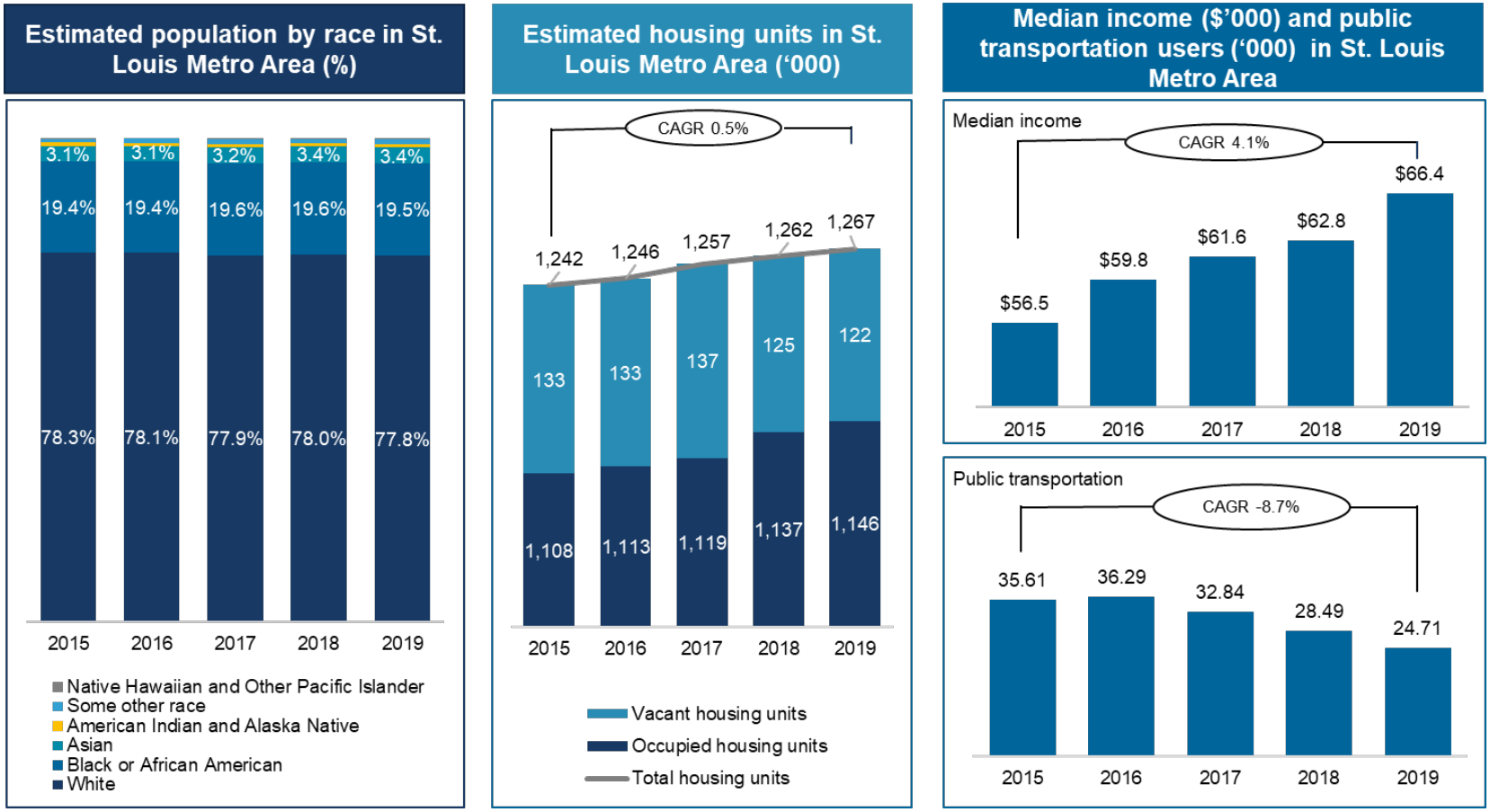
[8] Public transportation excluding taxicabs used by workers 16 years and over.

Figure C-15 St. Louis Metro Area Population, Total GDP, and Employment Trends



Source: *American community survey: Race; Households; Median income and transportation*

Figure C-16 St. Louis Metro Area Population by race, Total Housing Units, Median income, and Public Transportation Users



Source: *Federal Reserve Bank of St. Louis for population and GDP; Bureau of Labor Statistics for employment*

Of the approximately 1.43 million employed in the St. Louis region, 1.4 million are employed in the non-farming sectors. The average hourly wage in St. Louis is $0.84 less than the US national average.[9] On average, a person in the St. Louis region spends approximately 17% of his or her annual wage on transportation, approximately 4% above the national average.[10]

Figure C-17 Non-Farm Employment in St. Louis area ('000)

	Dec-20	Dec-19	Change
Total nonfarm	**1,336.0**	**1,400.3**	●
Trade, transportation, and utilities	263.2	268.6	●
Education and health services	256.6	260.3	●
Professional and business services	204.3	210.2	●
Government	144.5	158.2	●
Manufacturing	116.5	118.9	●
Leisure and hospitality	112.9	145.8	●
Financial activities	92.9	92.9	●
Mining, logging, and construction	67.3	67.3	●
Other services	53.7	51.7	●
Information	24.1	26.4	●

Source: *Bureau of Labor Statistics*

Figure C-18 Average Hourly Wage ($) for Sample Occupations

Occupation	St. Louis area	US	St. Louis area vs. US
All occupations	**24.88**	**25.72**	●
Financial examiners	38.55	44.39	●
Respiratory therapists	27.46	30.75	●
Child, family, and school social workers	22.79	24.53	●
Computer numerically controlled tool operators	20.41	20.75	●
Museum technicians and conservators	19.47	23.09	●
Cooks, institution and cafeteria	12.97	13.96	●

Source: *Bureau of Labor Statistics*

[9] Average hourly wage as of May 2019.
[10] Average annual expenditures for 2018-2019.

Ridership and Performance

The Metro system's ridership declined significantly in 2020 due to the COVID-19 pandemic, with ridership down by approximately 70% for MetroLink, 50% for MetroBus, and 46% for Call-A-Ride in June 2020. In June 2020, Metro was awarded $142.4 million in CARES Act grant funding through the Federal Transit Administration, used towards sustaining operations and preparing for increases in ridership following the pandemic. As of January 2021, Metro targeted service stabilization by the summer of 2021, anticipating that the Metro system will reach approximately 90% of its pre-COVID-19 service levels.

The table on the following page compares the FY2019 and FY2018 operations, revenues, service efficiency, and asset condition across Metro St. Louis' three modes of transportation.

Figure C-19 Summary of Performance and Operations for St. Louis Metro, FY2018-2019

		MetroLink			MetroBus			Metro Call-A-Ride		
		2019	2018	▲	2019	2018	▲	2019	2018	▲
Operations	Annual passenger miles (M)	89.07	92.94	●	128.27	125.71	●	6.34	6.3	●
	Annual vehicle revenue hours (M)	0.261	0.265	●	1.379	1.401	●	0.288	0.29	●
Revenues	Fare revenues ($M)	13.84	14.21	●	24.55	25.13	●	2.14	2.68	●
Service efficiency and effectiveness	Operating expenses per vehicle revenue mile ($)	13.99	12.92	●	9.15	8.79	●	5.13	5.01	●
	Operating expenses per passenger mile ($)	0.96	0.86	●	1.32	1.3	●	4.2	4.14	●
Asset condition	Average fleet age in years*	20.3	19.3	●	7.2	7.4	●	7	6	●

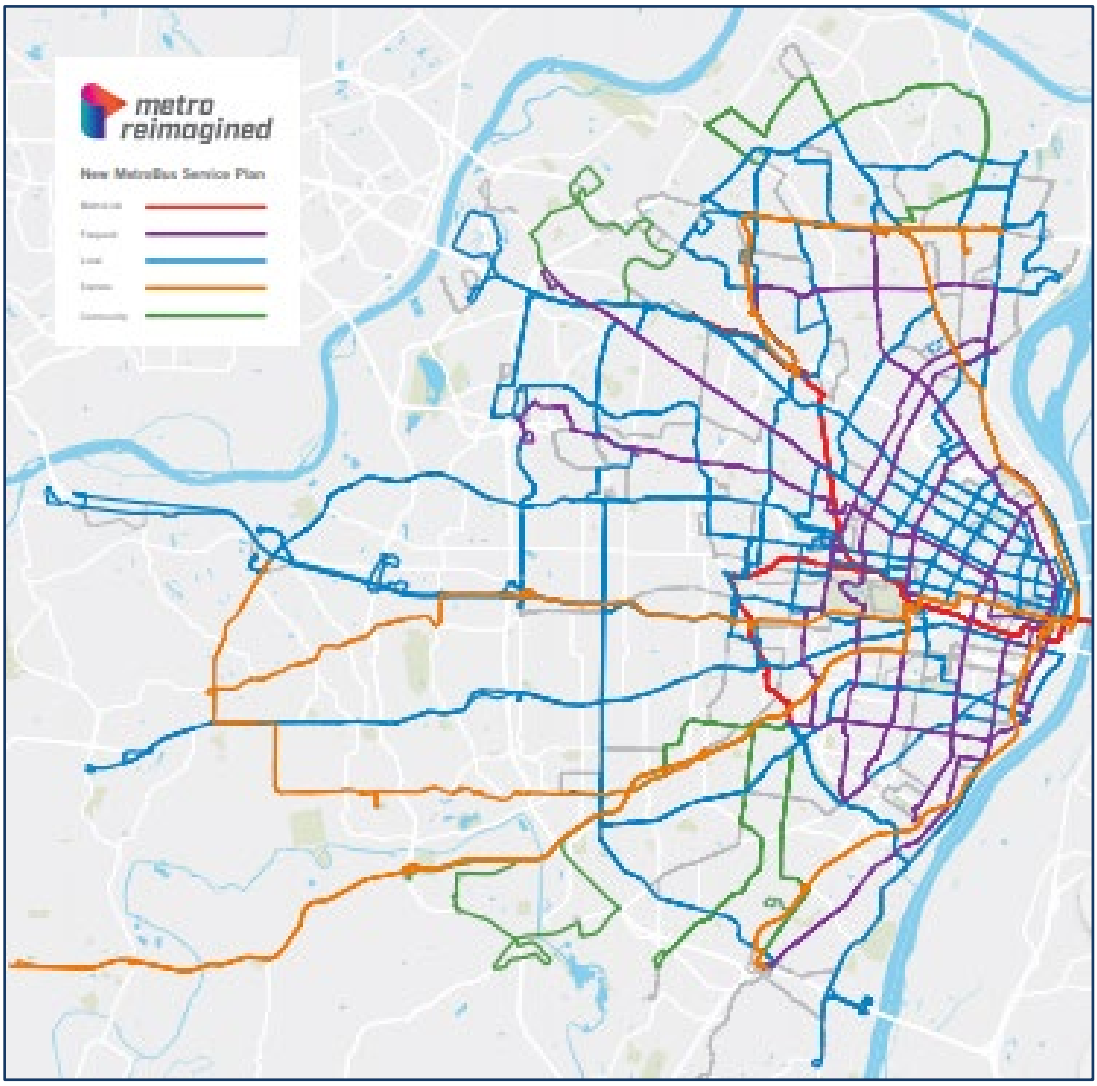
* Call-on-ride- Taxi (DT) and non-dedicated fleets do not report fleet age data.

Source: *National Transit Database*

Strategic Plans and Priorities

Metro St. Louis' strategic priorities are guided by both its long-range and short-term plans. The Moving Transit Forward Long-Range Plan is the region's vision for sustaining and expanding the regional transit system over the next 30 years. The plan was developed in collaboration with Metro, East-West Gateway Council of Governments (EWGCOG), and community and regional stakeholders in 2009 following challenges maintaining its quality and levels of service due to budget constraints and negative impacts to ridership. Moving Transit Forward's key objectives are to improve mobility, stimulate job growth and economic development, reduce pollution and traffic congestion, and improve quality of life for the community's citizens. The plan divides its phases into immediate steps, short-range, mid-range, and long-range plans, with MetroLink extensions and the planning, construction, and operations of Bus Rapid Transit routes as key planned capital projects throughout each phase. As part of the next steps forward in Metro's long-range plan, Metro is conducting a Rapid Transit Connector Study to identify options for and assess the costs of benefits associated with bus-based rapid transit routes between Downtown St. Louis and the surrounding suburban areas of St. Louis County. The bus rapid transit would be highway based on interstates and/or major arterials in the region.

Figure C-20 Metro Reimagined Service Plan



Source: *BSD FY2020 annual report*

In September 2019, Metro launched its Reimagined service plan to increase service frequency, offer faster and more direct trips, and improve weekend service options to heavily trafficked areas in the region. The plan was the result of a two-year analysis of the Metro Transit System that recommended improvements to customer levels of service. Community engagement and ridership input have been incorporated into the stages of the planning process and have resulted in adjustments to the service plan based on responses from the feedback received by the community's engagement.

Further, Metro St. Louis is guided by its Transit Improvement Plan, released for the upcoming three-year period, emphasizing plans to achieve its goals for safety, improved service delivery, and customer service. Metro's Transit Improvement Plan has been published for 2023.

Recently, Metro's priorities have been focused on developing mobility solutions for riders. As of November 2020, Metro added a new mobility solution SCCTD VanGo to replace service on one if its routes. In June 2020, Metro launched a new on-demand service, Metro STL, operating in southwest and north St. Louis County. The service allows riders to hail a vehicle directly from their mobile devices.

Also, a recent priority, Metro is developing a new fare policy, based on ridership stabilization and fiscal responsibility, customer and community focus, and prioritization of equitable fares and access to transit services. The proposed fare structure would include a flat fare for a 2-hour period, and no charge would be given for transfers within the 2-hour period. Flat fares may be varied for service quality (e.g., an express or limited stop) but would not be adjusted based on distance traveled alone. Metro plans to release an RFP related to its Fare Collection System technology once a new fare policy is finalized.

Within the FY2021 budget, Metro has established the following goals and priorities:

- Create a safer, more secure transit system;
- Improve the image of the agency by growing and sustaining ridership and by developing and engaging team members;
- Maximize current in-house automated technology capabilities to most efficiently complete accounting and budget functions;
- Evaluate reporting requirements, business units, and departmental functions for redundant and unnecessary activities.

Governance Structure

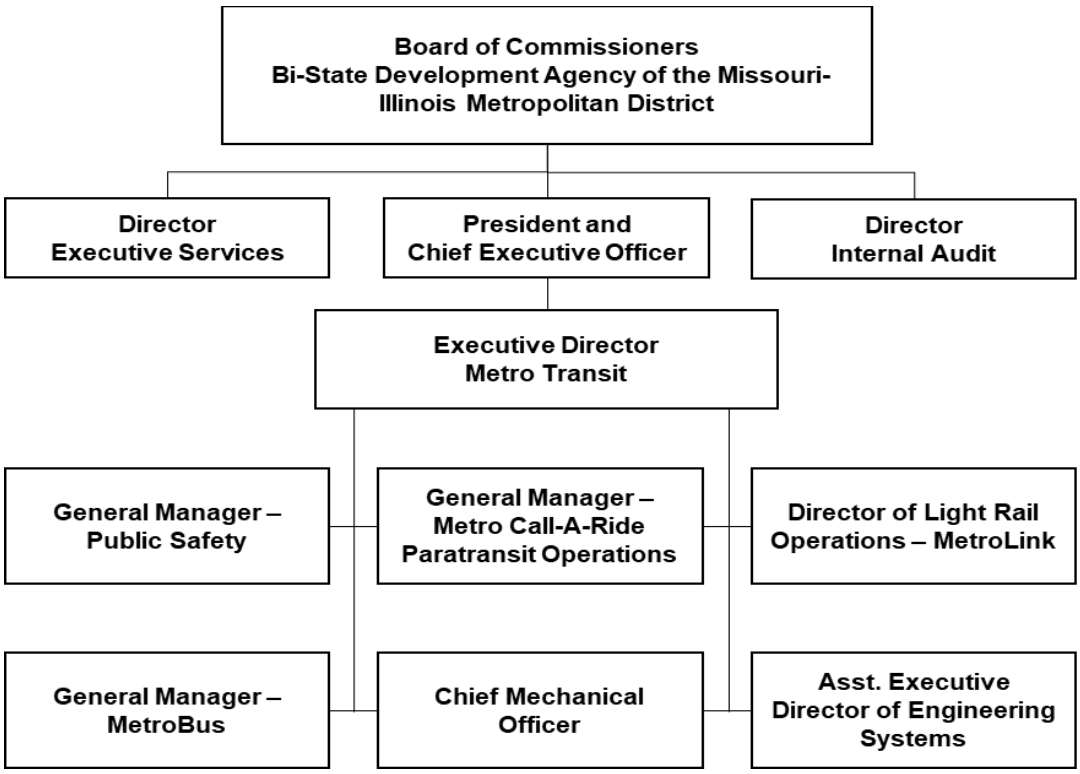
Metro Transit St. Louis is an enterprise of Bi-State Development Agency, formed in 1949 as an interstate compact between the States of Missouri and Illinois and signed in 1950. The organization was given the authority to plan, construct, maintain, own, and operate bridges, tunnels, airports, and terminal facilities, in addition to establish sewage and drainage facilities, establish public projects, and issue bonds. Bi-State Development was given a regional jurisdiction of seven counties across Missouri and Illinois: St. Louis City, St. Louis County, St. Charles County, Jefferson County, St. Clair County, Madison County, and Monroe County. While Bi-State Development does not have the authority to tax, it does have the authority to collect fees from facilities operations.

Beyond its Metro Transit System, BSD also owns and operates the Downtown St. Louis Airport and adjacent industrial park, operates the Gateway Arch Riverfront, and the St. Louis Regional Freightway.

The BSD is overseen by a Board of Commissioners responsible for establishing the policies and strategic priorities for the organization. The Board of Commissioners is comprised of ten members, five from Missouri and five from Illinois. The Missouri Board members are appointed by the Governor of Missouri, and the Chairman of the Board for St. Clair and Madison Counties appoint their representatives. Members must reside within the bi-state metropolitan region.

The Board of Commissioners is responsible over the executive leadership of the BSD, including the President and Chief Executive Officer, Director of Executive Services, and Director of Internal Audit. Subcommittees under the BSD include the Executive Committee for Pension, Finance and Audit Operations Committee, Strategic Planning Committee, and Nominating Committee. The below graphic depicts the organization structure of the BSD.

Figure C-21 Bi-State Development Agency Organization Structure

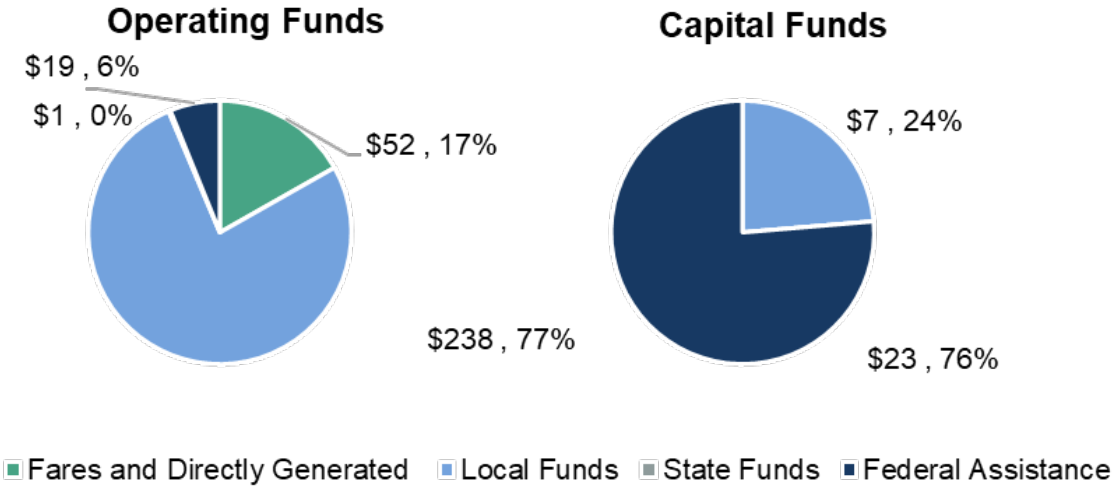


Source: *Bi-State Development Board*

Funding

Funding for Metro is derived from fares, local funds, state funds, and Federal assistance. Local funds and Federal assistance contribute to Metro's capital funds, and a combination of local, Federal, state funds, and fares and directly generated revenue contribute to operating funds. Funding from local and state contributions derives from such sources as local sales tax, planning and demo reimbursement, general operating and special MODOT, etc. St. Louis County and St. Louis City collectively contribute a total of 1% in sales tax to Metro, and St. Clair County in Illinois contributes between 3-4% in sales tax. The below tables summarize Metro's funding sources based on the FY2019 budget.

