City of Annapolis
Transit Development Plan

Draft Plan – March 2025

KFH GROUP

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Chapter 1
Introduction

A Transit Development Plan (TDP) is a planning process that is undertaken on a periodic basis by every transit system. The TDP process builds upon and formulates goals and objectives for transit, reviews and assesses current transit services, identifies unmet transit needs, and develops an appropriate course of action to address the objectives in the short-range future. The completed TDP will then serve as a guide for implementing service and/or organizational changes, improvements, and/or potential expansion.

The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) requires the Locally Operated Transit Systems (LOTS), such as Annapolis Transit, to conduct a TDP every five years. The LOTS use their TDPs as a basis for preparing their Annual Transportation Plans (ATPs), which serve as their grant applications for transit funding. The most recent TDP for the City of Annapolis was completed in 2019.

Annapolis Transit

Annapolis Transit provides a variety of services to meet mobility needs in the City of Annapolis.

- Fixed-route services
- On-demand services

TDP Project Kick-Off Meeting

A meeting was conducted on June 25, 2024, with ADOT staff and the Public Advisory Committee to initiate the planning process. This meeting offered the opportunity to:

- Discuss the TDP planning process and solicit input about scope, issues, or schedule.
- Discuss and identify key issues related to the project, review existing studies and data, and gain a recent historical perspective of the service area from key participants.
- Determine local goals and objectives for transit service that will guide the project's direction, and the relationship of these goals to the current transit issues/service.

Public Advisory Committee

The mayor of Annapolis invited key community stakeholders to serve on a Public Advisory Committee that would provide advice and feedback at key milestones during the TDP process. Additional stakeholders were also invited to participate in the planning process, and overall it was anticipated that the committee will include the following representatives:

- Annapolis Business Association
- Annapolis Downtown Partnership
- Annapolis Planning and Zoning
- Annapolis Transit bus operators
- Annapolis Transit customers
- Annapolis Transportation Board Members
- Educational Commission
- Educational Institutions
- Hispanic Community
- Housing Authority of the City of Annapolis (HACA)

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- Determine local goals and objectives for transit service that will guide the project's direction, and the relationship of these goals to the current transit issues/service.

Input regarding current transit issues from the Public Advisory Committee at the initial meeting included the following:

- **Impact from transition of services to Anne Arundel County Transit.** Since the last TDP, the Yellow and Gold Routes previously operated by Annapolis Transit were transitioned to Anne Arundel County Transit. Committee members noted that this change resulted in the elimination of direct services to Annapolis High School and other educational sites using the Annapolis Transit system.

  Committee members also mentioned that educational institutions are not the only destinations impacted by the lack of direct transit service, and that they now require City of Annapolis residents to transfer to routes operated by Anne Arundel County. Other areas noted include the US Social Security Administration, Maryland Motor Vehicle Administration (MVA), and a variety of employment locations. Stakeholders on the committee expressed the need to connect workers with employment options surrounding Annapolis, such as those now served by Anne Arundel County Transit, but no longer by Annapolis Transit.

- **Fare structure coordination.** A related issue discussed by the Public Advisory Committee was the lack of coordination of fares and passes between the different public transportation services throughout Anne Arundel County and Annapolis. Stakeholders mentioned the confusion that occurs when transferring to and from the separate transportation services based on the different fare structures.

- **Pedestrian and rider safety concerns.** The Public Advisory Committee noted concerns regarding safety for riders both on and off the bus. Stakeholders noted specific locations where construction is occurring that is causing unsafe conditions for riders, specifically when waiting at the stop for the bus. Another safety concern mentioned is physical barriers near the Annapolis High School that cause safety issues for both pedestrians and drivers.

- **Driver recruitment and retainment.** Another concern that was discussed included challenges with recruiting and retaining vehicle operators. The committee noted that the current pay scale may be insufficient, and indicated that potential employees are accepting other driving positions with higher pay rates, such as school bus services.

The Public Advisory Committee also met at key intervals throughout the planning process, including offering input on potential service and organizational alternatives included in this plan.

Overview of the Plan

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

- **Chapter 2: Review of Existing Conditions** provides a detailed review of Annapolis Transit services, including route profiles and a performance assessment. It will also document the routes and services provided by MDOT MTA, Anne Arundel County, and other area providers. This review will also include a review of other available human services transportation and private transportation services available in the City of Annapolis and surrounding area.

- **Chapter 3: Needs Assessment** identifies transit needs in Annapolis based upon input received through outreach efforts, with a particular focus on feedback from current customers, key stakeholders, and the broader community.

- **Chapter 4: Review of Demographics and Land Use** provides an analysis of demographic data, land use, and travel patterns to identify major trip generators and underserved/unserved locations.

- **Chapter 5: Service and Organizational Alternatives** presents potential service and organizational alternatives to improve current services, providing a menu of potential transit improvements.