Figure C-22 Metro St. Louis FY2019 Budget



Source: *National Transit Database*

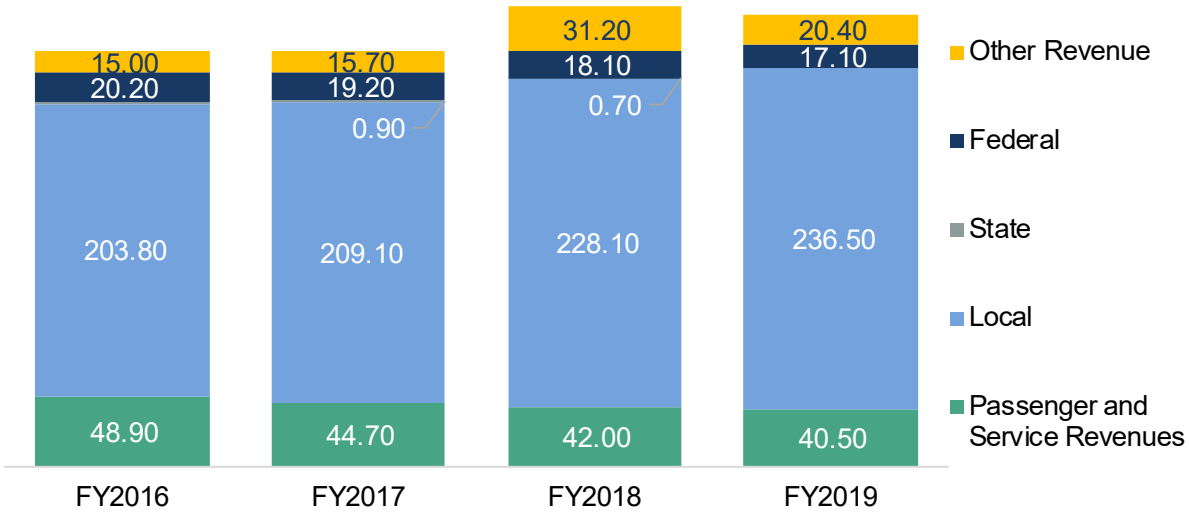
Figure C-23 Metro St. Louis Projected Budget

Federal funds ($M)	FY2019 Actual	FY2020 Budget	FY2021 Projected
Vehicle maintenance	16.00	16.00	16.00
Non-capitalized projects	0.96	4.59	5.72
Other federal	0.11	-	-
Total Federal	**17.07**	**20.59**	**21.72**

Source: *BSD FY2021 budget*

Metro has reported an annual income loss of more than $60 million for the last five years and has witnessed a decline in passenger and service revenue. The following tables summarize Metro's revenue contributions (passenger and service revenues, local, state, Federal, other revenue sources) and income loss before capital contributions from the years FY2016 through FY2019.

Figure C-24 Metro St. Louis Revenue ($M), FY2016-FY2019



Source: *BSD annual reports*

Figure C-25 Metro St. Louis Income (Loss) Before Capital Contributions ($M)

Source: *BSD annual reports*

Based on Metro's three-year Transportation Improvement Plan, between FY2021-2023 BSD anticipates spending between $4-5 million annually on non-capital projects. Federal assistance provides an average of 80% funding for these projects. The following table summarizes the Transit Improvement Plan's budget for FY2021 and estimated expenses for FY2022 and FY2023.

Figure C-26 Metro Transit Improvement Plan FY2021 - FY20223

$M	FY2021 Budget	FY2022 Projected	FY2023 Projected
Total operating revenues	44	44	44
Total non-operating revenues	291	296	299
Total operating expenses	310	313	316
Total non-operating expenses	28	28	28
Net income (deficit)	(81)	(79)	(79)

Source: *BSD FY2021 budget*

Salt Lake City / Utah Transit Authority

Agency Overview and History

The Utah Transit Authority ("UTA") was incorporated on March 3, 1970 after residents from Salt Lake City and surrounding communities of Murray, Midvale, Sandy and Brigham voted to form a public transit district. UTA was formed under authority of the Utah Public Transit District Act of 1969 for the purpose of providing a public mass transportation system for Utah communities. a UTA with its vast network of fixed route services including commuter bus, commuter rail, light rail and trolleybus, as well as ADA Paratransit and Rideshare programs provides service in seven counties - Box Elder, Davis, Salt Lake, Tooele, Utah, Weber, and limited service in Summit County in Utah. Currently, UTA employs 2,586 employees.

The following tables provide an overview of Metro's ridership, revenue, and fleet size, including details on its assets, ridership, operations, revenue, and performance by mode of service.[11]

Figure C-27 UTA Key Facts

Ridership

Annual Passenger Miles
355.3M

Average Weekday Ridership
0.2M

Annual Unlinked Trips
44.6M

Average Sunday Unlinked Trips
29,486

Average Saturday Unlinked Trips
77,094

Revenue

Annual Vehicle Revenue Miles
39.5M

Annual Vehicle Revenue Hours
2.2M

Fleet

Vehicles Operated In Maximum Service
1,141

Vehicles Available for Maximum Service
1,475

Source: *National Transit Database*

[11] Based on data from FY2019.

Figure C-28 UTA Summary Data by Mode of Transportation

		Commuter Bus	Commuter Rail	Demand Response	Light Rail	Bus	Vanpool
Assets	No. of total vehicle	41	50	110	89	421	430
	Vehicles available for maximum service	45	69	165	117	535	544
Ridership	Annual unlinked trips (M)	0.5	5.2	0.4	17.1	20.2	1.1
Operations	No. of vehicles directly operated	41	50	64	89	416	430
	Fixed guideway directional route miles	-	174.5	-	93.9	9.4	-
Revenue	Revenue miles (M)	0.9	5.4	2.9	6.6	17.3	6.5
	Revenue hours (M)	0.035	0.2	0.2	0.4	1.3	0.2
Uses of capital funds	Revenue vehicles ($M)	-	-	0.1	-	11.5	3.1
	Systems and guideways ($M)	-	6.7	0.1	18.5	8.8	0.047
	Facilities and stations (SM)	-	2.2	0.1	1.1	5.1	-

Source: *National Transit Database*

Representative Population

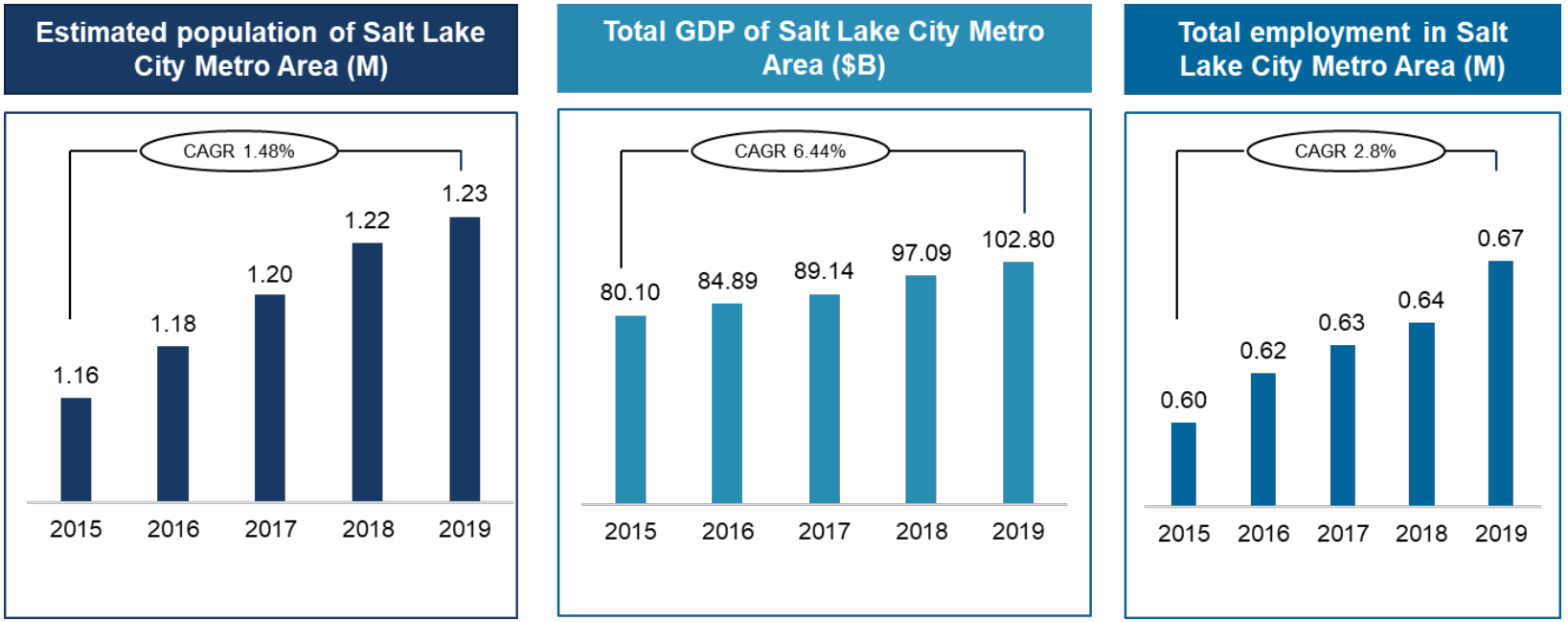
With a service area of 737 square miles, UTA serves the entire urbanized area of Salt Lake City metro o area. While the total estimated population in metro area increased by 1.48% from 2015-2019, total GDP contributed by all sectors grew at a CAGR of 6.44% during the same time period, and the real GDP for the same period grew by 4%. The median income in region grew at a CAGR of 5.1% in the same period. Workers 16 years and over traveling by public transportation grew by 0.01% from 2015-2019.[12]

The metro area region has consistently employed over 0.6 million people, and, although total employment in metro area increased from 2015-2019, the estimated total unemployment rate increased in 2020 to 3.5% as of December 2020, when compared to 2.1% in 2019. Due to the impact of COVID-19 pandemic, employment across all sectors declined in 2020 except trade, transportation, and utilities, information, mining logging, and construction and financial activities. The leisure and hospitality sector faced the largest decline in 2020 due to travel restrictions and lockdowns.

The below charts summarize trends in population growth, total GDP, total employment, housing units, median income, and public transportation users in Salt Lake City metro area from 2015-2019.

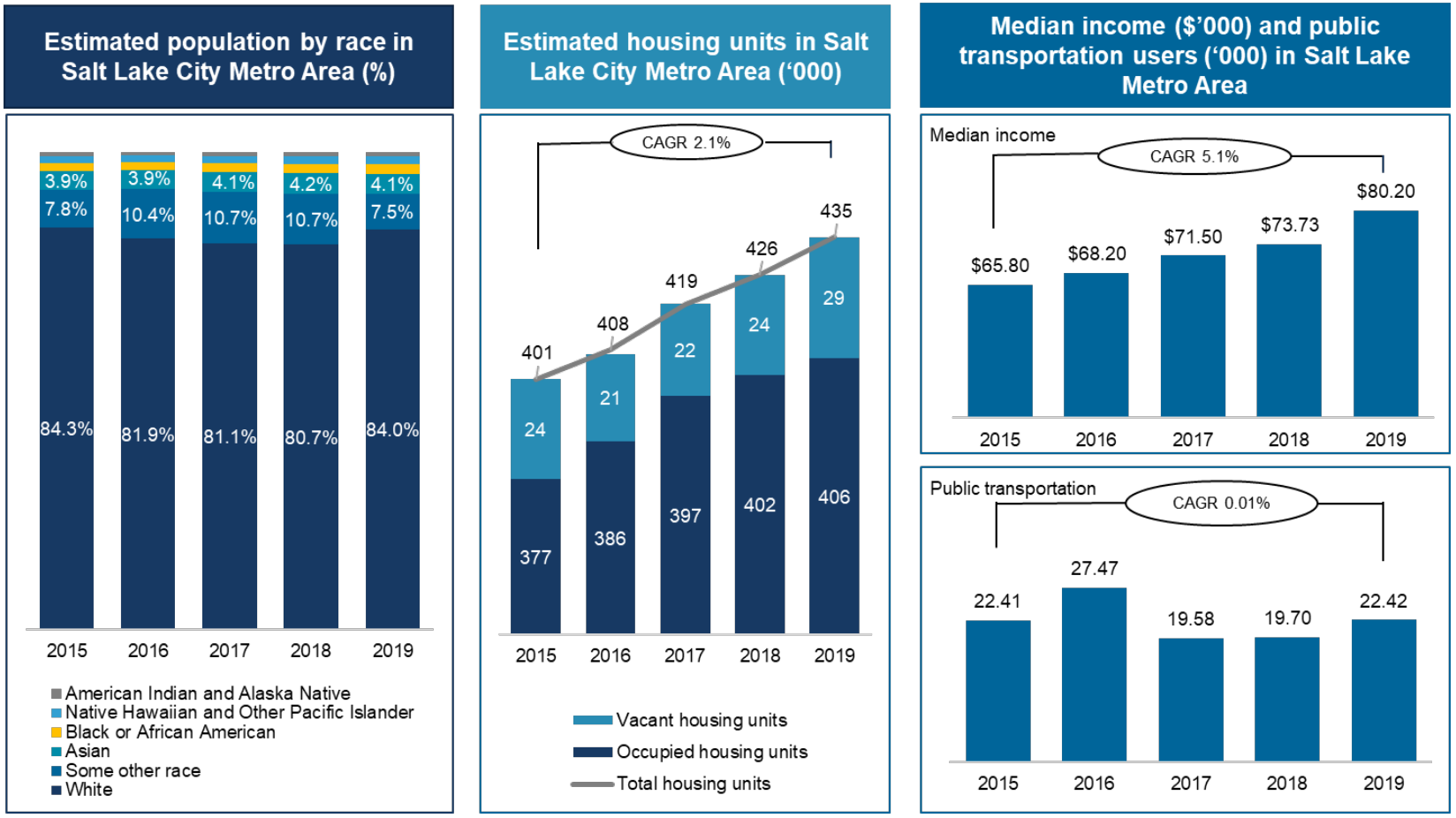
[12] Public transportation excluding taxicabs used by workers 16 years and over

Figure C-29 Salt Lake City Metro Area Population, Total GDP, and Employment Trends



Source: *Federal Reserve Bank of St. Louis for population and GDP; Bureau of Labor Statistics for employment*

Figure C-30 Salt Lake City Metro Area Population by Race, Total Housing Units, Median income, and Public Transportation Users



Source: *American community survey: Race; Households; Median income and transportation*

In January 2021, approximately 0.7 million people were employed in the non-farming sectors. The average hourly wage in the metro area is $0.39 less than the US national average.[13] The average weekly wage in the area is $28 less than the US national average.[14]

Figure C-31 Non-Farm Employment in Salt Lake City Metro Area ('000)

	Jan-21	Jan-20	Change
Total nonfarm	**747.7**	**752.7**	●
Trade, transportation, and utilities	153.1	149.4	●
Professional and business services	132.5	129.8	●
Government	104.9	111.6	●
Education and health services	87.1	87.4	●
Financial activities	63.4	61.2	●
Manufacturing	58.3	58.8	●
Leisure and hospitality	57.7	64.7	●
Mining, logging, and construction	49.2	47.5	●
Other services	21.1	22.0	●
Information	20.4	20.3	●

Source: *Bureau of Labor Statistics*

Figure C-32 Average Hourly Wage ($) for Sample Occupations

Occupation	Salt Lake City Metro Area	US	Salt Lake City Metro Area v/s US
All occupations	**$25.33**	**$25.72**	●
Physician assistants	49.58	54.04	●
Web developers and digital interface designers	36.77	39.60	●
Accountants and auditors	33.61	38.23	●
Customer service representatives	17.68	17.94	●
Shipping, receiving, and inventory clerks	15.94	17.32	●
Retail salespersons	14.15	14.12	●

Source: *Bureau of Labor Statistics*

[13] Average hourly wage as of May 2019.

[14] Average weekly wage by county as of Q3 2020

Ridership and Performance

The UTA ridership declined significantly in 2020 due to the COVID-19 pandemic, with ridership down to 23.5 million for FY2020 representing a 46.8% drop from FY2019. Ridership on buses declined by 40%, declined on light rail by 52%, by 36% on the S-Line streetcar; and by 61% on the commuter train system. In FY2020, revenue from passengers declined by 39% as compared to FY2019. UTA's sales tax receipts increased by 3.7% y-o-y in FY2020 (through November). UTA lost about $21 million in fare box revenue, but also received about $97 million so far out of CARES Act funding from the federal government that helped offset its losses.

The table on the following page compares the FY2019 and FY2018 operations, revenues, service efficiency, and asset condition across UTA's six modes of transportation.

Figure C-33 Summary of Performance and Operations for UTA, FY2018-2019

		Commuter Bus			Commuter Rail			Demand Response			Light Rail			Bus			Vanpool		
		2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲
Operations	Annual passenger miles (m)	12.1	12.4	🔴	133.7	129.7	🟢	4.4	4.6	🔴	83.1	89.1	🔴	84.9	79.3	🟢	37	43.1	🔴
	Annual vehicle revenue hours (m)	0.035	0.041	🔴	0.17	0.16	🟢	0.182	0.18	🟢	0.37	0.36	🟢	1.3	1.2	🟢	0.2	0.17	🟢
Revenues	Fare revenues ($m)	0.5	0.5	🟡	7.1	7.4	🔴	0.3	0.4	🔴	17.6	18.1	🔴	19	17.8	🟢	3.93	3.95	🔴
Service efficiency and effectiveness	Operating expenses per vehicle revenue mile ($)	9.3	8.1	🔴	8.2	8	🔴	7	6.7	🔴	10.8	10.7	🔴	8.8	8.3	🔴	2.5	3	🟢
	Operating expenses per passenger mile ($)	0.7	0.7	🟡	0.3	0.3	🟡	4.6	4.1	🔴	0.9	0.8	🔴	1.78	1.76	🔴	0.43	0.44	🟢
Asset condition	Average fleet age in years [15]	14.4	12.6	🔴	17.5	17.2	🔴	4.1	4.3	🟢	12.3	11.3	🔴	6.7	7.9	🟢	5.6	5.4	🔴

Source: *National Transit Database*

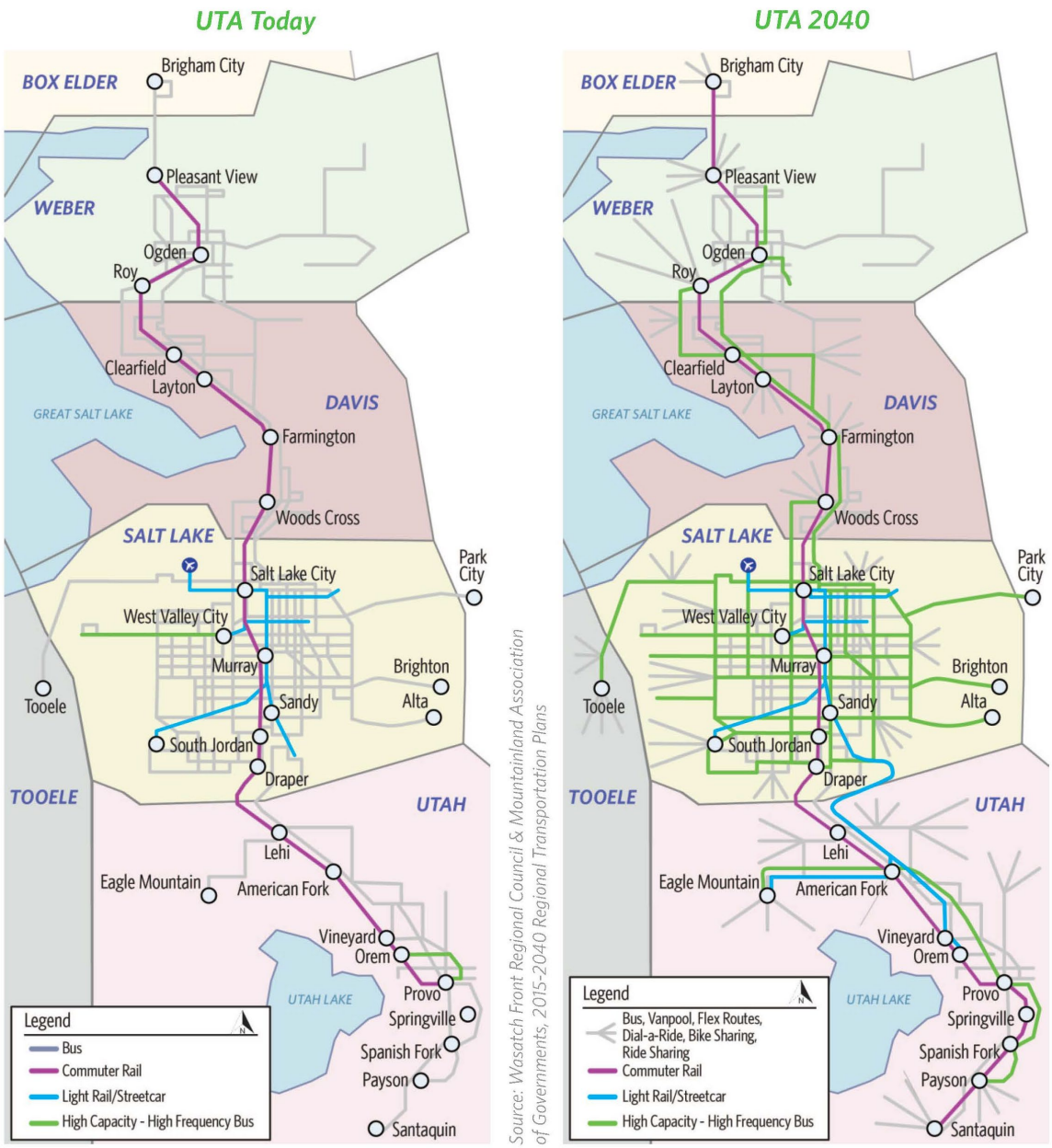
[15] Demand Response - Taxi (DT) and non-dedicated fleets do not report fleet age data.

Strategic Plans and Priorities

UTA strategic priorities are guided by both its long-range and short-term plans. UTA has developed a 2040 strategic plan to guide the agency's vision for integrated mobility going forward. Strategic areas of focus include:

- **Customer Experience:** Aims to deliver safe, reliable, accessible and easy-to understand mobility solutions that improve quality of life, enhance the user experience and increase access to community and employment resources
- **Leadership and Advocacy:** Plans to continue serving as leaders and advocates for our communities by supporting sound public policy and transportation plans that improve quality of life and build strategic partnerships designed to solve mobility challenges
- **Access to Opportunity:** Plans to utilize technologically advanced analytics and planning tools to design and implement an optimized, total transit network that connects people to their communities

Figure C-34 2040 UTA's Strategic Plan



Source: *UTA strategic plan*

- **Strategic Funding:** Aims to identify new funding strategies while maximizing existing resources in order to optimize service offerings
- **Workforce of the Future:** Aims to promote a culture that fosters a dynamic workforce of diverse and engaged employees who are committed to improving their everyday work.

UTA adopted its first five-year service plan in February 2021. The plan is focused toward the "core route network" where main arterial routes would run every 15 minutes. The authority plans to shift toward more all-day service, instead of focusing mostly on morning and afternoon commutes. The plan outlines some major changes envisioned in different counties, such as Salt Lake, Utah, Davis, Weber and Box Elder. The plan is divided into four phases where the operational planning will begin in late 2021 whereas implementation of service changes identified in the plan are scheduled to commence in 2022.

Figure C-35 UTA's Service Plan's Phases

Strategic Planning	Collaborates in the development of long-range Regional Transportation Plans (RTPs)
	WFRC and MAG develop RTPs in partnership with the community, UTA, and other partner agencies
	These plans set the direction for the region's transportation system over the next 30 years
Service Planning	Five-Year Service Plan covers all UTA transit services that do not involve major capital construction projects
Operations Planning	Translates proposed changes into guidance for transit operations
	This often leads to further adjustments to the Five-Year Service Plan
Implementation	All final transit service changes become active on one of UTA's Change Days, which occur every April, August, and November
	UTA informs affected riders well in advance about service changes through social media, new printed schedules, signage at transit stops, and media announcements

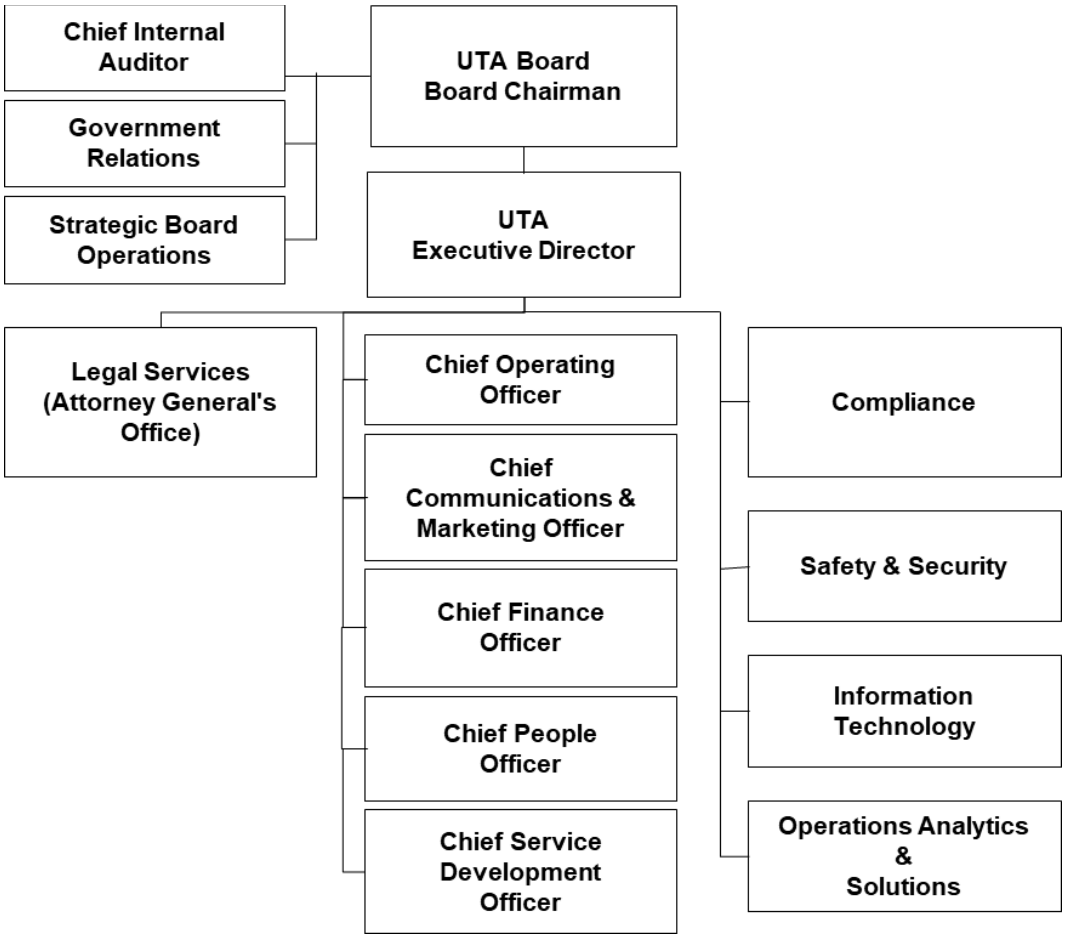
Source: *UTA service plan*

Recently, UTA adopted a new fare policy which went into effect in December 2020. UTA Board of Trustees adopted the proposed changes to the UTA fare structure in October 2020. The fare policy intends to change current discount structures to align with other discount levels, eliminate some fare products for simplification, streamline the public fare structure by creating a single fare for all premium bus services etc. Proposed fare structure included no change in the base fare and premium bus services priced at two times the base fare.

Governance Structure

UTA was incorporated under authority of the Utah Public Transit District Act of 1969. The UTA is governed by a three-member full-time board of trustees. The Governor appoints nominees from the three appointing districts within the UTA service territory to serve as trustees. UTA also has a nine-member local advisory council. The local advisory council representation includes: three members appointed by the Salt Lake County council of governments; one member appointed by the Mayor of Salt Lake City; two members appointed by the Utah County council of governments; one member appointed by the Davis County council of governments; one member appointed by the Weber County council of governments; and one member appointed by the councils of governments of Tooele and Box Elder counties. Terms for local advisory council members are indefinite. The board of trustees hires, sets the salaries, and develops performance targets and evaluations for the Executive Director, Internal Auditor, and any chief level officer. The Executive Director provides advice to, the board of trustees. Legal counsel is provided by the Utah Attorney General's Office.

Figure C-36 UTA's Organization Structure

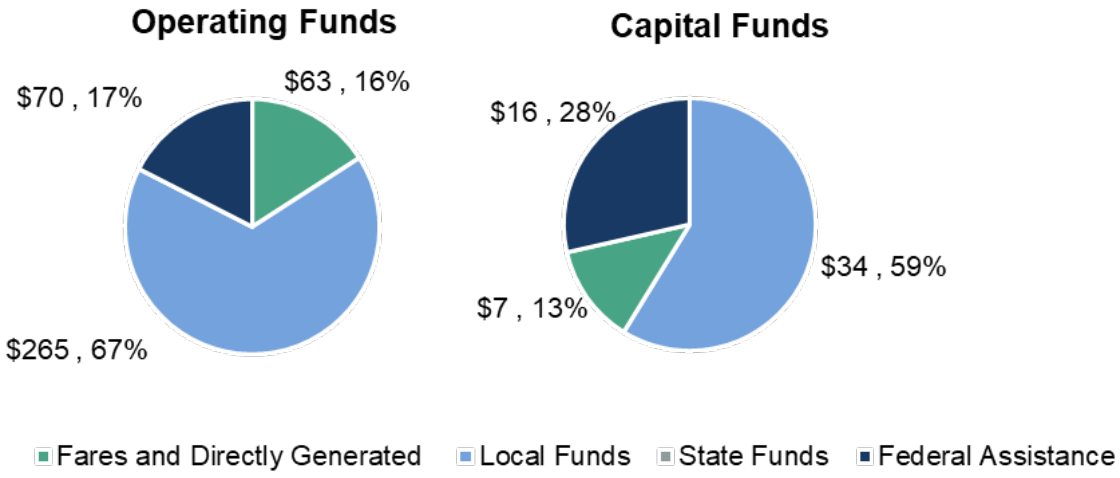


Source: *UTA FY2019 CAFR*

Funding

Funding for UTA is derived from fares, local funds, state funds, and Federal assistance. Local, state funds and Federal assistance contribute to UTA's capital funds, and a combination of local, Federal, and fares and directly generated revenue contribute to operating funds. Eligible CARES Federal Act funding of $101 million is anticipated in FY2021. About 84% of the budget has been allocated for operations and maintenance of system. Local funds include sales taxes levied by each county. The below charts summarize UTA's funding sources based on the FY2019 budget.

Figure C-37 UTA's FY2019 Budget



Source: *National Transit Database*

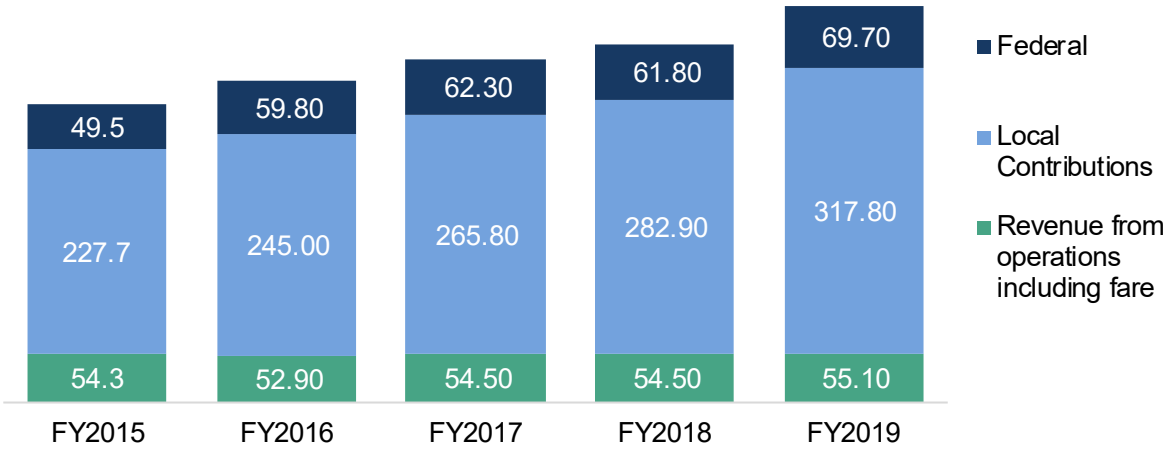
Figure C-38 UTA's Projected Budget

UTA operating revenues ($M)	FY2021 Projected
Federal	70.51
Local	364.1
Passenger	31.98
CARES funding	101
Other	16.83
Total budget	**584.41**

Source: *UTA FY2021 budget*

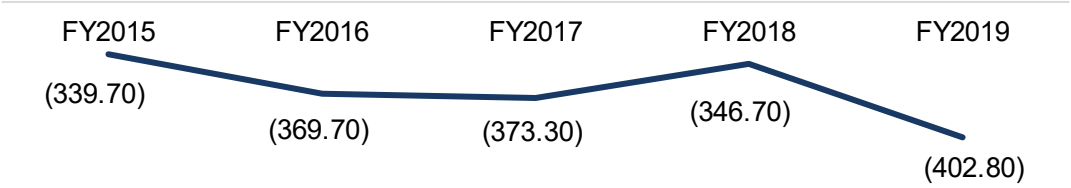
UTA has reported an annual income loss from operations of more than $330 million for the last five years and has witnessed an increase in passenger and service revenue in the same period. The following tables summarize UTA's revenue contributions (passenger and service revenues, local, state, Federal[16]) and income loss from operations contributions from the years FY2015 through FY2019.

Figure C-39 UTA Revenue ($M), FY2015-FY2019



Source: *UTA CAFR FY2019*

Figure C-40 UTA Income (Loss) from operations ($M)



Source: *UTA CAFR FY2019*

[16] In the revenue break up chart, added operating revenue and operating revenue earned through sales tax, Federal Preventative Maintenance Grants only

Southeastern Pennsylvania Transportation Authority (SEPTA)

Agency Overview and History

Southeastern Pennsylvania Transportation Authority ("SEPTA") is the public transportation system that serves Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties with connections into New Jersey and Delaware. SEPTA serves more than 42% of the urbanized area, serving an estimated population of 3,426,793.[17] SEPTA provides a vast network of fixed route services including bus, subway, light rail, trolleybus, and Regional Rail, as well as ADA Paratransit and Shared Ride programs.

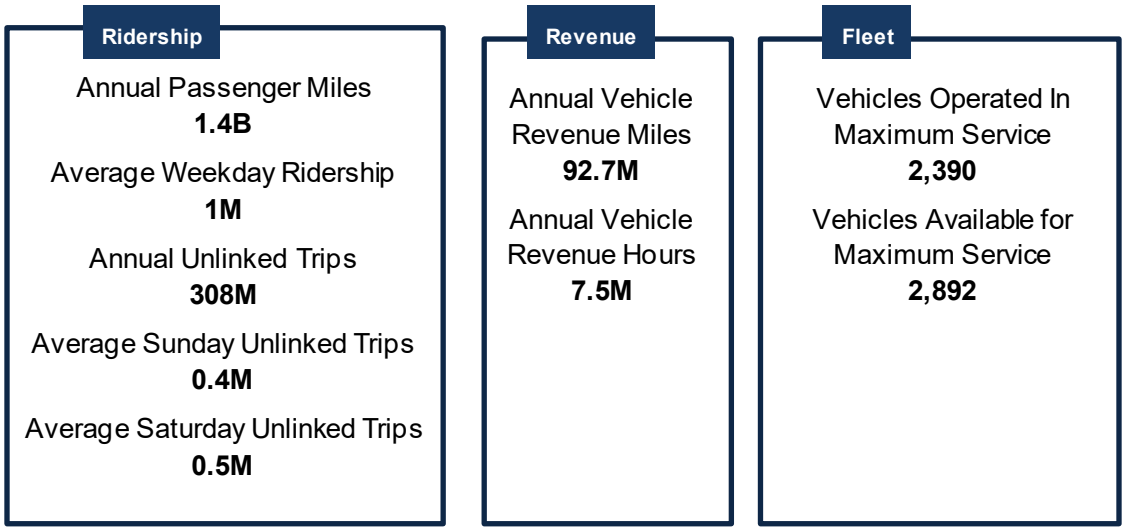
SEPTA was created by the Pennsylvania General Assembly in 1964 as a solution to the need for a regional approach to transit. In 1968, SEPTA acquired the Philadelphia Transportation Company after five years of negotiations. The Philadelphia Transportation Company was created January 1, 1940 and was responsible for the operation of buses, trolleys, trackless trolleys, and subway elevated line in the Philadelphia area. In 1983, SEPTA was required to take over all operations of Conrail's passenger railroad to be integrated with the Authority's existing transit services. Conrail, which was federally funded, had originally assumed responsibility for the passenger services of the Pennsylvania Railroad and the Reading Company in 1976. Both railroads went bankrupt due to the decline in the demand for the transportation of coal, the introduction of superhighways, and the advance of air travel. After a difficult transition and a 108-day strike by Conrail railroad workers, SEPTA's Regional Rail Division was established. Between Fiscal Years 2012-2016, Regional Rail had outpaced transit in annual ridership growth and is a critical component in Southeastern Pennsylvania's economic engine. Currently, SEPTA employs a workforce of approximately 9,500.

The following tables provide an overview of Metro's ridership, revenue, and fleet size, including details on its assets, ridership, operations, revenue, and performance by mode of service.[18]

[17] Estimate based on 2010 US Census data.

[18] Based on data from FY2019.

Figure C-41 SEPTA Key Facts



Source: *National Transit Database*

Figure C-42 SEPTA Summary Data by Mode of Transportation

		Commuter Rail	Demand Response	Heavy Rail	Bus	Streetcar Rail	Trolleybus
Assets	No. of total vehicle	348	415	287	1,191	120	29
	Vehicles available for maximum service	411	459	363	1,462	159	38
Ridership	Annual unlinked trips (M)	34.7	1.5	90.7	153.9	22.8	4.5
Operations	No. of vehicles directly operated	348	-	287	1,185	120	29
	Fixed guideway directional route miles	446.9	-	74.9	2.4	82.9	30.6
Revenue	Revenue miles (M)	20.3	10.2	17.1	41.3	3.2	0.6
	Revenue hours (M)	1	1	0.9	4.1	0.4	0.1
Uses of capital funds	Revenue vehicles ($M)	72.4	6.7	24.9	118.6	10.8	4.9
	Systems and guideways ($M)	123.9	0.4	43.8	24.1	17.9	0.5
	Facilities and stations ($M)	74.4	-	54.3	21.6	0.01	-

With a service area of 839 square miles, SEPTA serves approximately 42% of the total urbanized area of Philadelphia-Camden-Wilmington, PA-NJ-DE-MD metro area. While the total estimated population in metro area increased by 0.16% from 2015-2019, total GDP contributed by all sectors grew at a CAGR of 2.9% during the same time period, and the real GDP for the same

Source: *National Transit Database*

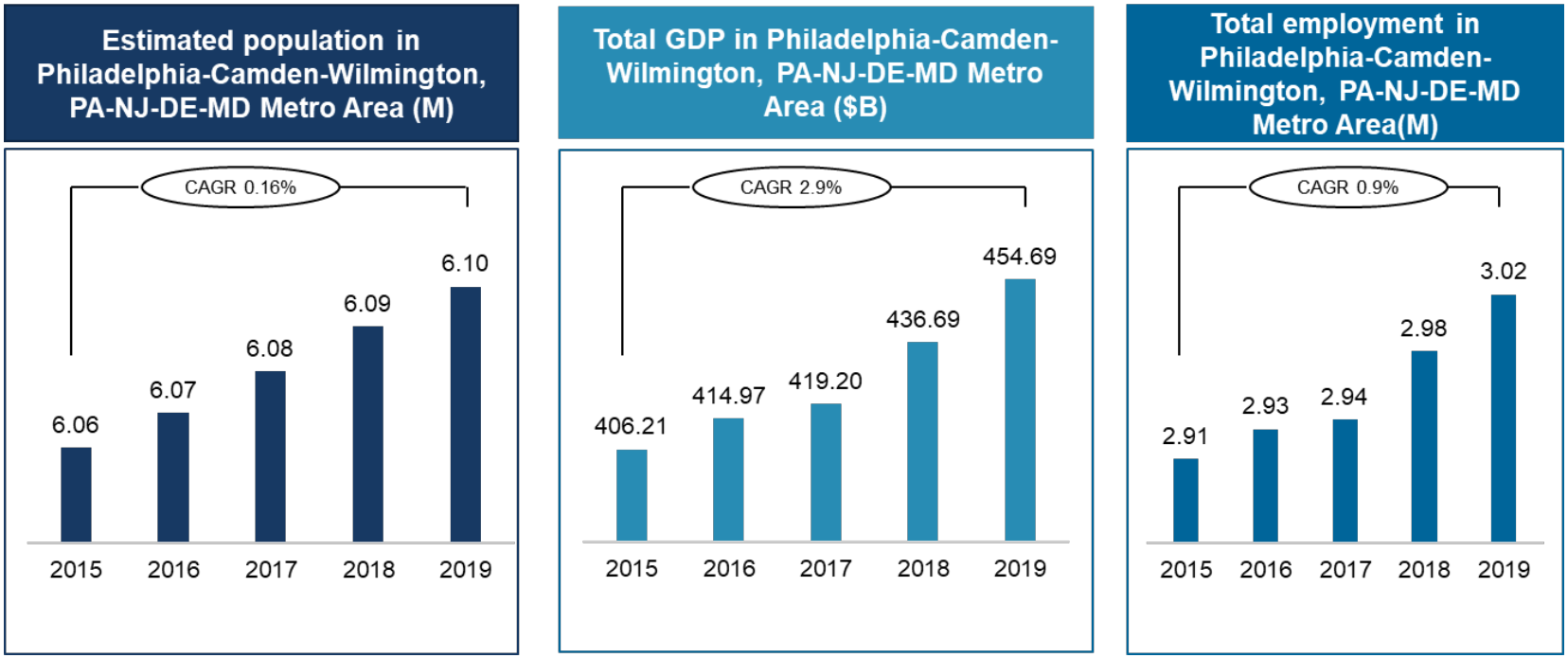
period grew by 1.1%. The median income in region grew at a CAGR of 3.9% in the same period. Workers 16 years and over traveling by public transportation grew by 0.3% from 2015-2019. [19]

The metro area region has consistently employed over 2.9 million people, and, although total employment in metro area increased from 2015-2019, the labor force had an estimated decline in 2020, with an estimated total unemployment rate of 6.5% as of December 2020, when compared to 4% in 2019. Employment across all sectors declined in 2020 due to the impacts of the COVID-19 pandemic, with the leisure and hospitality sector facing the largest decline in 2020 due to travel restrictions and lockdowns.

The below charts summarize trends in population growth, total GDP, total employment, housing units, median income, and public transportation users in Philadelphia-Camden-Wilmington, PA-NJ-DE-MD metro area from 2015-2019.