- **Chapter 6: Transit Plan** provides final recommendations, including budgeting and implementation considerations over the next five years.

Chapter 2
Existing Conditions

Management and Organizational Structure

Transit services in Annapolis are administered by the Annapolis Department of Transportation (ADOT), a department within the City of Annapolis government. In addition to public transportation services, this department manages city-owned parking garages/lots and residential and on-street parking programs. The department also licenses, inspects, and regulates taxicabs. ADOT also participates at the regional, state, and federal levels to develop plans and programs to improve local and regional transportation.

The Mission Statement for the Annapolis Transportation Department is to:

Uphold the highest standards of dependable, secure, and integrated public transportation and alternative transportation solutions throughout the entire Annapolis region. Our primary focus encompasses fixed-route bus service, micro-mobility options, biking infrastructure, and pedestrian trails.

We are committed to enriching the quality of life for both residents and visitors of Annapolis, while concurrently nurturing economic prosperity and environmental stewardship. Through a culture of innovation, strategic community partnerships, and seamless integration, our aim is to prioritize customer satisfaction, affordability, accessibility, and operational efficiency.

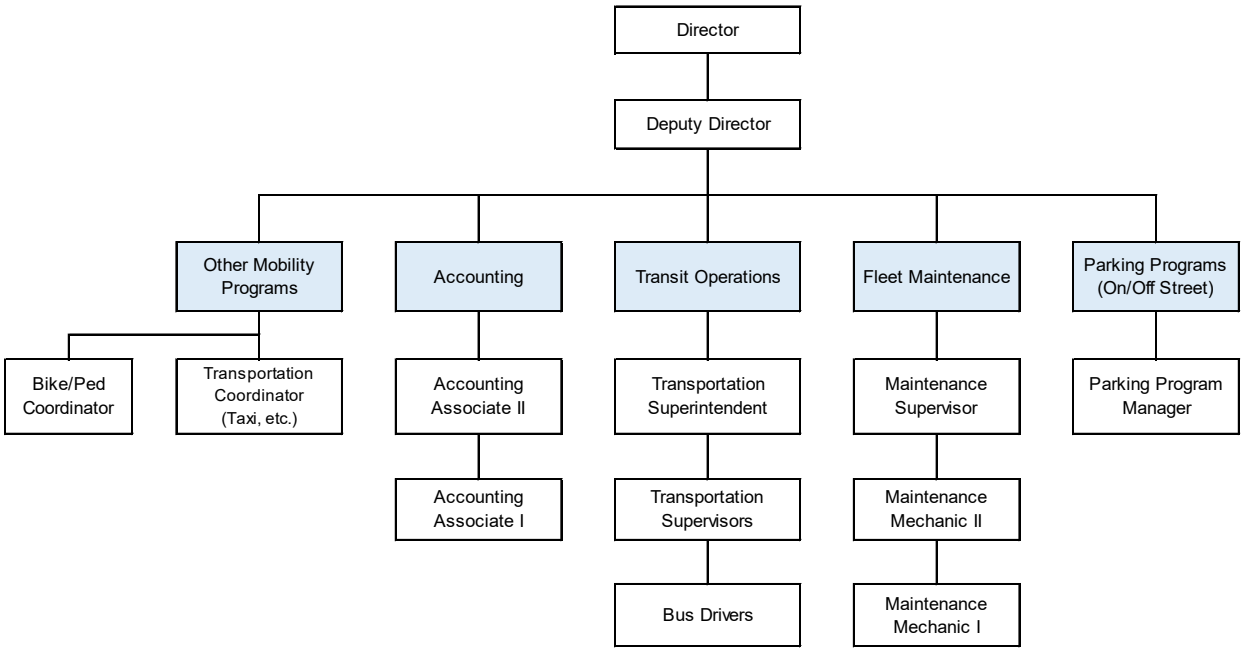
The Annapolis City Council is comprised of nine members, with the mayor serving as the Chairperson and one representative from each ward serving as alderpersons. The City Council is the legislative body that adopts policy for the City of Annapolis, including service and fare policies and the budget for Annapolis Transit.

The Transportation Board is tasked with providing informed analysis on transportation matters affecting the City and pending before the City Council or any City agency, to recommend a transportation master plan for the City to provide oversight, guidance, and expertise in the planning of traffic, transit, and parking policies. The Transportation Board includes 15 members appointed by the mayor, St. John's College, and the US Naval Academy, and at-large members appointed by the mayor and confirmed by the City Council. As noted in Technical Memorandum #1, the City of Annapolis established a Public Advisory Committee to guide the TDP process, and this committee includes Transportation Board members.