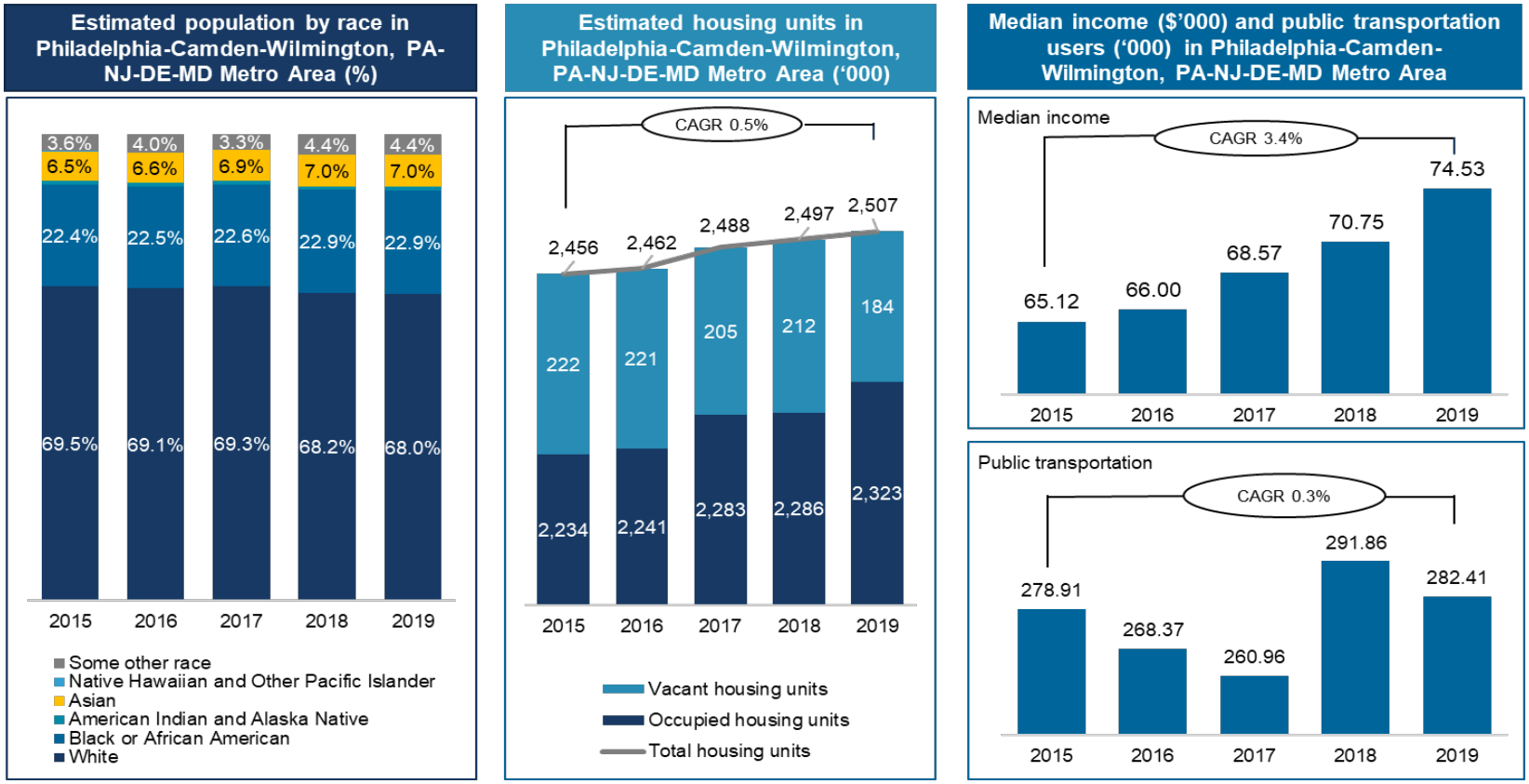
[19] Public transportation excluding taxicabs used by workers 16 years and over

Figure C-43 Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area Population, Total GDP, and Employment Trends



Source: *Federal Reserve Bank of St. Louis for population and GDP; Bureau of Labor Statistics for employment*

Figure C-44 Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area Population by race, Total Housing Units, Median income, and Public Transportation Users



Source: *American community survey: Race; Households; Median income and transportation*

Of the approximately 3.2 million employed in the metro area, approximately 3 million are employed in the non-farming sectors. The average hourly wage in the metro area is approximately $2 more than the US national average.[20] On average, a person in the Philadelphia region spends approximately 15% of his or her annual wage on transportation, approximately 6% above the national average.[21]

Figure C-45 Non-Farm Employment in Philadelphia Metro Area ('000)

	Dec-20	Dec-19	Change
Total nonfarm	**2,791.00**	**3,006.40**	🔴
Education and health services	649.4	677.8	🔴
Trade, transportation, and utilities	532.5	544.9	🔴
Professional and business services	450.7	472.3	🔴
Government	334.9	346.7	🔴
Financial activities	211.4	219	🔴
Leisure and hospitality	177.7	272.5	🔴
Manufacturing	175.2	183.7	🔴
Other services	106.5	122.1	🔴
Mining, logging, and construction	106	117.3	🔴
Information	46.7	50.1	🔴

Source: *Bureau of Labor Statistics*

Figure C-46 Average Hourly Wage ($) for Sample Occupations

Occupation	Philadelphia area	US	Philadelphia area vs. US
All occupations	**$27.69**	**$25.72**	🟢
Lawyers	75.42	69.86	🟢
Chemists	46.31	40.46	🟢
Budget analysts	35.17	38.61	🔴
Brokerage clerks	27.78	26.53	🟢
Construction laborers	24.19	20.06	🟡
Physical therapist aides	16.38	14.03	🟢

Source: *Bureau of Labor Statistics*

[20] Average hourly wage as of May 2019.
[21] Average annual expenditures for 2018-2019.

Ridership and Performance

The SEPTA's ridership declined significantly in FY2020 due to the COVID-19 pandemic, with ridership down by approximately 23.7% below FY2019. City Transit ridership was down by 23.8%, Suburban Transit ridership down by 22.9%, and Regional Rail down by 23.2% in FY2020. As of June 2020, consolidated passenger revenue of $10.4 million was $27.3 million or 72.5% below budget and $23.1 million or 69% below FY2019. As of June 2020, consolidated average daily linked ridership of 174,000 was 465,000 trips or 72.8% below last June and 482,000 trips or 73.6% below FY2019.

In April 2020, SEPTA received $644 million of CARES funding. SEPTA planned to use the bailout funds to make up for lost revenue from a severe drop in ridership and the anticipated shortfalls in state grants. In January 2021, SEPTA announced that it will receive $252 million in additional federal COVID-19 relief. The funds will help pay for operating expenses, such as labor and maintenance, as the virus continues to keep fare-paying riders off public transportation. After the first six months of FY2021, operating revenue is $179.3 million below budget. Operating expenses for the year are $60.5 million below budget. With the funding, SEPTA has been able to operate with a balanced budget during this Fiscal Year

The table on the following page compares the FY2019 and FY2018 operations, revenues, service efficiency, and asset condition across SEPTA's six modes of transportation.

Figure C-47 Summary of Performance and Operations for SEPTA, FY2018-2019

		Commuter Rail			Demand response			Heavy Rail			Bus			Streetcar Rail			Trolleybus		
		2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲	2019	2018	▲
Operations	Annual passenger miles (M)	465.7	436.3	●	10.5	11.1	●	399.5	359.4	●	479.8	455.6	●	58.3	57.7	●	9.2	10.3	●
	Annual vehicle revenue hours (M)	0.99	1.03	●	1	1.02	●	0.93	0.93	●	4.13	4.07	●	0.35	0.36	●	0.07	0.08	●
Revenues	Fare revenues ($M)	141.3	144.7	●	5.9	6	●	113.2	113	●	169.1	172.3	●	29.1	28.5	●	5.5	6	●
Service efficiency and effectiveness	Operating expenses per vehicle revenue mile ($)	15.3	15.1	●	6.7	5.7	●	11.7	11.8	●	15.7	15.6	●	24	23.9	●	21.5	19.4	●
	Operating expenses per passenger mile ($)	0.67	0.7	●	6.4	5.4	●	0.5	0.6	●	1.35	1.38	●	1.32	1.28	●	1.5	1.39	●
Asset condition	Average fleet age in years*	30.1	30.3	●	3.3	3.4	●	26.8	25.9	●	8.3	8.6	●	42.1	41.1	●	11	10	●

* Demand Response - Taxi (DT) and non-dedicated fleets do not report fleet age data.

Source: *National Transit Database*

Strategic Plans and Priorities

In February 2021, SEPTA approved its new long-term strategic plan, "SEPTA Forward: A Vision for a Stronger Future 2021-2026". The plan provides a framework for the Authority's recovery from COVID-19 and sets a vision for future growth. The purpose of the plan is to assess SEPTA's impact as an agency, identify the challenges that are disrupting the transit industry, and set the vision for where the Authority needs to be headed. The plan sets out new performance metrics that SEPTA intends to use to track progress, maintain accountability and actions are supported the desired outcomes. SEPTA has set three main goals in this plan and each of these goals have Key performance indicators (KPIs) that SEPTA intends to use for tracking its performance. Additionally, SEPTA plans to build an unified lifestyle transit network which includes rail transit unification, bus network redesign and identifying a master plan for the Regional Rail. It plans to organize internally, engage with riders, partner outside SEPTA to track its performance.

Figure C-48 Goals and some KPIs set in the strategic plan by SEPTA

Develop a proactive organization	Operating expense per passenger per
	Passenger per revenue vehicle hour
	Employee lost time due to injuries per 200,000 work hours
	Employee engagement
	Economic impact
	Percent of construction dollars spent on soft costs
Provide and intuitive experience	Customer experience score
	Customer effort score
	Customer engagement score
	Customer attitude score
	Additional time to make accessible journey
	Contactless trips
Deliver a seamless transit network	Unlinked trips per capita
	Population near transit
	Equitable service
	Destinations near transit
	Average transfer wait time
	Average vehicle age by mode

Source: *SEPTA's strategic plan*

Recently, SEPTA's priorities have been towards reducing its carbon footprint. In February 2021, SEPTA's solar farm started its operations. The project is one of two solar farms that SEPTA and Lightsource BP announced in 2020. Elk Hill 2 will generate an estimated 27,377 MWh of clean and affordable solar energy, or nearly 10% of SEPTA's 380,000 MWh per year electricity demand-the equivalent of providing energy to more than 2,500 U.S. homes annually.

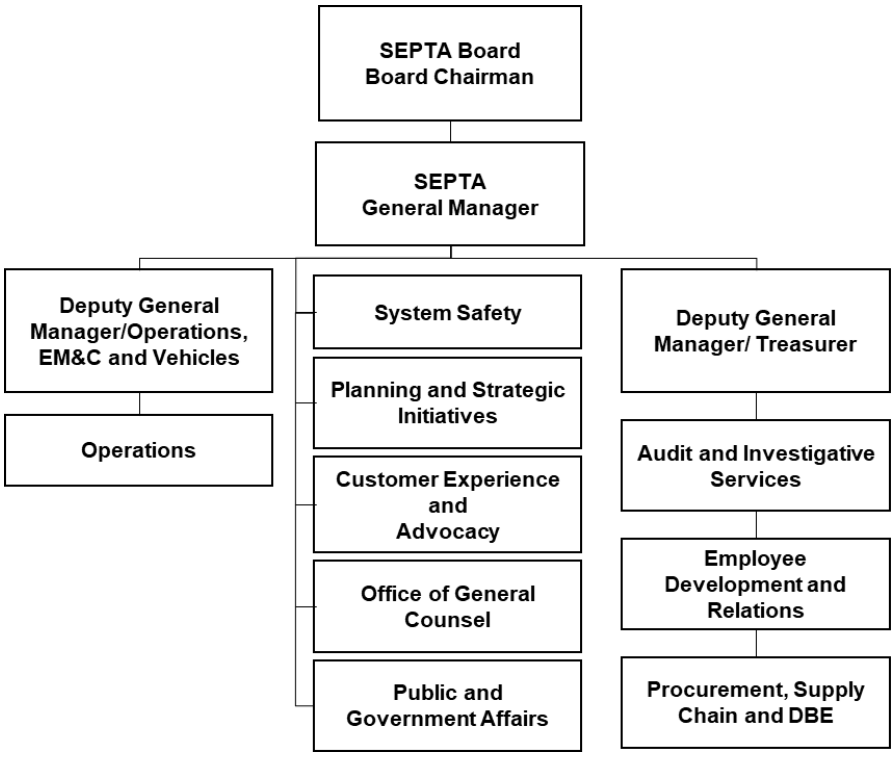
As of October 2020, SEPTA planned to phase out paper ticket sales on Regional Rail. Sales of single trip and 10-trip ticket strips ended Oct. 2, 2020. Paper tickets will be accepted through the valid date stamped on the back. Paper tickets are good for up to 180 days. It also launched a new

three-day pass or Transit and Regional Rail that will be available for purchase on a SEPTA Key Card. In the same month, SEPTA was awarded a total of $1.2 million through two competitive federal grants, the Federal Transit Administration. The grants will be made through the FTA Safety Research and Demonstration Program and the FTA Helping Obtain Prosperity for Everyone (HOPE) program. The awards will help fund the installation of automated right-of-way worker protection technology and the planning and design of future complete streets concepts for the Grays Avenue corridor.

Governance Structure

SEPTA is an instrumentality of the Commonwealth of Pennsylvania created by the State legislature. The SEPTA governing board structure is determined by state law. SEPTA's board approves the budget, strategic plans to implemented by the agency. Five members are appointed via the Commonwealth, while each member county has two members. Although the majority of ridership and local funding is from Philadelphia, the City has the same representation as the other counties in the region. Apart from these, one member each is appointed by Governor of Pennsylvania, Senate Majority Leader, Senate Minority Leader, House Majority Leader and House Minority Leader. The tenure for each member is 5 years and each member can be re-elected as the Chairman of the board. The general manager of the agency is appointed by the SEPTA board. The day-to-day operations of SEPTA are handled by the general manager. The general manager is assisted by nine department heads called assistant general managers.

Figure C-49 SEPTA's Organization Structure

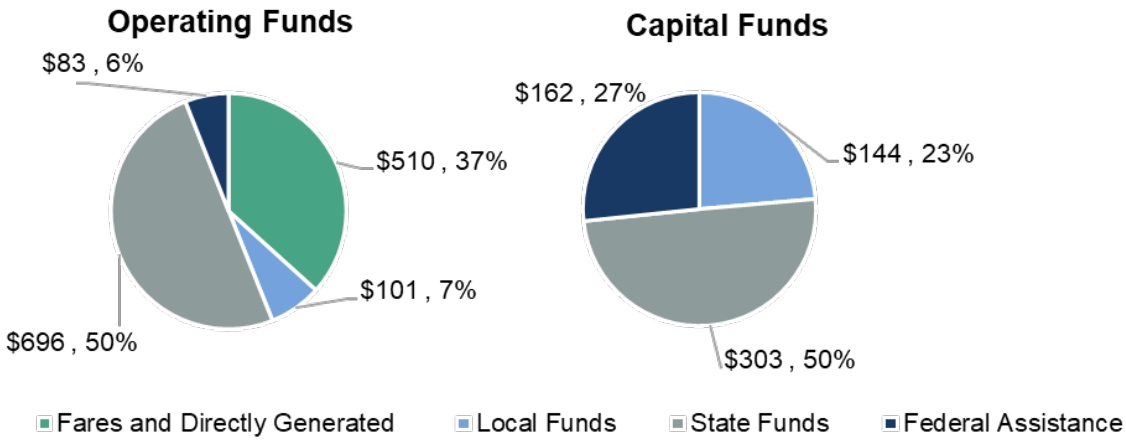


Source: *SEPTA FY2021 operating budget*

Funding

Funding for SEPTA is derived from fares, local funds, state funds, and Federal assistance. Local, state funds and Federal assistance contribute to SEPTA's capital funds, and a combination of local, Federal, state funds, and fares and directly generated revenue contribute to operating funds. For FY2021, state funds are projected to provide 78% of funds followed by 11% by local funds and 9% by federal assistance. Federal assistance includes Federal Preventive Maintenance funds of $36.6 million, Federal Capital Lease Subsidy of $47.3 million, and Capital Debt Service of $9.1 million. The below charts summarize SEPTA's funding sources based on the FY2019 budget.

Figure C-50 SEPTA's FY2019 Budget



Source: *National Transit Database*

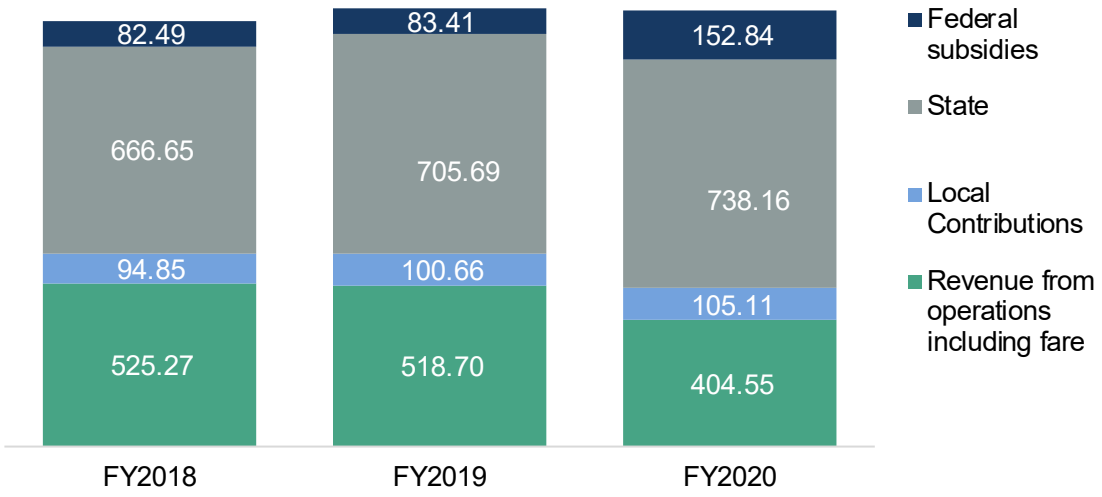
Figure C-51 SEPTA's Projected Budget

Operating budget sources of revenue ($M)	FY2020 Budget	FY2021 Projected
Federal	153.8	93
State	738.2	779.8
Local	105.1	112
Other	4.2	4.4
Total budget	**1,000.30**	**989.2**

Source: *SEPTA FY2021 budget*

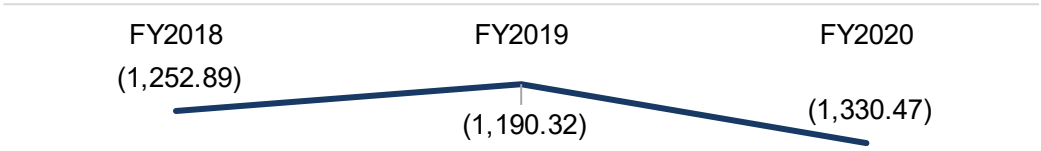
SEPTA has reported an annual income loss from operations of more than $1.9 billion for the last three years and has witnessed a decline in passenger and service revenue in the same period. The following tables summarize SEPTA's revenue contributions (passenger and service revenues, local, state, Federal[22], other revenue sources) and income loss from operations contributions from the years FY2018 through FY2020.

Figure C-52 SEPTA Revenue ($M), FY2018-FY2020



Source: *SEPTA annual reports*

Figure C-53 SEPTA Income (Loss) from operations ($M)



Source: *SEPTA annual reports*

[22] SEPTA considers federal, state, local grants as subsidies under non-operating revenues. In the revenue break up chart, added operating revenue and operating portion of subsidies. There are private and capital grants as well which are not considered here.

SMART (Southeast Michigan)

Agency Overview and History

The Suburban Mobility Authority for Regional Transportation ("SMART") operates a public bus transit network throughout the Southeast Michigan region, including Wayne County, Oakland County, and Macomb County. SMART serves nearly 11 million riders annually within the Detroit Metro area by connecting them to employment and educational institutions. In addition to its Fixed Route buses, the agency has introduced microtransit shuttle programs to mobilize further members of the population. SMART has the third largest ridership amongst the state's transit systems and plays an integral role in providing convenient, safe, and reliable transportation throughout the Detroit Metro area.[23]

SMART was originally founded in 1967 as the Southeastern Michigan Transportation Authority (SEMTA). It was created under Public Act 204 to unify the fractured bus and rail services in the city of Detroit and seven suburban counties. However, without the power to levy taxes for funding, the commuter rail service was discontinued in 1983. Lack of funding and mismanagement of funds proved to be a persistent challenge for the agency that continues to this day. Little interest in expanding suburban mass transit and Detroit's apathy toward joining the system led to SEMTA restructuring to SMART in 1988. Rebranded as SMART, the agency evolved to offer fixed route and small bus services to three suburban counties only.

SMART offers a variety of bus service options including Fixed Route, SMART Flex, Connector, ADA, and Community Transit services. Riders depend most heavily on SMART's 234 fixed route buses operating along 47 routes. This subset of riders utilizes the service for daily activities including commuting to work, traveling to shopping centers or medical centers, or reaching educational institutions. For those who are not traveling along fixed route lines, SMART Flex microtransit shuttle service was introduced to provide curb-to-curb services via mobile request. SMART Flex is also currently offering riders with scheduled COVID-19 vaccine appoints free transport to and from local vaccination centers. Similar to SMART Flex are the Connector and ADA services, which supports populations that cannot access the regular Fixed Route service. Its targeted riders include seniors and people with disabilities, who can reserve microtransit shuttles in advance to specify medical accommodations needed. Finally, SMART's Community Partnership Program works with 76 municipalities to share the responsibility of operating local Community Transit Service. By helping them leverage federal funding, the agency supports the building and operating of efficient transportation based on each community's specific needs.

The following tables provide an overview of SMART's ridership, revenue, and fleet size, including details on its assets, ridership, operations, revenue, and performance by mode of service.

[23] Estimate based on 2019 Michigan Public Transit Ridership Report.