Annapolis Transit staff, both administrative and maintenance, are located in one building at 308 Chinquapin Round Road in Annapolis. Figure 2-1 shows an organizational chart provided by the Department of Transportation. As indicated:

- The Director oversees three functions: Transit Operations, Parking Operations, and Transportation Planning. Annapolis Transit activities include provision of public transportation services, transit grant administration and vehicle maintenance.
- Day-to-day transit operations are under the supervision of the transportation superintendent.
- The function of the deputy director includes assisting the director in the administration and management of the department, transit grants management, and transportation planning at local and regional levels.

Figure 2-1: City of Annapolis Department of Transportation – Organization Chart



Source: Annapolis Department of Transportation (2024)

Annapolis Transit Services

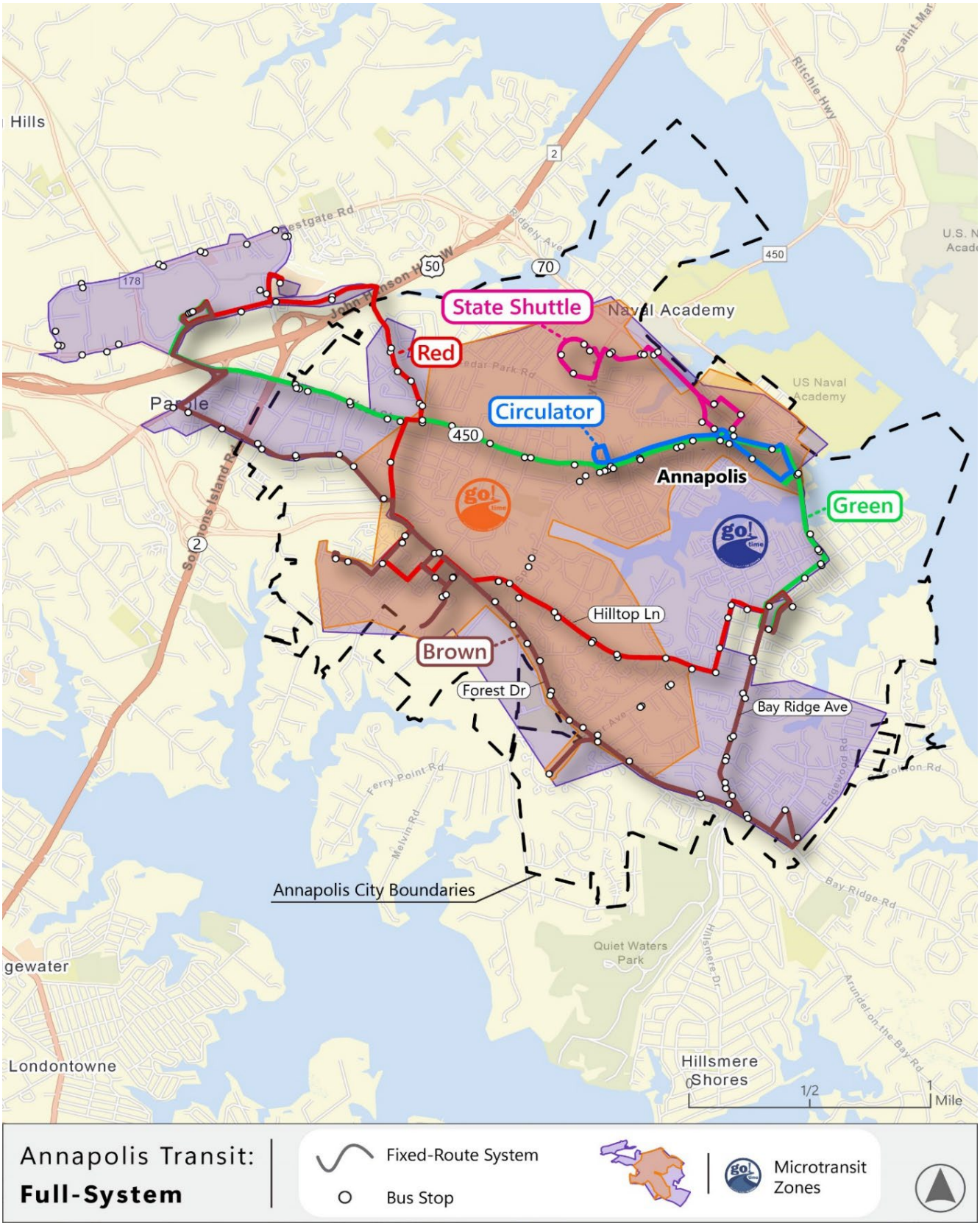
Annapolis Transit provides a variety of public transit services that are detailed in this chapter:

- Fixed-Route / Shuttle Services:
  - Red Route
  - Green Route
  - Brown Route
  - Downtown Shuttle
  - State Shuttle

- On-Demand Services
  - Americans with Disabilities Act (ADA) complementary paratransit service for people with disabilities unable to use fixed-route services
  - Go Time! On-Demand – a general on-demand pilot service to replace two low-performing routes, Purple and Orange Routes.

A map with an overview of the following Annapolis Transit routes and services that reflects the recent on-demand service implementation is provided in Figure 2-2.

Figure 2-2: Annapolis Transit - Fixed Routes / Shuttle Services



On-Demand Transit Services

ADA Paratransit

Annapolis Transit provides complementary ADA paratransit service for individuals who are unable to use fixed-route bus service due to a disability. Annapolis Transit offers a shared ride curb-to-curb service, known as "paratransit." ADA paratransit services are available Monday – Friday 5:30 a.m. to 11:00 p.m., Saturday 7:15 a.m. to 11:00 p.m., and Sunday 7:00 a.m. to 8:00 p.m. The paratransit service area consists of any location, within ¾ of a mile of any fixed-route service operated by Annapolis Transit. Riders must call to reserve a ride in the paratransit program, and reservations for ADA complementary paratransit can be made up to close of business the day before travel.

Potential riders must submit an application form to Annapolis Transit to become certified to use ADA paratransit services. Eligible individuals receive a paratransit photo identification card that must be displayed when boarding an Annapolis Transit paratransit or fixed-route vehicle. Subscription service is available for repetitive trips that will continue over a period of 90 days, up to 12 months.

The one-way fare for paratransit service is $4.00. An eligible ADA paratransit rider may have one personal care attendant accompany them for free and/or a companion ride with them paying the same fare.

Go! Time On-Demand

As noted earlier, Annapolis Transit transitioned the Orange and Purple Routes to an on-demand model. The new service is known as "Go! Time" on-demand transit, and customers can access the services through a free Transigo app (Apple or Google Play) or through a phone call to the Annapolis Transit dispatch office. Customers are provided with the following overview of the new on-demand services:

- Once booked, the driver takes passengers from their pickup location to their destination without necessarily traveling the entirety of the route. On-demand instead serves a geographic area, or zone, meaning passengers can be picked up and dropped off anywhere within the zone. Onboard the bus, a computer program sorts out the ideal route, minimizing travel time for both customers and drivers.

- With this service, customers may ride with other passengers, or may be the only rider, going directly from point A to point B. When booking a ride, the app will provide detailed information, including when and where the bus will pick up the rider, and when that rider is expected to arrive at their destination. Pick-ups and drop-offs must be within a service zone at a pickup location determined by the Transigo app. The Go! Time service zones include all areas within ¾ of a mile of the current Orange and Purple routes.

Fare Structure

The fare structure for Annapolis Transit is provided in Table 2-1.

Table 2-1: Annapolis Transit Fares

Fare Type	Cost	Notes
Base Cash Fare – Fixed-Route and On-Demand	$2.00	One-way trip
Downtown Shuttle	Free	Services Central Business District
Children (5 years old and under)	Free	Up to 3 children ride for free with paying adult
Students (K-12)	Free	On regular school days only from 6:00 a.m. to 6:00 p.m., Annapolis' students only
Senior/Disabled/Student/Medicare Card Holders	$1	Includes seniors 60+, private schools, colleges, Naval Academy
ADA Service Cash Fare	$4	One-way trip, curb-to-curb
ADA 10-Ride Pass	$40	10 trips, curb-to-curb
Summer Youth Pass	$35	June 16 to Labor Day, for students 18 years and under
One Ride Pass (minimum of 100)	$150	For community promotions, non-profit organizations by prior agreement
Day Pass Fare	$4	Unlimited rides on regular bus routes
7-day pass	$20	Unlimited rides on regular bus routes
Passes for senior, disabled, student, and Medicare card holder	Half price of regular with valid ID	Unlimited rides on regular bus service, not for paratransit

Vehicle Fleet

Table 2-2 provides information on Annapolis' current fleet, showing 16 active revenue vehicles. This inventory will be updated as needed throughout the planning process and serve as the basis for the capital plan that will be proposed in the final TDP.

Table 2-2: Annapolis Active Vehicle Inventory

Agency Asset ID	Model Year	Make	Model	MTA Vehicle Type	Seating Capacity		Standing Capacity	Fuel Type	Current Physical Condition	Current Mileage (1/29/25)	Minimum		Earliest Possible Replacement Year
					Capacity	ADA Accessible					Miles	Years	
5311	2011	Gillig	LowFloor	Heavy Duty - Medium	25	Yes	9	Diesel	1	568,627	350,000	10	2021
4311	2011	Gillig	Trolley Replica Hybrid	Heavy Duty - Medium	25	Yes	9	Hybrid	1	359,525	350,000	10	2021
1800	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	227,589	150,000	5	2023
1801	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	180,367	150,000	5	2023
1802	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	260,890	150,000	5	2023
1803	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	251,878	150,000	5	2024
1804	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	201,239	150,000	5	2024
1805	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	249,860	150,000	5	2024
1806	2021	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	116,539	350,000	10	2032
1807	2021	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	103,665	350,000	10	2032
1809	2022	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	67,724	350,000	10	2033
1810	2023	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	37,176	350,000	10	2034
1808	2023	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	25,944	350,000	10	2034
1811	2024	BYD	K7M	Heavy Duty - Medium	22	Yes	6	Electric	5	348	350,000	10	2034
1812	2024	BYD	K7M	Heavy Duty - Medium	22	Yes	6	Electric	5	310	350,000	10	2034