Figure C-54 SMART Key Facts

Ridership

Annual Passenger Miles
86.1M

Average Weekday Ridership
30.549

Average Length Of Fixed Route Ride
8.2 Miles

Average Sunday Unlinked Trips
15,994

Average Length of Ride On Connector
7.5 Miles

Average Sunday Unlinked Trips
0.05M

Revenue

Annual Vehicle Revenue Miles
14.8M

Annual Vehicle Revenue Hours
0.9M

Fleet

Fixed Route
255

SMART Connector Paratransit
120

Community Transit Providers
298

Purchase of Service
53

Source: *SMART Facts and National Transit Database*

Figure C-55 SMART Summary Data by Mode of Transportation

		Bus	Demand Response
Assets	No. of total vehicle	226	117
	Annual unlinked trips (M)	271	148
Ridership	No. of vehicles directly operated	8.6	0.4
Operations	Revenue miles (M)	226	94
Revenue	Revenue hours (M)	11	3
	Revenue vehicles ($M)	0.6	0.2
Uses of capital funds	Systems and guideways ($M)	20	6
	Facilities and stations ($M)	0.5	0.1
	Annual unlinked trips (M)	0.8	-

Source: *National Transit Database*

Representative Population

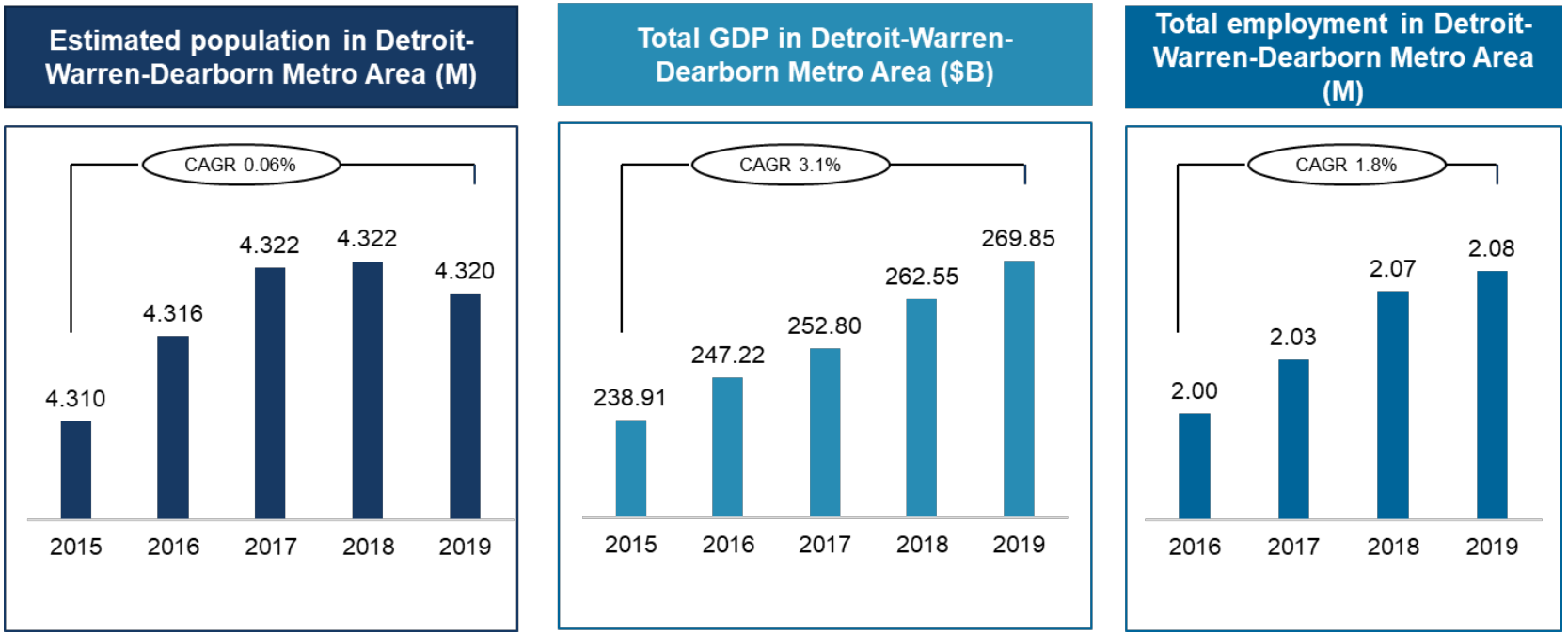
SMART's suburban bus system services the 76 communities within Macomb County, Oakland County, and Wayne County. The buses support more than 80% of the urbanized area and cover over 1,100 square miles. Detroit's population saw a slight increase between 2015 and 2019 of 0.06%, which facilitated total GDP growth at a CAGR of 3.1% from 2015-2019. The median income in region grew at a CAGR of 4.3% in the same period. Workers 16 years and over traveling by public transportation grew by 4.6% from 2015-2019. [24]

Employment had seen a strong upward trend between 2015 and 2019, growing at a CAGR of 1.8%. But due to the impact of COVID-19, it has declined across all sectors in 2020. Unemployment is estimated to increase to 10.3% in December 2020, compared to 3.8% in 2019. Leisure and hospitality sector faced the largest decline primarily due to travel restrictions and lockdown imposed from the pandemic. It declined by over 43% in a year followed by a 13% decline in education and health services sector.

The following charts summarize trends in population growth, total GDP, total employment, housing units, median income, and public transportation users in Detroit-Warren-Dearborn metro area from 2015-2019.

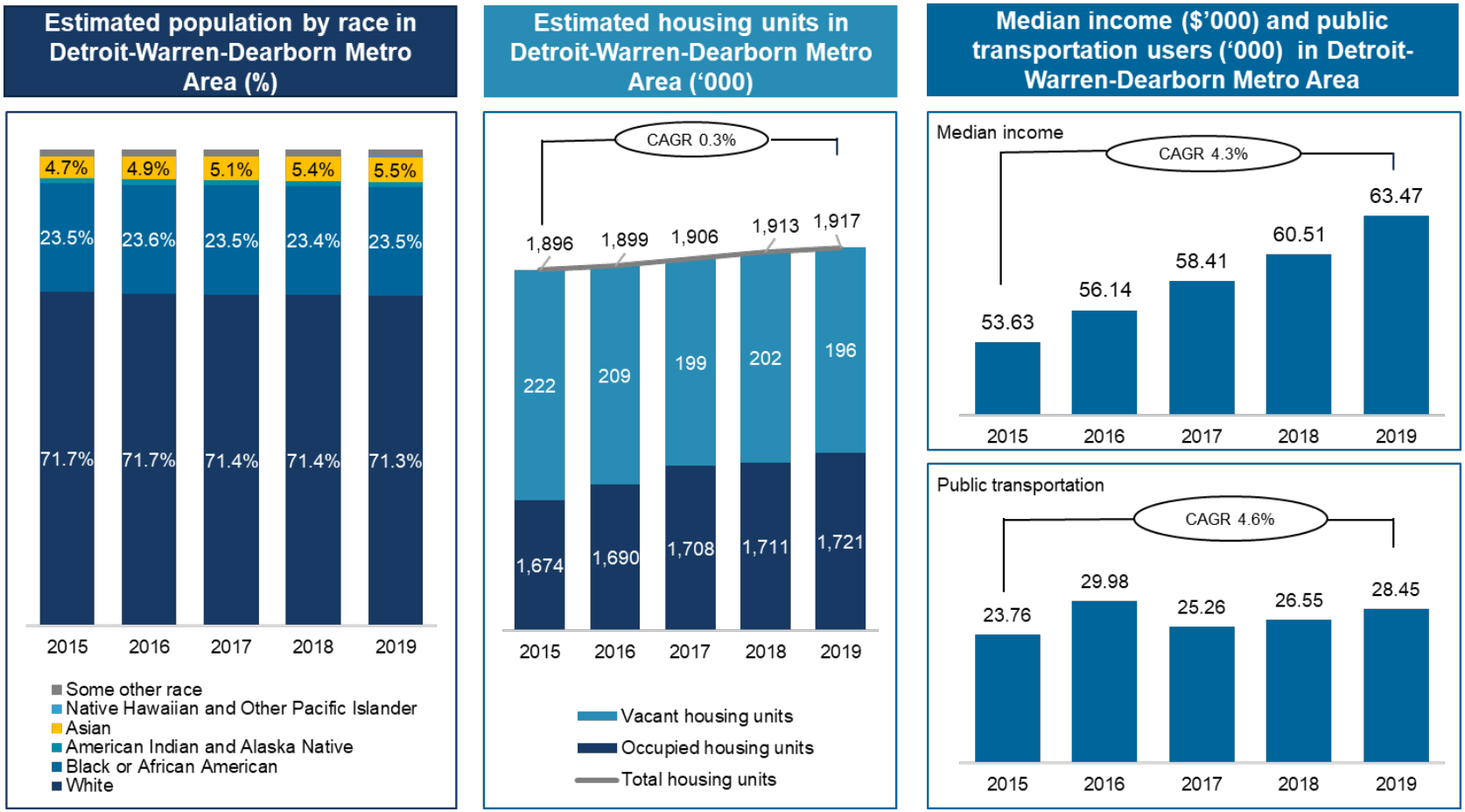
[24] Public transportation excluding taxicabs used by workers 16 years and over.

Figure C-56 Detroit-Warren-Dearborn Metro Area Population, Total GDP, and Employment Trends



Source: *Federal Reserve Bank of St. Louis for population and GDP; Bureau of Labor Statistics for employment*

Figure C-57 Detroit-Warren-Dearborn Metro Area Population by race, Total Housing Units, Median income, and Public Transportation Users



Source: *American community survey: Race; Households; Median income and transportation*

Figure C-58 Non-Farm Employment in Detroit Metro Area ('000)

	Dec-20	Dec-19	Change
Total nonfarm	1,833.90	2,058.70	🔴
Trade, transportation, and utilities	376	379.5	🔴
Education and health services	368	393.8	🔴
Professional and business services	281.2	301.9	🔴
Government	234.1	235.1	🔴
Manufacturing	179.8	183.7	🔴
Leisure and hospitality	117.3	140.8	🔴
Financial activities	111.3	154.4	🔴
Mining, logging, and construction	71.1	157.4	🔴
Other services	69.8	73.3	🔴
Information	25.3	38.8	🔴

Source: *Bureau of Labor Statistics*

Figure C-59 Average Hourly Wage ($) for Sample Occupations

Occupation	Detroit area	US	St. Louis vs. US
All occupations	$26.41	$25.72	🟢
Sales managers	70.34	68.12	🟢
Logisticians	41.85	37.83	🟢
Dental hygienists	32.28	37.13	🔴
Engine and other machine assemblers	25.31	22.39	🟢
Light truck drivers	18.52	18.52	🟡
Stockers and order fillers	14.30	14.26	🟢

Source: *Bureau of Labor Statistics*

Ridership and Performance

Although SMART initially saw ridership growth at the start of 2020, the COVID-19 pandemic led to an initial drop in ridership of 80%. Ridership has since climbed back up to 30-40% of typical numbers, but per Detroit Health Department regulations, bus capacity remains limited to 50%.

SMART had also halted fare collection at the start of the pandemic. This policy, along with the reduced ridership, led to revenue declines, so the agency sought to mitigate their revenue loss by seeking federal assistance and cutting service. With fare collection resuming in March 2021, revenue should see an uptick to support operations.

The table on the following page compares SMART's FY2019 and FY2018 operations, revenues, service efficiency, and asset condition.

Figure C-60 Summary of Performance and Operations for SMART, FY2018-2019

		Bus			Demand response		
		2019	2018	▲	2019	2018	▲
Operations	Annual passenger miles (M)	83.2	76.162	●	2.938	3.072	●
	Annual vehicle revenue hours (M)	0.67	0.6	●	0.21	0.2	●
Revenues	Fare revenues ($M)	11.6	10.9	●	0.95	0.9	●
Service efficiency and effectiveness	Operating expenses per vehicle revenue mile ($)	7.73	8.24	●	5.94	6	●
	Operating expenses per passenger mile ($)	1.06	1.08	●	6.9	6.21	●
Asset condition	Average fleet age in years*	12.9	13.6	●	2	2	●

* Call-on-ride- Taxi (DT) and non-dedicated fleets do not report fleet age data.

Source: *National Transit Database*

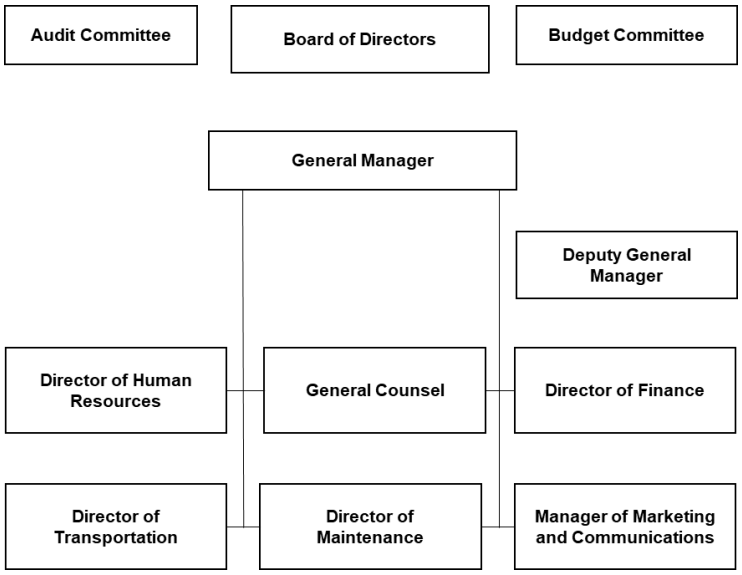
Strategic Plans and Priorities

In the early 2000s, SMART hired a consulting firm to prepare a strategic plan for the agency, but the board could not agree on the final document and the plan was never adopted. Since then, neither SMART nor its board have developed formal strategic plans or priorities.

Governance Structure

SMART is a public transit bus operator that works in partnership with the Detroit Department of Transportation. Originally founded in 1967 as the Southeastern Michigan Transportation Authority (SEMTA) under Public Act 204, the entity was created to unify the fractured bus and rail services in the city of Detroit and seven suburban counties. In 1988, SEMTA was restructured to SMART to focus on providing fixed route bus services to Macomb County, Oakland County, and Wayne County.

Figure C-61 SMART Organization Structure



Source: *SMART FY2021 operating budget*

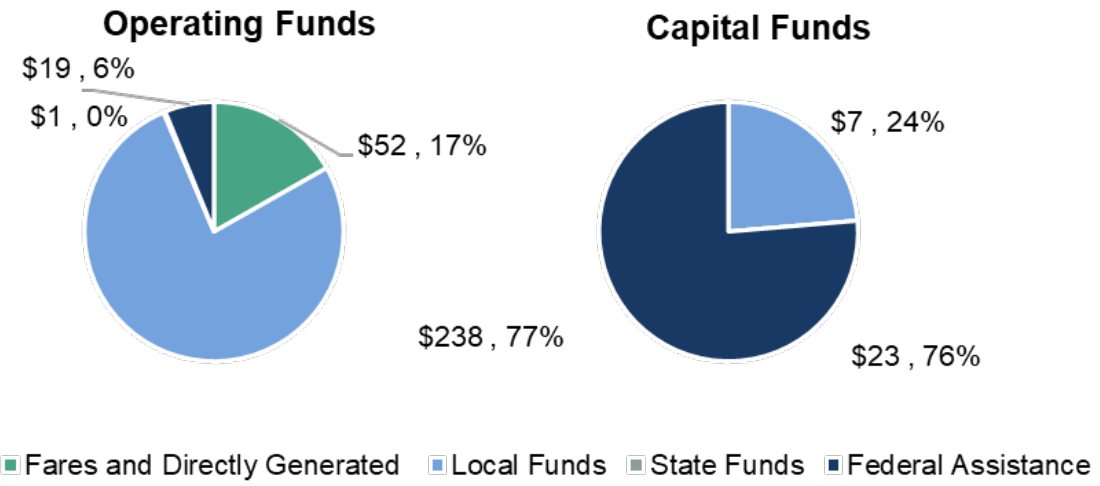
SMART is overseen by a board of directors that includes two representatives from each of the three counties. The state is not represented on the SMART board, and instead is more involved with the Regional Transit Authority (RTA). SMART board members are appointed by county executives, and typically, one of the two board members is a county executive or chief deputy. When voting on issues, every decision from the board must have at least one yes vote from each county. This ensures that every county always holds at least a veto vote. Despite board oversight, SMART maintains significant autonomy and drives organizational decision-making. If governmental authority is needed, however, the agency can easily draw upon the authority of its board members to support decision making.

In addition to the board, SMART is heavily influenced by the Big 4. The Big 4, which consists of the three counties as well as the City of Detroit, are intertwined in regional negotiations beyond transit. In an effort to demonstrate solidarity, the Big 4 have increasingly been working together and jointly publicizing their policies and decisions. Regional coordination can also be seen between SMART and DDOT. Previously there was little to no coordination between the two entities, and an imbalance in funding allocation led to slight contention. Nevertheless, the Metropolitan Transit Organizations (MPO) and the establishment of the RTA rectified the skewed allocation so that each agency now receives equal funding, and progress in improving coordination has led to the organizations hosting joint events.

Funding

SMART receives a mix of funding from bus fares, local funds, state funds, and federal assistance. Although there are multiple avenues from which the agency receives funding, finances have proven to be a consistent concern. Federal and state funds are allocated by the RTA and equally divided between DDOT and SMART. The most recent round of federal funding has come by way of the 2020 CARES Act. SMART received $58 million in federal aid, among additional 5307 funds. With respect to state funding, state finances are primarily used to support rural and small transit initiatives. As such, SMART is more heavily reliant on local contributions.

Figure C-62 SMART's FY2019 Budget



Source: *National Transit Database*

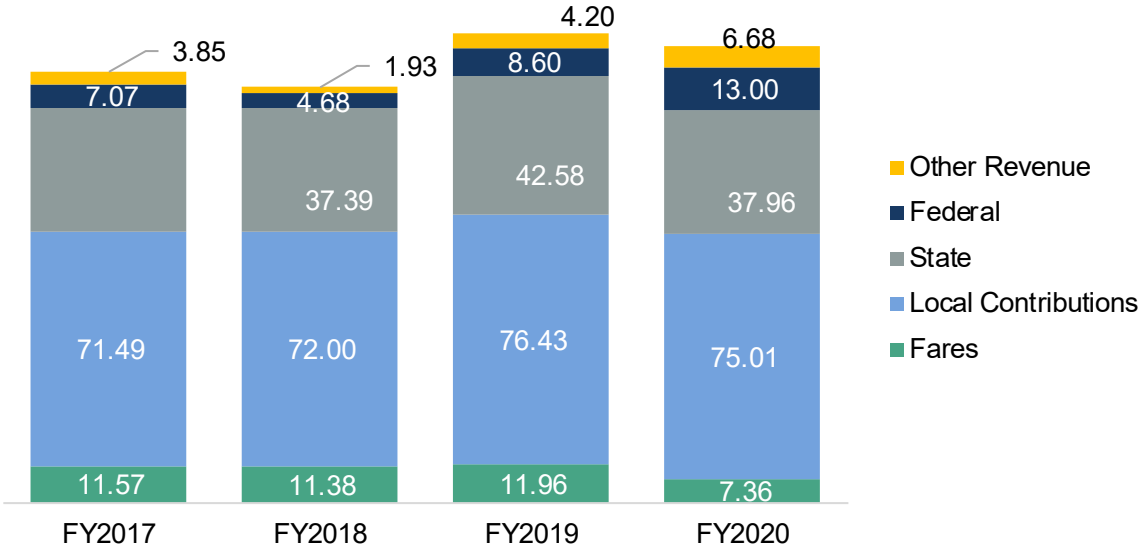
Figure C-63 SMART's Projected Budget

Operating budget sources of revenue ($M)	FY2020 Budget	FY2021 Projected
Federal	4.97	5.62
State	37.51	40.22
Total FY2021 budget	**130.81**	**136.45**

Source: *SMART FY2021 Budget*

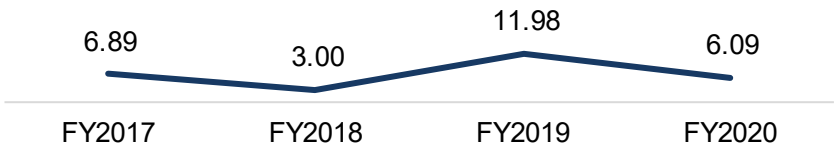
SMART has reported an annual income before capital contributions of more than $3 million for the last four years and has witnessed an increase in passenger and service revenue in the same period except FY2020. The following tables summarize SMART's revenue contributions (passenger and service revenues, local, state, Federal) and income loss from operations contributions from the years FY2017 through FY2020.

Figure C-64 SMART Revenue ($M), FY2017-FY2020



Source: *SMART annual reports*

Figure C-65 SMART Income (Loss) Before Capital Contributions ($M)



Source: *SMART annual reports*

Appendix D
Funding Profile

Appendix D: Funding Profile

OVERVIEW AND ORGANIZATION

The goal of this technical memorandum is to explore potential new sources of revenue – at the state, region, county, and city level – to support transit services in the Baltimore region. The memo estimates levels of revenue from various sources and compares new funding sources in a variety of ways, including appropriateness to support transit, applicability in Maryland and alignment with potential new governance models.

The memo is organized in four sections:

- Transit Funding in Maryland.
- Potential Transit Funding Sources.
- Challenges and Opportunities.
- Implications for Developing Transit Governance and Funding Alternatives.

Methods and Assumptions

As described in previous technical memo, in 2021, transit services in Central Maryland are provided through one of two primary programs:

- The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) Baltimore Core (or Link) services.
- Locally Operated Transit Systems (LOTS).

The MDOT MTA Baltimore Core services are managed and governed by the MDOT MTA, with MDOT's Secretary of Transportation and MDOT MTA Administrator responsible for most of the decision making on transit service operations and investments. MDOT MTA also funds Baltimore Core transit services through a combination of Federal Transit Administration (FTA) grants and state revenues collected through the Transportation Trust Fund (TTF).

An exception to these general rules occurs in cases where the Maryland State Assembly mandates specific funding, which have occurred recently. In 2019, when the Maryland General Assembly directed a permanent dedicated capital fund for WMATA, it also established a $29 million funding minimum investment (investment floor) for years dedicated to MDOT MTA. This minimum investment level, however, was limited to three years. In the 2021 legislative session, the Maryland General Assembly passed a bill strengthening its commitment to the MDOT MTA by

mandating an annual minimum investment level[1]. The bill was vetoed by the Governor on May 28.

The Baltimore Core service transit governance and funding model contrasts with the LOTS, which are funded by a combination of federal (FTA), state and local revenues. LOTS are managed and governed at the local level; most LOTS operate as either city or county-based systems so the ultimate responsibility for service and investment decision-making rests with the city mayor/county executive and city councils and county commissions. In Central Maryland, most of the local revenues used to support LOTS services are raised through general fund contributions. Also noteworthy, in several of the Central Maryland jurisdictions, including the City of Baltimore and Baltimore County, MDOT MTA provides Link service, and the local jurisdictions manage and fund LOTS programs.

Current practices employed in Central Maryland help illustrate the relationships between transit governance and funding. Except for the federal government, there is a direct link between funding and decision-making authority. As discussed, the Baltimore Transit Funding and Governance Study will develop four governance and funding models that offer different ways to share decision-making and funding decisions regarding local and regional transit services.

The study team developed Transit Funding Measures Technical Memo using a variety of primary data sources for this analysis include the following:

- Final Report to the Governor and Maryland General Assembly by the Blue Ribbon Commission on Transportation Funding, November 2011
- Final Report to the Governor and Maryland General Assembly by the Local and Regional Transportation Funding Task Force, December 2013
- Report of the Maryland Board of Revenue Estimates on Estimated Maryland Revenues, December 2020
- Comprehensive Annual Financial Reports (CAFRs) from relevant Maryland counties, 2020
- Maryland Transportation Authority FY2021 Traffic and Toll Revenue Forecast Update, November 2020

[1] Maryland House Bill 114, 2021 Legislative Session.