Source: ATP 2025

Facilities

Annapolis Transit's facility is located at 308 Chinquapin Round Road in Annapolis, Maryland. The facility houses administrative offices, operations, and maintenance, including a bus wash facility.

Google Map View of Annapolis Transit Facility

Technology

Annapolis Transit has implemented a pilot microtransit program for the Purple and Orange Routes, known as Go! Time. This new program uses the Transigo App, which allows passengers to book a trip on their phone. First time users will need to register in the app. Once registered, the user will select "book my ride," entering both the pick-up and destination addresses.

Pedestrian, Bicycle and Scooter Access

The City of Annapolis created the Bike Annapolis Program to build a partnership between Annapolis citizens, businesses, and the city staff to encourage more bike use throughout the city. The city has encouraged more biking through planning, developing, and continually improving safe and accessible streets through programs such as Safe Routes to School and off-road networks; and amenities such as bicycle storage, signage, education, and enforcement and maps. In 2012, the city developed its first

bicycling master plan that was set to assist Annapolis in becoming a Bronze-level Bicycle Friendly Community. Some initiatives that Annapolis is utilizing to incentivize commuters and citizens to utilize alternative travel methods include Clean Commute Annapolis and Bike to Work Day. Clean Commute Annapolis includes bicycles, walking, and riding Annapolis Transit.

The City of Annapolis also partners with Bird for a bike share program, as well as an E-Scooter program, which has the goal of providing residents and visitors to Annapolis with alternative methods for traveling around the city.

Marketing

Annapolis Transit encourages businesses or organizations to advertise on buses and bus shelters throughout Annapolis.

The Annapolis Department of Transportation utilizes a variety of public relations and outreach activities, signage, special events, and the internet. Through the Bus Shelter Program, ADOT has installed a total of 80 shelters. ADOT also has numerous brochures including system route maps and schedules that are distributed to passengers.

ADOT participates in various community events each year and has a presence in various publications through listings or paid advertising. These include Annapolis' Portbook Marine Services Directory, the Visitors Bureau Annual Guide, and the Capital's Annual Guide to Living in Anne Arundel County.

Bus Stops

In 2022, the Baltimore Metropolitan Council (BMC) completed a bus stop assessment study for all Baltimore area Locally Operated Transit Systems (LOTS), including Annapolis Transit, as referenced in Technical Memorandum #1. Within Annapolis, there were 143 active bus stops. However, Annapolis Transit bus stop signs were only found at 55 of the stops. Since the completion of the study, the city has undergone a bus stop signage redesign effort where new signs have been installed throughout the service area, as well as bus shelters. Based on the study data, 82% of bus stops are along a sidewalk, but only 11% of those stops have an ADA-compliant landing pad, whereas shelters and seating are provided at 38% and 43%, respectively. A summary of the Annapolis bus stop data is provided in Table 2-3.

Table 2-3: Annapolis Bus Stop Statistics from the Bus Stop Assessment

ADA Landing Pad	Sidewalk Connection	Shelter	Seating
11%	82%	38%	43%

The study's recommendations include developing an improvement hierarchy for bus stops, categorizing stops as transit centers, enhanced service stops, and basic bus stops. This hierarchy category would set the standard for the level of passenger amenities at the stop. All bus stops should include a sign, ADA landing pad, and sidewalk connection. Amenities such as seating, information cases, and lighting would be determined based on the stop classification and specific sight needs (e.g., senior center). The study also recommends setting an average daily boardings standard for installing shelters at bus stops. Cost estimates are provided for stop improvements, and a GIS dashboard was created to assist with developing cost estimates for improvement projects.

Operating Budget

Transit services are funded by the Federal Transit Administration (FTA) and state grant programs administered by MDOT MTA, as well as local sources. ADOT is responsible for applying for and administering all grant funds, which includes completing the ATP application, along with completing and submitting the necessary reports to MDOT MTA. The FY2025 operating budget included in the ATP is provided in Table 2-4, and shows that the overall operating budget is a little less than $5.0 million.