TRANSIT FUNDING NEEDS

Technical Memo 3: Financial Review prepared for this study summarizes MDOT MTA's existing funding sources. This technical memo describes how the collective investments guided and directed by MDOT are funded through a consolidated Transportation Trust Fund (TTF). The TTF is a dedicated funding source, segregated from Maryland General Fund, funded by a combination of transportation taxes, user fees and other revenue. Sources include taxes on fuel, vehicle titling, vehicle registration fees, operating revenues (e.g., transit fares), a portion of Maryland's corporate income tax revenue, a share of sales and use tax revenues on short-term vehicle rentals, proceeds from bond issuances, and funds from federal grants (formula and discretionary).

Fiscal Year 2019 Investments

Operating Funds

In Fiscal Year (FY) 2019, the MDOT MTA invested approximately $882 million to support transit operations, including funding provided to Baltimore-oriented services (56%), regional commuter oriented services (MARC trains and Commuter Bus) (23%) and the statewide Locally Operated Transit Service Systems (LOTS) program (10%). The remaining 10% in operating expenditures was associated with administrative and police functions.

Capital Funds

Capital expenditures are episodic and vary by program and geography over time in response to specific programs and investments. Between 2011 and 2019, MDOT's capital investments for transit statewide projects ranged from between $500 and $800 million annually. In FY2019, MDOT MTA invested just under $700 million in transit capital projects, including expenditures associated with Baltimore-oriented core services, Regional MARC and Commuter Bus, LOTS, WMATA and the Washington Region Purple Line project.

MDOT funds major capital projects through a combination of federal and TTF funds. The exception to this is the State of Maryland's annual capital funding obligation, which dedicates $167 million annually to WMATA's capital program. These dedicated funds are paid through Maryland's general fund revenues, rather than the TTF.

Indicative Funding Needs

An important part of discussing transit funding measures involves evaluating the relationship between revenue potential and funding needs. The Baltimore Region Transit Funding and Governance Study did not include a needs assessment. Instead, the study team relied on recommendations outlined in the "Connecting Our Future: A Regional Transit Plan for Central Maryland". While this plan does not include a cost estimate, it lays out a vision for a strong transit future. We used this plan to broadly guide development of three needs scenarios:

- **Meet Basic Needs – 4% annual growth.** Our assumptions suggest 3% of the annual growth is associated with "maintenance of effort" and would be funded by MDOT MTA through the TTF and other dedicated funds. The difference (1%) would need to be raised through new funding measures.

- **Moderate Growth – 5.5% annual growth.** Our assumptions suggest 3% of the annual growth is with "maintenance of effort" and would be funded by MDOT MTA through the TTF and other dedicated funds. The remaining 2.5% would need to be raised through new funding measures.
- **Strong Transit Future – 7.5% annual growth.** Our assumptions suggest 3% of the annual growth is with "maintenance of effort" and would be funded by MDOT MTA through the TTF and other dedicated funds. The remaining 4.5% would need to be raised through new funding measures.

<u>These scenarios are for planning purposes only.</u> They are broadly estimated with the goal of providing an indication of needs (i.e., a "yardstick) and to compare funding measures.

Estimated Needs - Operating Costs

In FY2022, MDOT MTA will invest approximately $756 million to support transit operations in the Baltimore region[2], the breakdown of this investment will be generally:

- $583.2 million associated with the Baltimore-oriented services (Local Bus, Light Rail, Subway and ADA paratransit services)
- $17.3 million to support LOTS programs and services (Baltimore region only)[3]
- $155.9 million for portion of regional commuter oriented services (MARC Trains and Commuter and Express Bus) that can be attributed to Central Maryland

As discussed, the study team assumed MDOT MTA would continue to fund transit at the current level plus "maintenance of effort" level increases (assumed to be 3%). Additional funding would need to be raised by new sources to fund growth beyond this level. The indicative scenarios include raising additional amounts between 1% (basic needs) to 2.5% (moderate growth) to 4.5% (stronger transit growth) (see Figure D-1).

For purposes of this analysis, the level of investment is assumed to increase by between 4% and 7.5% across all three of MDOT MTA's primary transit programs, the Baltimore-oriented services, the LOTS program, and regional commuter oriented services. Because the level of increased investment is estimated based on a percentage of total investment, increases for the LOTS program are relatively modest. In addition, the estimated funding needs do not include any local funds associated with the LOTS program. Further, for purposes of this analysis, it is assumed that the LOTS will be able to match an increase in federal and state funds.

[2] Assumes FY2019 estimate increased by 3.0% per annum.

[3] Number reflects National Transit Database, including City of Annapolis, Anna Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, Howard County, and Queen Anne's County.

Figure D-1 Estimated Additional Operating Cost Needs by Scenario and by Funding Partner ($ millions)[4]

	Basic Needs (4% growth)	Moderate Growth (5.5%)	Stronger Transit Future (7.5%)
Baltimore Services			
MDOT MTA (3%)	$17.5	$17.5	$17.5
New Sources	$5.8	$14.6	$26.2
LOTS*			
`MDOT MTA (3%)	$0.5	$0.5	$0.5
New Sources	$0.2	$0.4	$0.8
Regional Commuter Oriented Services**			
MDOT MTA (3%)	$4.7	$4.7	$4.7
New Sources	$1.6	$3.9	$7.0
Total (with MDOT funding)	$30.3	$41.6	$56.7
Total New Sources ONLY	$7.6	$18.9	$34.0

Totals may not sum due to rounding.

*Includes only LOTS program funded by MDOT MTA with federal and state funds.

**Includes Regional Commuter Oriented Services allocated to the Baltimore region based on revenue miles

Source: Nelson\Nygaard Consulting Associates (see also TM 3)

Estimated Needs - Capital Costs

Annual spending on transit capital needs is episodic and more challenging to estimate, but data collected between FY2010 and FY2019 suggests that MDOT MTA spent roughly[5]:

- $150 million annually on Baltimore-oriented services (Local Bus, Light Rail, Subway and ADA paratransit services) and an additional $50 million on Agency-wide capital items largely associated with providing Baltimore-oriented service.
- $3 million annually to support LOTS programs and services (Baltimore region only)
- $60 million annually for regional commuter oriented services allocated to the Baltimore region

Assuming MDOT MTA continues to fund transit operating expenses at existing levels plus a maintenance of effort (assumed to be 3%), the study team assumed future investments in transit operations will also require increased spending on transit capital. For purposes of this analysis, a 30% ratio of capital spending to operating investments was broadly assumed; this means for every $100 spent on transit operations, a corresponding capital investment of $30 is needed. Based on this assumption, supporting the operating increases inclusive of the maintenance of effort funding contributed by MDOT MTA would require between (an additional) $9.1 million and $17.0 million in additional capital investment annually (see also Figure D-2).

[4] Uses 2019 as the base year

[5] Cost estimates listed below are from Technical Memo 3: Financial Review.

Figure D-2 Estimated Additional Capital Cost Needs by Scenario ($ millions)

	Basic Needs	Moderate Growth	Stronger Transit Future
Baltimore Services	$7.0	$9.6	$13.1
LOTS	$0.2	$0.3	$0.4
Regional Commuter Oriented Services	$1.9	$2.6	$3.5
Total Capital Needs on all Operating	**$9.1**	**$12.5**	**$17.0**

Totals may not sum due to rounding

Source: Nelson\Nygaard Consulting Associates (see also TM 3)

Estimated Needs – Capital and Operating Costs

Based on this analysis, we broadly estimated the range of financial resources needed to support capital and operating investments beyond the current base (including maintenance of effort increases) at between $16.6 million and $51.1 million in FY2022 (see Figure D-3); annual costs and needs are expected to increase over time. This estimate is intended to be an indication of the order of magnitude financial needs required from potential transit funding measures.

Estimated funding needs do not include resources needed to address State of Good Repair (SGR) needs or major capital intensive new projects, like light rail. These estimates will be re-evaluated and refined as part of developing draft governance options, recognizing that future governance models may or may not include all three MDOT MTA programs (Baltimore Services, LOTS and Regional Commuter Oriented Services). Thus, funding needs will vary according to the governance models.

Figure D-3 Estimated Annual New (Beyond MDOT MTA Contributions) Funding Needs by Scenario and Partner ($ millions)

	Basic Needs	Moderate Growth	Stronger Transit Future
Baltimore Services	$12.8	$24.2	$39.4
LOTS	$0.4	$0.7	$1.2
Regional Commuter Oriented Services	$3.4	$6.5	$10.5
Total (New Sources and Capital)	**$16.6**	**$31.4**	**$51.1**

Totals may not sum due to rounding

Source: Nelson\Nygaard Consulting Associates (see also TM 3)

State of Good Repair

As noted, the funding needs described above do not include resources needed to address existing SGR needs (i.e., the cost of maintaining existing investments) or new, capital-intensive projects. For purposes of this analysis, SGR associated with the existing transit infrastructure, including both the BaltimoreLink services and individual LOTS, is assumed to be the responsibility of MDOT MTA and LOTS programs. However, SGR also offers a second reference (or yardstick) of potential funding and investments needs.

The 25-year total SGR capital investment needs in Central Maryland as defined by the Central Maryland Regional Transit Plan are estimated to be roughly $13 billion (including MDOT MTA and LOTS programs). The $13 billion in needs over the 25-year period, averages to roughly $500 million per year. Some of the transit capital needs will be paid through MDOT MTA's ongoing program investments with funds provided through federal grants and the Maryland's Transportation Trust Fund. However, there is also a substantial unfunded backlog, especially in the near-term. Based on previous analyses, the estimate of unmet SGR-related funding needs in Central Maryland range between $100 and $300 million annually.

This estimate of annual transit funding needs – ranging from $100 - $300 million is included here as a second example of potential transit funding goals for Central Maryland. As noted earlier, funding needs, including SGR estimates, will be refined as part of developing draft governance options.

POTENTIAL TRANSIT FUNDING SOURCES

Transit Funding

Throughout the United States, transit is funded at the state and local level in a variety of ways. The federal government supports public transportation with an assortment of grants and programs, largely through the FTA and U.S. Department of Transportation (USDOT). Passenger fares are an important source of revenue for many transit agencies, especially urban systems. As a result, all transit agencies in the United States raise revenues beyond federal grants and passenger fares. In most cases, transit agencies raise revenue to support operations and capital programs by receiving funds from state governments and/or raising revenues locally.

Local revenues typically fall into one of two types – dedicated funding sources, like taxes that are specifically levied to support public transportation and assessments, or direct contributions paid by local governments or other transit agency partners. Transit agencies almost always prefer dedicated funding programs because having a dedicated funding source gives agencies resources that they can directly measure and manage without competing with other important public services for funding. Dedicated funding sources often have the added advantage of allowing agencies to raise additional funds through bonding.

Transit agencies use a number of traditional and non-traditional funding measures. These traditional taxes include, property tax, income taxes and sales taxes; taxes on transportation services and investments; user fees; and "sin" taxes on items like alcohol, cigarettes, and lottery revenues. For this effort, the study team inventoried each of these funding measures for their potential application in Central Maryland (see Figure D-5). The study team also estimated revenue for funding sources in the inventory that are most feasible and appropriate for the region as well as a handful of other important characteristics associated with individual taxes and fees:

- **Revenue potential** – estimates the revenue potential of the proposed measure and the likelihood of an individual funding measure to generate revenue in line with expected needs.
- **Stability** – reflects the likelihood that funding amounts are relatively certain and/or can be predicted over time.
- **Equity** – any future transit revenue strategy should be fair or equitable in terms of both who pays the tax and who receives the benefits. Transit funding measures are typically measured in terms of horizontal and vertical equity. Horizontal equity requires that people with comparable needs and abilities be treated equally. Vertical equity requires that the allocation of benefits and costs favors disadvantaged people[6].
- **Existing or new revenue source –** identified if the tax or fee is already used in the State of Maryland**.**
- **Expected taxing agency** – evaluates if the tax is logically and appropriately levied at the state, regional or local level (or a combination of multiple levels).

For purposes of this analysis, funding measures were also classified as either "Major" or "Secondary" sources. Major sources represent a single tax or fee that has potential to raise

[6] Victoria Transportation Policy Institute, "Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning", April 2021, Todd Littman.

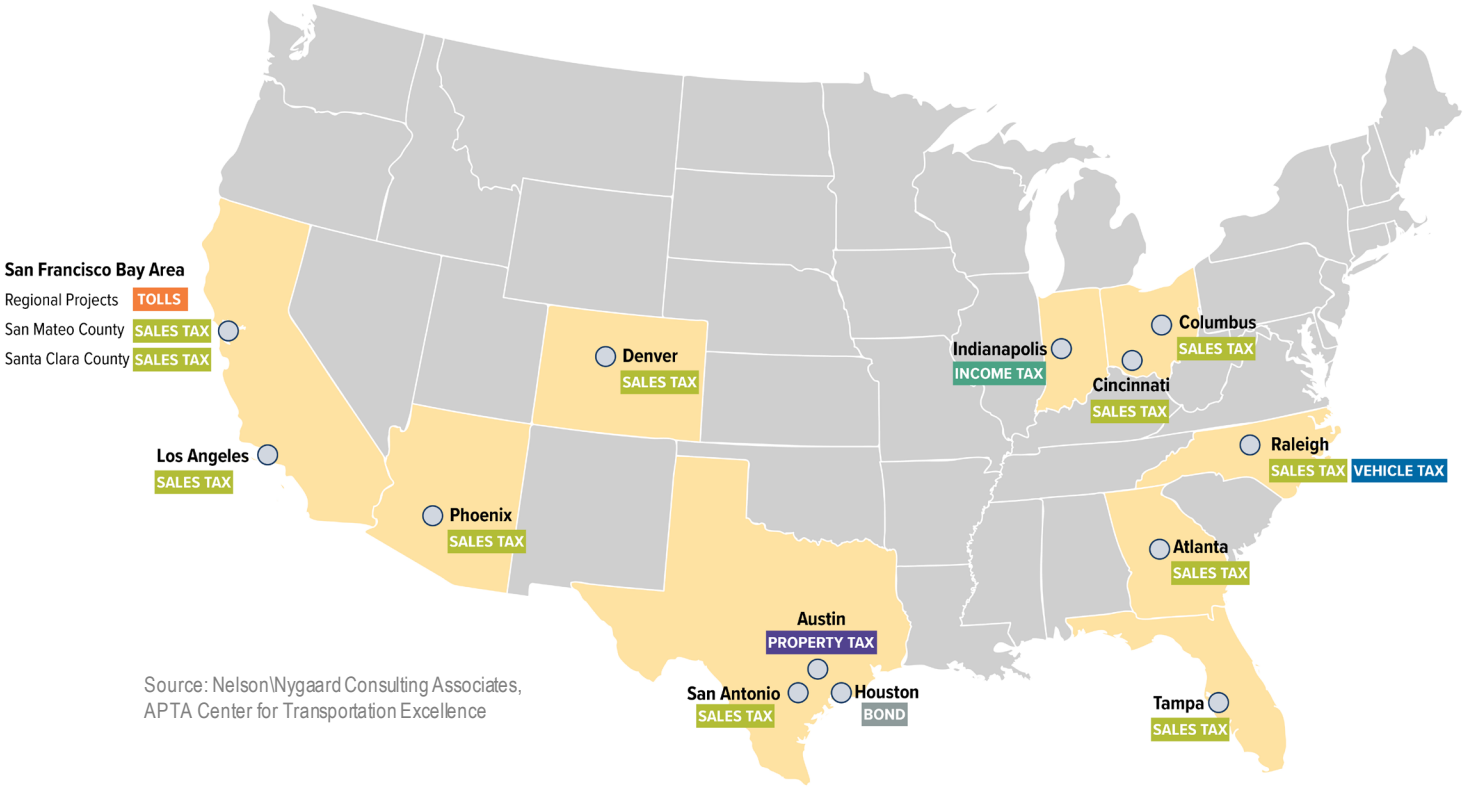
sufficient funds to meet agency needs. Secondary funds have less revenue potential and thus would require multiple taxes and fees to meet agency needs.

Note that the funding measures included in the technical memo are not recommendations. Instead, they are designed to be examples of different ways that transit ***could*** be funded and include general estimates of how much money ***could*** be raised.

Major Sources

As mentioned, major funding sources the potential to raise sufficient funds to support transit agency capital and operating needs. These funding sources include sales taxes, property taxes, or income taxes. A transit agency's ability to levy sales, property or income tax almost always requires both receiving taxing authority from the state and voter approval. National experience also shows that toll revenues can be a major source of transit agency financial support. Tolls are typically considered a user fee rather than a tax, so while states still need to authorize tolls, they do not typically require voter approval. Since 2015, many cities and regions around the country have had success gaining voter approval for taxes to support transit (see Figure D-4).

Figure D-4 Major Transit Initiatives Since 2015 and Primary Funding Sources



Source: Nelson\Nygaard Consulting Associates, APTA Center for Transportation Excellence

Figure D-5 Inventory of Potential Transit Funding Measures

Traditional Taxes	Transportation-Related Revenue Sources	Transportation User Fees	Excise Taxes and Lottery	Financing Mechanisms
▪ Property Tax ▪ Income Tax (Corporate*, Personal) ▪ Sales Tax	▪ Local Assessments ▪ Transportation Climate Initiative (Carbon Taxes) ▪ Transportation Utility Fee ▪ Developer Impact Fee	▪ Tolls** ▪ Fuel Taxes* ▪ Rideshare Tax** ▪ Vehicle Registration Fee* ▪ Vehicle Miles Travel Fee ▪ Mobility / Congestion Pricing ▪ Parking Taxes ▪ Micro-mobility tax (scooters, etc.) ▪ Fares**	▪ Alcohol Tax ▪ Cigarette Tax ▪ Cannabis Tax ▪ Lottery Revenue ▪ Lodging Tax ▪ Real Estate Transfer Tax ▪ Rental Car Tax**	▪ General Revenue Funds ▪ Land Value Capture

Source: Nelson\Nygaard

Notes

* Denotes funding source already used by Maryland Transportation Trust Fund

** denotes funding already used in Central Maryland

Sales Tax

Sales taxes are the most important source of funding at many of the nation's largest transit systems (see Figure D-6). Sales taxes are also the most common way to fund major expansion programs, and examples include:

- Denver
- Maricopa County, AZ (Phoenix area)
- City of Phoenix
- Los Angeles, CA
- Puget Sound, WA (Seattle area)
- Broward County, FL (Ft. Lauderdale area)

Figure D-6 Use of Sales Taxes for Transit Operations

City/Transit System	Sales Tax Rate Dedicated to Transit
Boston/MBTA	1.0%
Denver/RTD	1.0%
Los Angeles/LA Metro	2.0%
San Diego/MTS	0.5%
Phoenix/Valley Metro	0.7%
Salt Lake City/UTA	1.2%
Seattle/King County Metro	1.4%
Dallas/DART	1.0%
Fort Worth/Trinity Metro	0.5%
San Antonio/VIA	0.5%-1.0% depending upon jurisdiction

Source: APTA

Historically, sales taxes for transit have been well-supported by voters, and some sources like APTA cite that approximately 70% of transit funding initiatives pass, and in 2020, over 90% have passed.

Sales taxes are only moderately stable and are vulnerable to economic recessions and downturns. This can mean that transit agencies have less revenue during times when demand for transit services is highest. In terms of equity, however, sales taxes are regressive and disproportionately impact lower income residents.

In 2019, Maryland collected $4.9 billion in sales tax revenue. A 0.5% increase in Maryland's sales tax rate would generate approximately $435.9 million per year in additional sales tax revenue statewide. However, a challenge to raising Maryland's current sales tax of 6% on taxable purchases[7] is that it is already higher than its neighbors Virginia (5.30%) and Delaware (0%), and equal with that of Washington D.C, West Virginia, and Pennsylvania.[8] Currently in Maryland, only the state can charge sales taxes; counties and municipalities are not currently legislatively enabled to do so.

Sales tax revenue could also be increased by broadening the number of taxable services beyond the current number of 40 services. As of 2017, the last time a comparative study was conducted, Maryland ranked 29th nationally in terms of the number of services subject to sales tax.[9] In March

[7] https://www.marylandtaxes.gov/business/sales-use/index.php

[8] Sales tax rates in West Virginia and Pennsylvania may exceed Maryland's in some localities, as those states have legislatively enabled localities to raise their own sales taxes in addition to the statewide rate.

[9] https://www.taxadmin.org/sales-taxation-of-services

2021, a small number of additional products, including digital products and codes, were added to the list of taxable services, but the list of those that remain untaxed is extensive.

Property Tax

Several transit systems use property taxes as their major source of funding. One recent example includes the Seattle area where voters recently approved a 25¢ per $1,000 of assessed value increase in property taxes to fund the Sound Transit 3 expansion program. An even more recent example is Austin, TX, where voters just passed an 8.75¢ per $100 of assessed value increase to fund a transit investment program.

Property taxes are relatively predictable and stable over time. They are also generally considered to be equitable because property owners benefit from access public transit. Property ownership increases with income, so taxing property can be considered relatively progressive with respect to income.

For the State of Maryland, each 1¢ increase per $100 in assessed value (on residential real estate) would generate $76.9 million per year. Currently the State of Maryland does not have a sales tax on personal property, but counties and municipalities typically do. Existing residential real estate property tax rates in Central Maryland counties vary widely; property tax rates on residential real estate range from $0.85 per $100 of assessed value in Queen Anne's County to $2.25 per $100 of assessed value in Baltimore City. An additional property tax of 1¢ per $100 in assessed value on residential real estate dedicated to transit would generate the following revenues for each county (see Figure D-7).