Table 2-4: FY2025 Operating Budget

	Large Urban	ADA	Total
Vehicle Operations Expenses	$3,232,616	$235,142	$3,467,758
Maintenance Expenses	$883,578	-	$883,578
Administrative Expenses	$581,728	-	$581,728
Total	$4,697,922	$235,142	$4,933,064

Source: 2025 ATP

Capital Budget

Table 2-5 is a summary of current capital projects. Almost all the capital projects are grant funded with federal and state funds constituting about 90%. In most cases, a grant-funded capital project requires a 10% local funding match to secure federal and state funds. The only exception in the table is the charging infrastructure, which is all local funds.

Additional information on capital needs and requests will be identified through the TDP process and eventually in the draft final plan.

Table 2-5: Summary of Capital Projects

FY	Project Description	Project Cost	Project Financing			Status	*Notes*
			Federal Funds	State Funds	Local Funds		
2022	Heavy duty Bus Replacement -Electric	$755,523	$308,118	$-	$197,405	Battery electric bus ordered in 2022	*originally for a diesel bus at cost of $385,145; additional county funds ($250K) and city funds ($197,405)*
2022	Electric Bus, Support Vehicles	$770,000	$770,000	$-	$-	Ordered in 2022	
2023	Small Cutaway Buses - 6 buses	$747,872	$598,298	$74,787	$74,787	Ordered in 2024	*originally for 2 heavy duty buses, now for 6 small cutaway buses for microtransit*
2023	Electronic Fareboxes	$40,073	$32,058	$4,007	$4,007	underway	
2023	Automatic Vehicle Location System	$98,188	$78,550	$9,819	$9,819	underway	
2024	Small Electric Bus replacements - 2 buses	$811,410	$649,128	$81,140	$81,142	underway	
2024	Mobile Lift Columns	$85,000	$68,000	$8,500	$8,500	underway	
2024	Charging Infrastructure	$556,500	$-	$-	$556,500	underway	*no federal/state funds*
2025	Roof Replacement with Solar Panels	$450,000	$405,000		$45,000		
TOTAL		**$4,314,566**	**$2,909,152**	**$178,253**	**$977,160**		

Existing Service Performance Review

As noted earlier, Annapolis Transit reports operating and performance data to MDOT MTA by individual route and service, and the following services collectively, by funding program (Section 5307). ADA paratransit services are reported separately through Form 2a.

Tables 2-6 and 2-7 provide operating and performance data summary for Annapolis Transit services for FY2022, FY2023, and FY2024, as reported to MDOT MTA.

Table 2-7 shows the operating and performance data for ADA Paratransit from FY2022, FY2023, and FY2024. Overall, the ADA paratransit trips have decreased from FY2022 to FY2024. The total service miles and total service hours have also decreased during the three years, while within those same three years, total operating costs have increased.

Table 2-6: Annapolis Transit FY2022, 2023, and 2024 Section 5307 Operating and Performance Data

Operating/Performance Category	FY2022	FY2023	FY2024
Total Passenger Trips	202,812	303,385	324,634
Total Service Miles	401,217	451,877	465,640
Total Service Hours	40,308	40,920	41,484
Total Operating Costs	$4,470,373	$3,716,286	$4,086,567
Total Farebox Receipts	$452,850	$324,280	$330,456
Cost/Hour	$110.91	$90.82	$98.51
Cost/Mile	$11.14	$8.51	$8.78
Cost/Trip	$22.04	$12.25	$12.59
Passenger Trips/Mile	0.53	0.7	0.7
Passenger Trips/Hour	5.13	7.56	7.83
Total Farebox Recovery	10.10%	8.70%	8.09%

Table 2-7: Annapolis Transit FY2022, 2023, and 2024 ADA Paratransit Operating and Performance Data

Operating/Performance Category	FY2022	FY2023	FY2024
Total Passenger Trips	2,801	3,080	2,522
Total Service Miles	24,187	30,889	20,331
Total Service Hours	4,613	4,572	3,844
Total Operating Costs	$214,596	$239,919	$266,108
Total Farebox Receipts	$7,849	$9,842	$5,316
Cost/Hour	$46.52	$52.48	$69.23

Operating/Performance Category	FY2022	FY2023	FY2024
Cost/Mile	$6.87	$7.77	$13.09
Cost/Trip	$76.61	$77.90	$105.51
Passenger Trips/Mile	0.12	0.11	0.12
Passenger Trips/Hour	0.62	0.69	0.66
Total Farebox Recovery	3.70%	4.10%	2.00%

As indicated in the data, Annapolis Transit experienced an increase in overall ridership during FY2022, FY2023, and FY2024. Over the three years, total service hours increased slightly, while overall operating costs decreased between FY2022 and FY2023, but increased between FY2023 and FY2024. With a decrease in ridership cost per trip between FY2022 and FY2023, we see an increase in passenger trips per mile and hour. During all three years, the farebox recovery receipts decreased. The review of data between FY2022 and FY2024 indicates that ridership continues to increase.