Figure D-7 Existing County-Level Property Tax Rates in Central Maryland and Potential Additional Revenue *(in $millions)*

County	Residential Real Estate Property Tax Rate (per $100 of assessed value)	Personal Property Tax Rate (per $100 of assessed value)	Estimated Additional Revenue from 1¢ Increase in Residential Real Estate Property Tax Rate (in millions)
Anne Arundel County	$0.93	$2.34	$9.1
Baltimore City	$2.25	$5.62	$3.5
Baltimore County	$1.10	$2.75	$8.7
Carroll County	$1.02	$2.52	$2.0
Harford County	$1.04	$2.60	$2.9
Howard County	$1.01	$2.54	$5.3
Queen Anne's County	$0.85	-	$0.8

Source: Maryland Department of Assessments and Taxation

Income Tax (Resident)

Income taxes are also used to support transit. Indianapolis, for example, is funding its $1.2 billion Indy Connect transit program through a 0.25% income tax increase. In 2018, the State of Oregon implemented an income tax of 0.1% to fund general transit improvements. The Oregon tax must be paid by all working residents of Oregon, no matter where they work, and by all non-residents who work in Oregon.

Income taxes are a relatively stable source of revenue. Personal incomes taxes can be equitable, especially if higher income individuals pay a higher rate. Corporate income taxes are generally considered equitable because higher income individuals are more likely to pay them.

In Maryland, state income tax rates are 2%, 3%, 4%, 4.75%, 5%, 5.25%, 5.5%, and 5.75% based on income, with most people falling into the 4.75% bracket. Counties also have an additional flat tax bracket, with most Central Maryland counties collecting an additional 2.81%-3.20% income tax. Combined, most Maryland residents are subject to an income tax rate between 4.81% and 8.95, and Maryland ranks third in the country for income tax collected per capita ($2,470).

Virginia has variable income tax rates that range from 2% to 5.75%, D.C. has variable rates that range from 4% to 8.85%, Pennsylvania has a flat tax rate of 3.07% but also allows local jurisdictions to raise income tax revenue, and Delaware has variable rates of 2.2%-6.6. A 0.25% increase in Maryland's eight income tax rates would generate $607.6 million per year.

Maryland's counties can raise income tax rates to a maximum rate of 3.2%. In Central Maryland, Anne Arundel County, Harford County, and Carroll County currently have an income tax rate below the maximum, and these counties would collect the following annual additional income tax revenues with either a 0.25% increase or a new tax rate of 3.2%, whichever is lower (Figure D-8).

Figure D-8 Potential Additional Annual Income Tax Revenue in Central Maryland Counties below State Income Tax Rate Max. ($2021)

County	Existing Income Tax Rate	Potential Additional Income Tax	Additional Annual Revenue ($2021) (in millions)
Anne Arundel County	2.81%	0.25%	$62.4
Harford County	3.06%	0.14%	$14.4
Carroll County	3.03%	0.17%	$12.4

Source: Maryland Department of Assessments and Taxation and Nelson\Nygaard Consulting Associates

Income Tax (Corporate)

Maryland's Transportation Trust Fund is funded in part by Corporate Income Taxes. Maryland's corporate income tax is currently set at 8.25%, which is higher than its neighbors Virginia (6%) and West Virginia (6.5%) and equal to DC. Pennsylvania's corporate tax rate of 9.99% and Delaware's at 8.7% exceed Maryland's rate.

Currently, 17.2% of all corporate income tax revenue goes to the TTF.[10] An increase of 0.25% to Maryland's 8.25% corporate income tax rate, with all additional revenues going to the TTF, would raise approximately $45.7 million per year.

Tolls

Toll revenues are used to fund transit in Northern Virginia, San Francisco, CA, and New York City. Maryland's toll revenues are collected by the Maryland Transportation Authority to pay construction, operating, maintenance and law-enforcement costs and the debt on bonds that are issued to fund major projects. Tolls are collected at 8 sites, including on I-95 Express Lanes. Maryland could raise an additional $38.8 million per year by raising tolls for all vehicles at all sites except for the variably priced I-95 Express Lanes by 25¢. A $1.00 increase on the tolling locations in the Central Maryland region (JFK/I-95, Hatem Bridge, Bay Bridge, Harbor Tunnel, Key Bridge, and Fort McHenry Tunnel) could raise approximately $115.8 million. If a $1.00 increase were applied to tolls on only the Harbor Tunnel and Bay Bridge, it would raise approximately $34.4 million.

Tolls are a relatively stable source of funding. Tolls are also generally considered to be equitable because they charge drivers for the impacts associated with congestion, emissions, and roadway costs. They can be vertically equitable if drivers are able to drive on alternative corridors.

Secondary Transit Funding Sources

Many other funding sources are also commonly used to fund transit, which include:

- Fuel tax
- Local assessments
- Special Assessment Districts
- Rideshare fee
- Vehicle registration fee
- Real estate transfer tax
- Rental car tax
- Lodging tax
- Alcohol excise tax
- Alcohol sales tax
- Cigarette sales tax
- Transportation Utility Fee

All of these would reliably provide less revenue than the five major sources discussed above, and in most cases meeting transit needs would require one or more of the following taxes.

Fuel Tax

A large share of the TTF is funded by the motor vehicle fuel tax, which as of May 2021 is 36.3¢ per gallon. This value is the effective tax per gallon, which includes regular sales tax. Maryland is one of the three states in the United States that indexes its fuel tax to inflation.[11] In 2020, Maryland raised about 1 billion dollars from fuel taxes.

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[10] Chapter 397 of 2011 changed the allocation of corporation income tax revenue to the Department from 24% to 17.2%. Effective July 1, 2012, the Department received 9.5%; from July 1, 2013, through June 30, 2016, the Department received 19.5%. Effective July 1, 2016, the Department receives 17.2%. Source: https://mdot.maryland.gov/OOF/CAFRall1_27_21.pdf page 111.

[11] https://taxfoundation.org/state-inflation-indexing-gasoline-taxes/

Each one cent increase in Maryland's gas tax would generate approximately $27.6 million in new revenue per year. A five-cent increase would generate $138.1 million per year. At present, Maryland's effective fuel tax rate is higher than that of D.C. (23.5¢ per gallon), Virginia (29.4¢), and Delaware but lower than in Pennsylvania (58.7¢) and West Virginia (35.7¢) (see call out box on page 16).

Traditionally, fuel taxes have been a relatively stable source of funding. As discussed, increased fuel efficiency and the expansion of electric vehicles is eroding the stability of fuel taxes, especially in the long term. Fuel taxes, as a consumption tax, are regressive taxes; however, improving public transit can help off-set some of the equity impacts.

Gas Tax Revenues

The federal government and states have relied on fuel taxes to fund transportation investments for the past century.* In 2021, all 50 states and the federal government tax motor vehicle fuels and these taxes are one of the most important revenue sources for transportation investments nationally. Motor vehicle fuel taxes are attractive because they can be communicated to tax-payers as a "user fee" with revenues directed to fund roadways and transportation infrastructure and support systems.

Gas Tax Per Gallon in Adjacent States (July 2020)

Maryland	$0.363
Delaware	$0.23
District of Columbia	$0.235
Pennsylvania	$0.587
Virginia	$0.294
West Virginia	$0.357

Source: Tax Foundation (https://taxfoundation.org/state-gas-tax-rates-2020/)

For many years, taxing motor vehicle fuels successfully raised revenue for transportation infrastructure. More recently, however, the revenue power of taxing gasoline and other fuels has diminished. Diminished revenues reflect a variety of factors, including a reluctance (in some states) to increase the fuel tax or tie it inflation. The federal government has not increased the federal gas tax in 25 years and some 20 states have not increased fuel taxes in the past 10 years.

However, about half of the states, including Maryland, levy variable rate gas taxes. Maryland ties its motor vehicle fuel taxes to both gas prices and the consumer price index (CPI). This puts the state at a slight disadvantage as compared with neighboring states (see call-out box) that either don't adjust fuel taxes or only tie taxes to fuel prices.†

Gas and other motor vehicle fuel taxes are also challenged by larger changes to the transportation industry, including fuel efficiency standards and electric vehicles. As the fuel efficiency of cars and trucks increases, gas taxes as a portion of vehicle miles traveled are decreasing. In addition, as electric vehicle become more common, they will have an increased impact on motor vehicle revenues. Some states are exploring taxes through direct fees, or taxing all vehicles on a fee per vehicle mile traveled. See Appendix A for more information.

* Oregon was the first state to introduce a gas tax in February 1919. The federal government introduced a national gas tax in June 1932 as part of the Revenue Act of 1932 (Source: https://www.irs.gov/pub/irs-soi/00gastax.pdf)

† Institute on Taxation and Economic Policy: Most Americans Live in States with Variable-Rate Gas Taxes. June 27, 2019.

Local Assessments (General Fund)

Some transit districts assess local communities in return for service each year. In Massachusetts, communities served by the MBTA are assessed based on a state-mandated formula that considers local population, access to other transit authorities, and proximity to Boston. The amount each community pays does not correlate to the level of service received. In 2018, MBTA assessments represented about 8% of its operating costs. Local transit districts in Connecticut rely more heavily on municipal contributions. The method for assessing these contributions vary by district.

Local assessments are generally stable sources of funding. In times of economic downtowns, however, local governments may be challenged to meet local obligations. In terms of equity, if local assessments are tied to the portion of funds received, then they would be horizontally equitable. But local assessments may not be vertically equitable because lower income communities may be asked to pay more.

If enabled, a 5% local assessment applied statewide could generate an average of approximately $41.8 million per year. The allocation of this assessment to individual communities could be based on any number of factors, such as population, employment and/or transit investments. While many communities in Maryland are not directly assessed an allocation of regional transit costs. However, each jurisdiction in the Baltimore Region already contributes local general revenue funds to support LOTS programs. Local funds are used to match state and federal grant funds, with many jurisdictions contributing more than the amount needed to match grants to support transit.

Special Assessment Districts

One common way to fund major projects is to develop special assessment districts in the area that is served by and benefits from the transit improvement. The taxes are typically based on property value, or sales, special business fees, or other measures of value; they are typically used to support specific transit projects or discreet service areas as opposed to entire transit systems. Examples include:

- **Kansas City, MO:** Kansas City has developed Transportation Development Districts (TDDs) to fund construction and operation of its streetcar line. The TDD consists of an area of approximately ½ mile to each side of the line. The first TDD was approved by voters within the proposed district and funded development of current streetcar line. In 2017, voters approved the creation of a second district to extend the line 3.8 miles southward. The TTDs impose a variety of taxes and fees:
  - 1% sales tax within the TDD boundary
  - A special assessment (property taxes) on real estate within the TDD boundary, with maximum rates as follows:
    - 48¢ for each $100 of assessed value for commercial property
    - 70¢ for each $100 of assessed value for residential property
    - $1.04 for each $100 of assessed value for property owned by the City
    - 40¢ for each $100 of assessed value for real property exempt from property tax, such as religious, educational, charitable, etc. property, but only on market value more than $300,000 and less than $50 million.

  - An assessment on surface pay parking lots within the TDD boundary (not garages and not free parking lots). The maximum rate for the supplemental special assessment on surface pay parking lots is $54.75 per space per year.
- **Northern Virginia:** In northern Virginia, two counties created Special Assessment Districts to fund the extension of Silver Line rapid transit service from Washington, D.C. to Dulles International Airport:
  - **Fairfax County** established a special tax district on commercial and industrial properties in 2004 to fund the county's portion of Phase 1 of the extension. The district consists of most of the Tysons Corner Urban Center and an area around the Phase 1 stations and assesses a property tax of 22¢ per $100 of assessed value. In 2009, the county established a second special tax district consisting of the area around its Phase 2 stations. In that district, the property tax rate started at 5¢ per $100 and increased five cents each year to 20¢ in FY 2014.
  - **Loudoun County** implemented a "Metrorail Service District" to pay for its portion of Phase 2 of the project. That district consists of properties around the Phase 2 stations in Loudoun County with a levy of 20¢ per $100 of value.
- **Columbus, OH:** In 2018, a downtown assessment district in Columbus provides free transit passes for downtown workers. An estimated 14,800 out of 30,000 eligible workers in the district have registered for the pass and made about 25,000 weekly trips during the first year of the program. Bus ridership during rush hour increased by about 24%. Funding is matched by the local planning commission.

Special assessment districts are stable sources of funding. They are also generally considered equitable because assessments are tied to services received. They may not be as vertically equitable as other measured because it may be harder for lower income districts to raise funds.

As indicated, there are many different types of Special Assessment Districts, and the amounts generated depend on the approaches used. It is possible that Special Assessment Districts could fund the non-federal portion of light rail and/or BRT projects, or an average of $23 to $50 million per year (or about $1.25 billion over 25 years).

Rideshare (TNC) Tax

Cities and states are beginning to impose taxes on rideshare trips (also known as Transportation Network Companies e.g., Uber and Lyft), in part because increases in ridesharing are increasing financial strains on transit systems and increasing urban congestion.

As a new tax, the long term sustainability of rideshare taxes are not yet known but given travelers have used vehicles for hire for many years, they are expected to be a relatively stable source of revenue. Rideshare taxes are generally equitable because they tax consumption of transportation and balance impacts of ridesharing on roadways to transit users.

In Maryland, Uber and Lyft pay a 25-cent tax on each ride originating in Annapolis, Brunswick, Frederick, Montgomery County, Prince George's County and Ocean City, because of the laws in those municipalities. Currently, no counties in Central Maryland charge the tax although they are legislatively enabled to do so. Only limited information on rideshare use is available, but if residents, on average, make 10 rideshare trips per year, a 25-cent tax on all rideshare (Uber and

Lyft) trips would generate $6.9 million per year combined for all counties in Central Maryland (see Figure D-9).

Figure D-9 Potential Revenue by Jurisdiction with 25-cent Rideshare Tax

Jurisdiction	Potential Additional Annual Revenue (in millions)
Statewide Revenue	**$15.1**
Baltimore Regional Transportation Board Area Revenue	$6.9
Baltimore City Revenue	$1.6
Baltimore County Revenue	$2.1
Anne Arundel County Revenue	$1.4
Howard County Revenue	$0.76
Harford County Revenue	$0.62
Carroll County Revenue	$0.42
Queen Anne's County Revenue	$0.12

Source: Nelson\Nygaard Consulting Associates

Vehicle Registration Fee

Different forms of vehicle taxes and fees are occasionally used to fund transit, and in Maryland the TTF is funded in part by vehicle registration fees.

Vehicle registration fees are stable sources of revenue. Registration fees can be considered equitable if they are paid by motorists who benefit when transit successfully encourages fewer vehicles on the road. Lower income individuals tend to drive less and thus may pay more on a per-mile basis as compared with higher income individuals.

Maryland's base vehicle registration fees are collected biennially by the state Motor Vehicle Administration (MVA) and vary based on the weight of the vehicle being registered, but with most charged $187. An increase in bi-annual fees of $20 would generate approximately $43.3 million per year for the state of Maryland. Individual counties and cities could levy a voluntary local-option vehicle registration fee within their jurisdictions. Revenue potential would vary by individual jurisdiction.

Real Estate Transfer Tax

Real estate transaction taxes and fees are used to fund transit in Virginia and Florida. Virginia's fee ranges from $21 to $54 per transfer. Florida charges a real estate documentary tax of $0.70 per $100 of the transaction value, 10% of which is used to match federal transit funding.

Real estate transfer taxes are a stable source of revenue. The fees are equitable because everyone is treated equally, and higher income individuals are more likely to be real estate transfer fees.

Maryland's real estate transfer tax is 0.5% (0.25% for first time buyers). Surrounding states and cities have higher rates (D.C.'s transfer fee is 1.1%, Delaware's is 1.75%, and Pennsylvania's is 1.0%). A 0.5% increase in this fee (an additional $2.50 per $500 in value, for a total tax rate of 1% to match Pennsylvania's) would generate approximately $222 million per year for the state.

A few counties within Maryland collect an additional real estate transfer tax. For example, Howard County recently increased its transfer tax rate for residential and commercial transactions from 1% to 1.25%. A list of all the transfer tax rates of all counties in Maryland that collect an additional tax is below (see Figure D-10), with the potential additional revenue that those counties could earn from increasing their real estate transfer tax by 0.5%.

Figure D-10 Real Estate Transfer Tax Rates and Potential Additional Revenues

Jurisdiction	Existing Transfer Tax Rate (of purchase price)	Additional Revenue from Additional 0.5% (in millions)
Statewide Rate	**0.5% (0.25% for first-time buyers)**	**$222.1 (assumes no first-time buyers)**
Anne Arundel County	1.00%	$13.1
Baltimore City	1.50%	$13.1
Baltimore County	1.50%	$28.7
Charles County	0.50%	$8.0
Harford County	1.25%	$4.1
Howard County	1.00%	$13.0
Montgomery County	1.00%	$13.1
Prince George's County	1.40%	$28.7

Rental Car Taxes

Rental car taxes are implemented in various ways, for example, as a sales tax or on a per rental basis. For example, Allegheny County, PA, which is where Pittsburgh is located, imposes a $2 tax on vehicle rentals to fund Port Authority services.

Rental car taxes are a moderately stable tax; in times of economic recessions, rental car sales will slow down, reducing sales. The tax is equitable because everyone is treated equally, and people renting cars are bearing the costs associated with congestion, emissions, and other transportation externalities.

Maryland currently applies its sales tax to rental car and adds a 4.5% surcharge. A 1% increase in the rental car surcharge would generate $2.5 million per year for the state.

Lodging Taxes

The 2016 Let's Move Nashville campaign would have imposed a tax on hotels and motels that would have started at 1.4% of the room rate and over time increase to 3.75%. Lodging taxes are typically easily accepted by residents because it is largely visitors who pay them.

In Maryland, counties are legislatively enabled to apply a lodging tax. Anne Arundel has a 7% tax and Baltimore County and Baltimore City both have a 10% tax. Increasing the taxes by an additional 1% would generate about $1-2 million per year per county.

Alcohol Taxes

Every state in the United States taxes alcohol and these revenues can be used for any purpose. The only significant example of alcohol taxes being used for transit is a 10% tax on poured drinks in bars in Allegheny County, Pennsylvania (Pittsburgh).

The two most common ways to tax alcohol are excise taxes charged to producers, distributers, and manufacturers and sales taxes charged to consumers. Maryland currently does both.

Maryland charges a 9% rate on alcoholic beverages (and does not charge an underlying sales tax). An increase to 10% for the alcohol tax would yield about $3.6 million annually for the state.

Cigarette Taxes

Like alcohol, every state in the United States taxes cigarettes and these revenues can be used for any purpose.

Counties and cities in nine states also tax cigarettes. For the jurisdictions that charge local taxes, the taxes are frequently $2 to $3 dollars per pack on top of state taxes. When these are considered, state and local taxes are as high as $7.16 a pack (in Chicago).

However, there are currently no significant examples of cigarette taxes being used to fund transit.

Maryland currently taxes cigarettes at $3.75 per package. A 25¢ increase would generate $21 million per year based on 2019 sales but would decline over time as cigarette sales continue to decline.

Transportation Utility Fees

Some regions consider transportation to be a utility and apply a transportation fee to utility bills. Vancouver, BC levies a $1.90 month fee on water bills to fund transit; this scheme is also used by a handful of smaller cities and towns in Oregon, Washington, Idaho, Utah, Colorado, Texas, Missouri, and Florida. In most cases the fees are used to fund roadway projects[12].

Transportation utility fees can be levied in different ways but most of the existing fees require residents and business to pay a fee based on their use of the transportation system rather than the value of their property and have been tied to factors, such as the number of trips generated, such as the number of parking spaces, square footage, or gross floor area. One area of disagreement is whether transportation utility fees are indeed fees or are effectively taxes. This distinction reflects statutory authority and voter approval. Taxes require voter approval and taxing authority is typically granted by states, where fees are collected based on services provided[13].

A flat $1 monthly fee imposed on all Maryland households would generate $26 million per year; a fee that is tied to parking spaces or land uses could potentially double the revenue potential of

[12] U.S. Department of Transportation, Federal Highway Administration, Center for Innovative Finance Support. https://www.fhwa.dot.gov/ipd/value_capture/defined/transportation_utility_fees.aspx#:~:text=Transportation%20utility%20fees%20are%20a,value%20of%20property%20they%20occupy.

[13] Ibid

this source. A flat $1 monthly fee imposed on all Central Maryland households would generate about $12.3 million per year.

Transportation utility fees are stable and predictable. They are equitable in terms of the fact that residents who pay the fee will have access to transit services. However, as a flat fee per household, the fee will impact lower income residents at a higher rate.

Other Potential Approaches

Scholars[14] note a long list of potential funding sources for transit, but many are unfeasible due to the very low amount of revenue that could be earned and/or their lack of domestic precedent. The following list of other potential funding sources were reviewed for this memo but were not studied due to limited precedent and/or administrative feasibility relative to revenue potential:

- Tire Tax
- Weight-Based Vehicle Sales Tax
- Vehicle Battery Tax
- Weight Mile Truck Fee
- Development Impact Fees
- Storm Water Fee
- Parking Tax
- New License or Title Fees (regionally)

Five additional potential sources were studied in more depth because they may have potential for raising significant funding for transit in the Baltimore region. These sources were Cannabis Tax, Vehicle Miles of Travel (VMT) Charges, Fare Increases, Membership Dues, and City/County In-Kind Resources. The following section describes the potential and feasibility of these sources to fund transit:

Cannabis Tax

The sale and use of cannabis for recreational purposes is currently illegal in Maryland. However, trends in the Mid-Atlantic and the United States are towards legalization. A Bill was introduced into the 2021 session of the Maryland General Assembly, but transit was not considered as a potential use for any revenues expected from Cannabis taxes or fees as proposed. HB 32 was referred to Committee, but no other action was taken. If Maryland decides to legalize Cannabis, experience from other states indicates that sales would be about $100 per capita. If Maryland matched the high end of the existing cannabis tax rate in other states of 20% and dedicated the revenue to transit, a cannabis tax could generate $120 million per year.

The predictability of a cannabis tax is unknown. The tax is equitable because all users are taxed evenly.