Table 2-8 shows Annapolis Transit FY2024 operating and performance data by route.

Table 2-8: Annapolis Transit FY2024 Operating and Performance Data by Route

Operating/ Performance Category	Red	Green	Orange	Brown	Purple	Downtown Shuttle	State Shuttle
Total Passenger Trips	35,751	68,189	10,531	50,256	13,342	79,254	67,311
Total Service Miles	92,250	76,500	42,525	103,626	58,153	50,025	42,564
Total Service Hours	7,553	7,553	3,123	8,230	3,880	7,671	3,473
Total Operating Costs	$887,166	$853,340	$424,084	$964,952	$502,800	$0	$454,225
Total Farebox Receipts	$39,514	$69,691	$12,166	$57,709	$15,953	$0	$135,423
Cost/Hour	$117.46	$112.98	$135.79	$117.25	$129.59	$0.00	$130.79
Cost/Mile	$9.62	$11.15	$9.97	$9.31	$8.65	$0.00	$10.67
Cost/Trip	$24.82	$12.51	$40.27	$19.20	$37.69	$0.00	$6.75
Passenger Trips/Mile	0.39	0.89	0.25	0.48	0.23	1.58	1.58
Passenger Trips/Hour	4.73	9.03	3.37	6.11	3.44	10.33	19.38
Total Farebox Recovery	4.45%	8.17%	2.87%	5.98%	3.17%	0.00%	29.81%

Note: Downtown Shuttle is a free service, no fares are collected.

Figure 2-3 shows the ridership by route for Annapolis Transit's fixed routes. The downtown Shuttle had the highest ridership, while the Purple and Orange Routes had the lowest ridership in FY2024.

Figure 2-3: Annapolis Transit Fixed-Route Ridership by Route (FY2024)

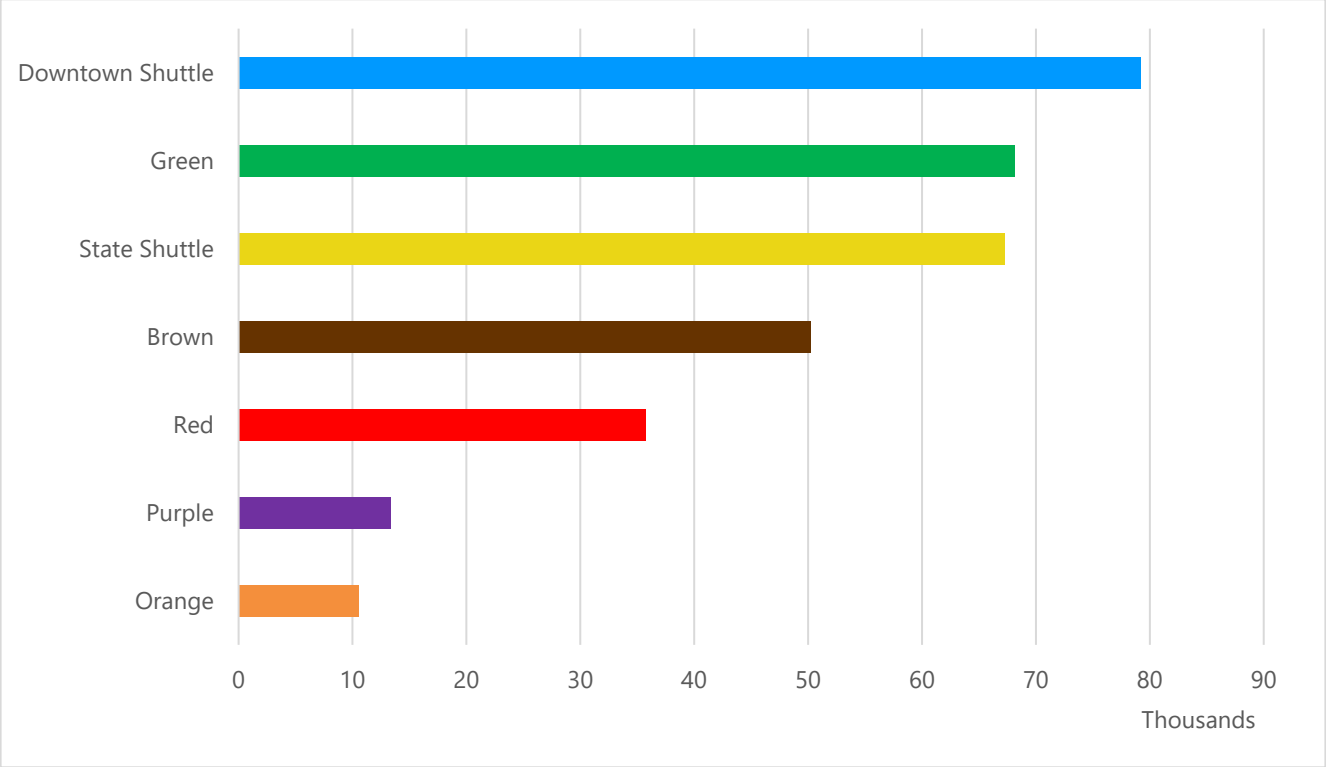
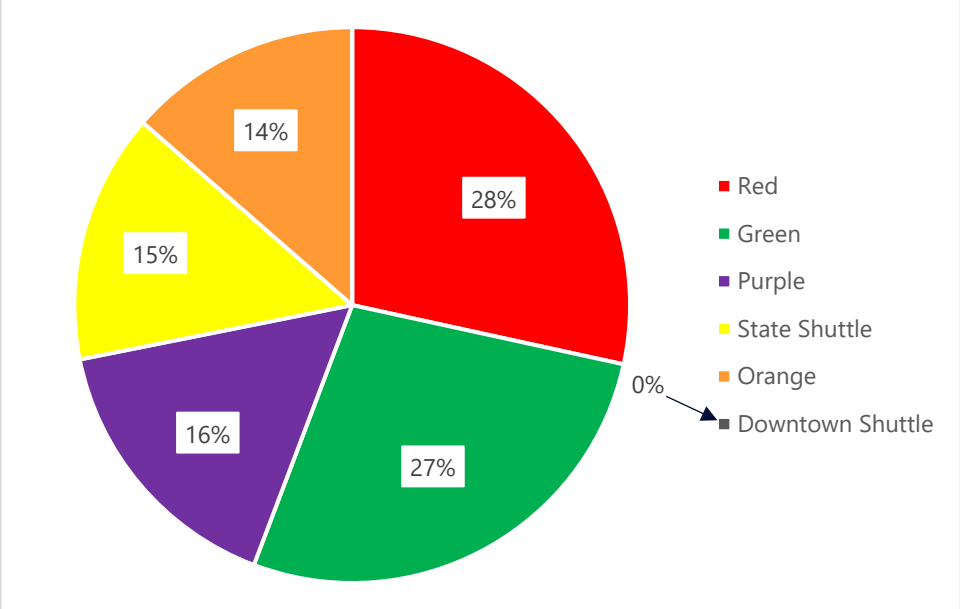