[14] Todd Littman, Victoria Transport Policy Institute. https://www.vtpi.org/tranfund.pdf

Vehicle Miles of Travel (VMT) Charges

VMT charges have long been discussed but have not yet been enacted in the United States. Given the political unpopularity of the scheme, as well as the apportionment challenges of distributing VMT revenue across state lines to areas where out-of-state commuters are traveling daily, it is inadvisable and unlikely that Maryland solely implements a VMT fee on its own.[15] However, if this fee becomes acceptable, a study by the Tax Foundation found that an average tax rate of $0.039 per mile on all drivers residing in Maryland would raise $2.34 billion for the state -- the same amount of revenue as Maryland's current state and local motor fuel taxes, motor license taxes, and highway fees. However, this funding source would likely need to replace the fuel tax to avoid double taxing drivers with gasoline powered vehicles.[16]

A VMT tax has not yet been implemented in the United States, so its predictability is unknown. The tax is equitable because all users are taxed evenly and individuals driving more pay higher taxes, in line with the impact caused to society and on transportation infrastructure.

Fare Increase

In most urban transit systems, current adult fares average $2–$3 per trip or $50– $80 for a monthly pass, with discounted (concession) fares for youths, older adults, and people with disabilities. It is possible to increase all fares, selected categories, or change price structures, for example, to include higher fares for longer-distance trips or for special services such as light rail or express commuter buses.

Fares for MDOT MTA funded transit services are set by state law and any increase would require legislative action. In May 2021, fares on the Baltimore-oriented services vary based on the mode taken and distance traveled. Experience nationally demonstrates that increasing transit fares will impact ridership, although not significantly. The price elasticity of transit ridership with respect to fares is about -0.22. This suggests that a 10 percent fare increase typically increases revenue by about 3%. A 10-cent across the board fare increase to every transit trip on BaltimoreLink, Light RailLink, SubwayLink, Mobility Link, Taxi, and MARC fares would raise about $6 million per year.

Membership Dues

Some regional authorities are supported by membership fees or dues. There are a variety of ways that dues or fees can be levied, with a per capita charge being among the most common. The Middle Tennessee Regional Transportation Authority (RTA) operations are funded by dues. Cities and counties in the RTA service area may join the RTA Board by paying dues based on their population. The dues are used to offset overhead and administrative costs such as salaries and rents, but not transportation services or projects.

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[15] State-Level Strategies for Reducing Vehicle Miles of Travel A Research Report from the University of California Institute of Transportation Studies. Source: https://d3n8a8pro7vhmx.cloudfront.net/climateplan/pages/44/attachments/original/1509403808/2017-PTA-Handy_UCDavis_VMT_Report_1.pdf

[16] https://taxfoundation.org/road-funding-vehicle-miles-traveled-tax/

City/County In-Kind Resources

There are ways of encouraging and bringing value to transit investment and improve efficiency of service operations beyond new fees or taxes. These include transit supportive policies, programs and investment that help increase the efficiency and effectiveness of transit operations as well as programs and policies that effectively increase transit ridership. Examples of transit supportive policies, programs and investments that can only be led by local jurisdictions include transit supportive street design, transit oriented design, transit friendly land use policies, and improvements to multimodal access and connections. Other potential examples include:

- Transit Signal Priority (TSP)
- Dedicated Right of Way (bus lanes and queue jumps)
- Passenger Amenities (Bus Stops and Stations)
- Enforcement of Bus Lanes and Bus Stops

Becoming a more transit friendly region would improve service reliability and reduce operational costs associated with bus travel time. The City of Baltimore has already successfully implemented red bus lanes and other transit priority measures; further investment and commitment to expand these investments should equate to operational cost savings for MDOT MTA. The financial value of these investments is not explicitly defined but could be measured or estimated. In addition, local jurisdictions can provide local capital funds for physical improvements to transit corridors as well as investment in stops and stations, including maintenance, offer other ideas to leverage state and federal dollars to benefit transit.

Local investments in transit can demonstrate a clear commitment and measurable benefit to regional transit services. Many cities across the U.S. are developing local mobility or transit master plans to create municipal or county-based frameworks to support their transit network. Others are establishing city transit programs within their Departments of Transportation to provide dedicated staff to identify funding, develop transit supportive policies, and coordinate with transit providers to guide capital projects. In addition to transit improvements in city roadways, other efforts that create measurable value to transit agencies include:

- Invest accessible paths (sidewalks, crosswalks, and bike lanes) to transit stations.
- Assume responsibility for the purchase, installation and maintenance of transit stop amenities that make it more comfortable and attractive for people to ride transit.
- Identify City agencies and private sector partners that can play a role in supporting and promoting transit.
- Bulk purchase of transit passes for students and city employees
- Set clear targets for mode shift, safety, and environmental impacts
- Align city plans, policies, and funding to create a more transit friendly neighborhoods, including zoning and parking policies, location of affordable housing and complete streets programs.

Transit Financing and Partnerships

Using financing to support public infrastructure involves borrowing money to build the project and paying it back over time, either through user fees like tolls or with a dedicated funding source, like

a tax or fee. In some cases, private partners will build roadways, bridges, or tunnels in exchange for access to toll revenue for a set period. There are a handful of advantages associated with financing infrastructure projects, among the most important is that projects can occur sooner. Another important advantage, financing on the type of financing, is that future payments are predictable for a set period allowing for easier budgeting. The State of Maryland has and does use project financing and public-private partnerships to build transportation infrastructure, such as modernizing toll plazas on I-95.

Transit project in the United States rarely attract financing because passenger fares would not generate enough revenue to pay the costs of building the service. Instead, some transit agencies or cities in the United States use dedicated funding stream (taxes or fees) to leverage financing to advance specific projects. Without some sort of dedicated funding, transit agencies are not able to use financing tools to raise funds.

There are also a handful of cases in the United States where transit projects have been built through partnerships with private industry and philanthropists. In some of these cases, private industries have provided funds in exchange for naming rights, such as the Cleveland's HealthLine; the Greater Cleveland Regional Transit Authority raised $6.25 million through naming rights deal and is using funds to maintain stations and service levels. Another example is the M-1 Rail Line in Detroit, which was funded through a combination of grants from private foundations, the federal government and bonds issued by the City of Detroit. Other private partners helped sponsor individual stations.

REVENUE POTENTIAL

As demonstrated, while there are many ways to fund public transit programs, there is no best or recommended way. Ultimately, the best approach must be tailored to local circumstances, including identifying a funding package that will produce the required revenue and achieve the highest levels of public and political support. Further, as discussed, there are at least two ways to fund major transit initiatives: enact a single tax that is set high enough to fund the entire program or create a diverse funding package with multiple taxes and fees.

Individually, and at the common statewide rates indicated in Figure D-11, some of the most common taxing methods could each generate tens of millions of dollars in revenue per year for the State of Maryland or the Central Maryland Region. With different rates, amounts would be proportionally higher or lower. Many other sources could provide supplemental revenue, while others would provide only minor amounts. Two sources – Transportation and Climate Initiative funds and Vehicle Miles Traveled (VMT) charges – could provide future funding but are not yet at the point where they could be implemented soon.

Figure D-11 Potential Funding at Statewide Level for Transit Funding Measures Appropriate for Central Maryland

Source	Additional Rate Unit	Estimated Annual Revenue ($2021) (in millions)	
		Statewide	Central Maryland (if feasible at the regional level)
Alcohol Tax	Per additional 1%	$3.4	$1.99
Cigarette Tax	Per additional 25¢ increase in excise tax	$19.6	$6.48
Corporate Income Tax	Per additional 0.25%	$45.7	N/A
Fare Increase	Additional 10¢ across the board fare increase	$5.9	$5.9
Fuel Tax	Per $0.05 additional tax	$138.1	$45.6
In-kind Cooperation	Partnership between city and transit agency	N/A	N/A
Lodging/Hotel Tax	Per additional 1%	N/A	$3.1
Legalized Cannabis Tax	Total at 10% tax rate	$60.5	$20.0
	Total at 20% tax rate	$120.9	$39.9
Permits and Licenses	5% increase in revenue from existing	N/A	$1.7
Membership Fees	Assumes $1.00 per capita for participating jurisdictions	N/A	$2.7
Property Tax	Per $0.01 per $100 in Real Property	$77.0	$32.4
Real Estate Transfer Tax	Additional $2.50 per $500 sale price	$222.1	$73.3
Rental Car Excise	Per additional 1%	$2.6	$3.5
Sales Tax	Per additional 0.5%	$435.9	143.9
Statewide Income Tax	Additional 25¢ per $100 income	$607.6	N/A
Rideshare/TNC Fee	25¢ per TNC trip	$15.1	$6.8

Source	Additional Rate Unit	Estimated Annual Revenue ($2021) (in millions)	
		Statewide	Central Maryland (if feasible at the regional level)
Tolling Revenue	Per additional $0.25 charged per vehicle at toll gantries	$38.9[17]	$28.9[18]
Utility Bill Levy	$1 monthly charge per month per household		$12.3
Vehicle Miles Travelled	3.9¢ per mile	$2,341.9	$772.5
Vehicle Registration	Per additional $20 biennial fee	$43.3	$14.3

source: Nelson\Nygaard Consulting Associates

[17] Includes increases at JFK/I-95, I-95 Express Toll Lanes, Hatem Bridge, Nice/Middleton Bridge, Bay Bridge, Harbor Tunnel, Key Bridge, Fort McHenry Tunnel, and Intercounty Connector. Does not include I-95 Express Toll lanes because those prices are variable.

[18] Includes increases at JFK/I-95, Hatem Bridge, Bay Bridge, Harbor Tunnel, Key Bridge, and Fort McHenry Tunnel only.

CHALLENGES AND OPPORTUNITIES

Instituting new taxes and fees is challenging. Experience nationally, however, suggests that residents and businesses have been receptive to transit taxes, especially in cases where taxes are directly tied to increased investments in transit services. As mentioned, the study team evaluated individual taxes and fees in terms of a handful of characteristics, including revenue potential, stability, and equity together with if the tax or fee represents an existing or new revenue and if the tax/fee is most logically implemented at the local, regional, or state level (see Figure D-12).

Traditional transportation taxes such as fuel tax, sales tax, income tax, property tax, real estate transfer taxes and increasing tolls offer the most revenue potential. In all cases, relatively low levels of increase can raise significant revenues and meet or exceed funding requirements for some level transit improvements and/or partially address State of Good Repair gaps. In Maryland, most of the traditional transportation taxes are already in existence and most are levied statewide. They also offer challenges and opportunities in terms of equity and stability. Fuel taxes, for example, in Maryland are already high relative to neighboring states as are sales, income, and property taxes. Fuel and sales taxes are also regressive and property taxes, while generally neutral or progressive are significantly higher for residents of Baltimore City as compared with other jurisdictions in Central Maryland.

Two funding measures stand out in terms of revenue potential, stability, and equity: Real Estate Transfer Taxes and tolling. Real Estate Transfer taxes offer some potential because rates imposed by the State of Maryland are low relative to neighboring states, the tax also offers a stable source of revenue and is progressive. Increasing tolls has the potential to raise significant revenue. The funding is relatively stable and equitable, depending on the exact structure, with express lane tolling being less stable. An important challenge to increasing toll rates is that tolls are already collected and used to support the Maryland Transportation Authority, including debt secured by existing toll revenue. The relationship between tolls and the Maryland Transportation Authority is set by a trust agreement; any change in this relationship would require legislation.

There are also a handful of smaller taxes and fees that used in combination could provide a local source of revenue to support transit investment. Among the most promising taxes and fees include taxes on ridesharing or Transportation Network Companies (TNCs). At relatively low levels, these two taxes have potential to raise between $16 and $51 million annually statewide. At these levels, the fees could meet the lower end of revenue needs for Maryland or Central Maryland; slightly higher rates may meet revenue needs for modest improvements without addressing State of Good Repair. The fees vary in terms of stability; a ridesharing tax is not expected to be as stable as a transit utility fee, but ridesharing taxes are more equitable as compared with a transit utility fee.

Figure D-12 Comparison of Transit Funding Strategies

	Statewide Revenue Potential (in millions $)	County-Level Revenue Potential (in millions $)	Equity	New/Existing	Legislatively Enabled (is it allowable)
Alcohol Tax	$3.4	None	Regressive	Existing	Statewide
Cigarette Tax	$19.6	None	Regressive	Existing	Statewide
Corporate Income Tax	$45.7	None	Neutral to progressive	Existing	Statewide
Fare Increase	$5.9	None	Regressive	Existing	Yes
Fuel Tax	$138.1	None	Neutral to progressive	Existing	Statewide
Lodging/Hotel Tax	None	$1-3	Regressive	Existing	Countywide
Legalized Cannabis Tax	$60.5	None	Regressive	New	No
Developer Permits and Licenses	None	$0-2	Neutral	Existing	Countywide
Property Tax on Residential Real Estate	$76.9	$0.8-10	Progressive	Existing	Statewide and Countywide
Real Estate Transfer Tax	$222.1	None	Neutral to progressive	Existing	Statewide and Countywide
Rental Car Excise	$2.5	None	Regressive	Existing	Statewide
Sales Tax	$373.6	None	Regressive	Existing	Statewide
Personal Income Tax	$607.6	$0-62.4	Varies	Existing	Statewide and Countywide
TNC Fee	$15.1	$0-2	Somewhat progressive	Existing in some counties	Countywide
Tolling Revenue	$38.8	None	Somewhat progressive	Existing	Statewide
Utility Bill Levy	$26.0	$0.25-4	Somewhat regressive	New	Unknown
Vehicle Miles Travelled	$2,340	N/A	Neutral to progressive	New	No
Vehicle Registration	$43.3	$4-60	Somewhat regressive	Existing	Statewide

Source: Nelson/Nygaard Consulting Associates and "Evaluating Public Transportation Local Funding Options," Journal of Public Transportation, Vol. 17, No. 1, 2014, pp. 43-74

IMPLICATIONS FOR DEVELOPING TRANSIT GOVERNANCE AND FUNDING ALTERNATIVES

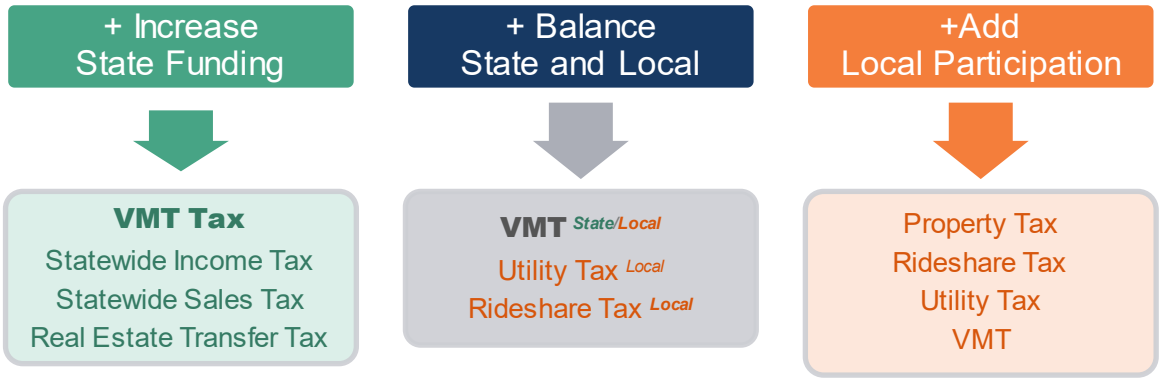
The Baltimore region requires additional funding to fulfill transit plans and address a backlog state of good repair. Also important, is identifying funding measures that allow individual cities and counties to raise additional resources and participate in the cost of funding and operating transit services. Information presented in this technical memorandum is relevant to the development and consideration of alternatives for transit governance and funding in the Baltimore region. Increased transit investment, including how new funds are assessed and distributed, must be considered within the context of how transit might be governed in the future. Funding sources vary on what opportunities, or challenges, increased investment presents as well as how transit decisions are made.

In the development of funding alternatives, the magnitude of funding needs (i.e., ranging from $16 million to increase transit service investments by 1% and up to $100 million annually for State of Good Repair needs), one strategy would be to focus on alternatives that generate the highest potential revenue. While these may present the highest fiscal return, they are also often dependent on continued statewide sources of revenue. The Baltimore region would most likely need to compete or share new transit revenues with other parts of the state and/or other MDOT programs, i.e., roads and bridges, airport, and port.

Other factors to consider when identifying new sources of transit funding are how revenues align with potential governance alternatives and who participates in decision making around transit investment and services. Options include a new rideshare tax or utility tax, lend themselves to a regional boundary, creating a dedicated stream of funding outside of state sources. Other sources, such as VMT and state income tax, can be assessed and collected within a regional framework. Regional sources of revenue present the opportunity for city and county participation in how those revenues are distributed to the benefit of local users of the system.

Ideally, future transit funding represents the potential for increasing revenues to meet near and long-term needs, as well as opportunities to align funding mechanisms with more participation in decision making as to where those funds are directed (see Figure D-13).

Figure D-13 Potential Revenue Stream Considerations



ADDITIONAL INSIGHTS: VIABILITY OF GAS TAXES

The gas tax is a common method of raising funds for transportation, potentially including public transportation. It refers to a tax on gasoline and diesel fuel used for motor vehicles, usually set, and collected on a per gallon basis. It is paid by consumers of motor fuels when they purchase fuel and is generally collected by fuel vendors at the wholesale and/or retail level. It is generally regarded as a regressive tax, falling more heavily on lower income consumers, and in many places is defined as a user fee with the revenues dedicated strictly to highway maintenance and construction.

Maryland began collecting motor fuel taxes in 1922. Currently the motor fuel tax makes up one element of the overall funding for the Transportation Trust Fund (TTF), and so is not restricted in terms of funding one mode. The state's Transportation Infrastructure Investment Act of 2013 set the tax rate but also indexed the tax to the Consumer Price Index (CPI) and added an increment that is equivalent to the 5 percent overall state sales and use tax, so the overall rate per gallon reflects all these elements and is adjusted periodically. As of July 1, 2020, the motor fuel tax rates were 36.3 cents per gallon for gasoline, and 37.05 cents per gallon on diesel fuel.

Gas Tax Per Gallon in Adjacent States (July 2020)	
Delaware	$0.23
District of Columbia	$0.235
Pennsylvania	$0.587
Virginia	$0.294
West Virginia	$0.357

Source: Tax Foundation (https://taxfoundation.org/state-gas-tax-rates-2020)

For the current six-year revenue projection contained in the FY 21-26 MDOT Consolidated Transportation Plan (CTP), the CPI effect is estimated to average 4.5 cents per gallon, and the sales and use tax equivalent to average 9.5 cents per gallon. Over the six-year period the total revenue from the motor fuel tax is projected to be $6.7 billion, down by $600 million from the previous final CTP because of the effects of the COVID-19 pandemic. In the current CTP, the motor fuel tax is estimated to provide 21% of the overall revenue, about the same as federal funding (22%), and less than the combined total of registration/MDOT MVA fees (14%) and vehicle titling taxes (17%)—this contrasts with many states where the gas tax provides the majority of state transportation funding.

As noted above the reduction in travel associated with COVID-19 lockdowns and increased working from home have had a significant short term effect on motor fuel tax revenues, both nationally and in Maryland. After an initial crash in travel volumes in the spring of 2020, statewide weekly traffic had generally recovered to less than a 20% decline in weekly averages by the end of 2020[19]. In the near term it is not clear what the effect will be—potentially more working from home should reduce commuter travel, but there is evidence that being at home with a car available can lead to more auto trips for other purposes. As of May 2021, published forecasts for motor fuel tax revenues only go out to 2022. Actual Fiscal Year 2020 motor vehicle fuel tax revenues of $1,070,060 (thousands) are projected to decline to $1,040,104 in FY 2021, and then

[19] Maryland Department of Legislative Services, Office of Policy Analysis, Maryland Department of Transportation Fiscal 2022 Budget Overview, January 2021, p. 5.

recover somewhat to $1,047,088 in FY 2022[20]. Forecasts for overall TTF net revenues from taxes and fees (which includes Motor Fuel Taxes) show an increase from $2,708 million actual in 2020 to $3,220 million in 2026[21] suggesting a projected recovery.

In the longer term it is not clear that the traditional per gallon motor fuel tax will continue to be the stable funding source it has been. Over the past several years general federal and state gas tax revenues have declined with the improved fuel efficiency of vehicles, and some reductions in vehicle miles traveled. In the longer term there may be significant impacts on revenues as sales of fully electric vehicles increase. Currently a very small proportion of the nation's vehicle fleet, some forecasts[22] are now predicting that electric vehicles will outsell internal combustion vehicles in the U.S. by 2030. Several major automakers have announced their plans to sell only electric vehicles. Combined with potential federal funding and policy support for national development of charging stations and other support for electrification, it may be that the move to electric vehicles happens sooner than predicted. Several states have recognized the potential loss of a major transportation funding source. Some have added an electric vehicle fee in lieu of gas tax revenue (in many states it is estimated that these fees are higher than the gas tax that would have been paid), others are looking at options for taxing such as a fee per vehicle mile traveled or perhaps taxes on other fuels used for motor vehicles.

Maryland had been part of the 11-state northeastern regional Transportation Climate Initiative (TCI), but in December it joined with seven of the other states in declining to sign the Memorandum of Understanding for the regional program. States participating in the TCI-Program require fuel suppliers to purchase allowances for carbon emissions—a cost that they would pass on to fuel users. In effect this would have been an increase in the gas tax with the revenues dedicated to efforts to reduce carbon emissions, potentially including expanded public transportation. Among adjacent states only the District of Columbia has signed the MOU to participate. In the wake of the pandemic support for a fuel tax increase, even targeting on fighting climate change, may be a difficult sell.

Other considerations of an increase in the fuel tax as a source of funding for expanded public transportation in the Baltimore region include issues with collecting it on a regional basis—both from the difficulties collecting it only in particular jurisdictions, and with users driving to nearby untaxed jurisdictions to purchase cheaper gas. Also, in the longer run its viability as transportation funding source generally is likely to be affected by the electrification of the vehicle fleet.

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[20] Maryland Board of Revenue Estimates, Estimated Maryland Revenues Fiscal Years Ending June 30,2021, and June 30, 2022, submitted to Larry Hogan Governor December 11, 2020, p. 12.

[21] Op Cit, p. 10.

[22] Xavier Mosquet, Aakash Arora, Alex Xie, and Matt Renner, Boston Consulting Group, "Who Will Drive Electric Cars to the Tipping Point?", January 02, 2020, https://www.bcg.com/en-us/publications/2020/drive-electric-cars-to-the-tipping-point