Figure 2-4: Annapolis Transit Fixed-Route Operating Cost by Route (FY2024)



MDOT MTA Performance Measures and Evaluation

Transit services are typically evaluated for both efficiency (doing things right) and effectiveness (doing the right things):

- Efficiency is usually analyzed by operating cost per hour, mile, and passenger trip.
- Effectiveness, emphasized by passenger productivity, is usually analyzed by passenger trips per mile and per hour. The single most useful measure is the passenger trips per hour, as it reflects usage pertaining to the amount of service provided. Generally speaking, the majority of transit operating costs are hourly (wages and benefits), so higher values of trips per hour reflect better use of resources.

MDOT MTA applies performance standards to the LOTS to monitor the effectiveness and efficiency of each system's services. The performance standards are based on a composite of hundreds of national peer agencies with similarly-sized operations. Services are rated as "Successful," "Acceptable," or "Needs Review," based on how they perform in each of the operating measures.

These standards are utilized to determine whether or not new services requested by each system should be funded based on their potential for success. MDOT MTA's current standards for small urban transit service are shown in Table 2-9.

Table 2-9: MDOT MTA Performance Standards

Suburban/Small Urban Fixed-Route Bus	Revised LOT Performance Standards		
	Successful	*Acceptable*	*Needs Review*
Operating Cost per Hour	<$68.37	$68.37 - $89.41	>$89.41
Operating Cost per Mile	<$4.21	$4.21 - $6.31	>$6.31
Operating Cost per Passenger Mile	<$4.21	$4.21 - $7.36	>$7.36
Local Operating Revenue Ratio	>55%	45% - 55%	<45%
Farebox Recovery Ratio	>20%	10% - 20%	<10%
Passenger Trips per Mile	>1.25	0.75 – 1.25	<0.75
Passenger Trips per Hour	>16.0	12.0 – 16.0	<12.0

SOURCE: ANNAPOLIS TRANSIT 2A FORM FY20 24

The following operating measures form MDOT MTA performance evaluation process for the LOTS:

- Operating cost per hour
- Operating cost per mile
- Operating cost per passenger trip
- Farebox recovery (not applicable)
- Passenger trips per mile
- Passenger trips per hour

The Suburban / Small Urban Fixed-Route performance measures were used to evaluate the specific routes shown in Table 2-10 that fall into this category. Performance data is shown in green if meeting or exceeding standards, and in red if not.

Table 2-10: Annapolis Transit FY2023, Operating Data Analysis

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Red	$108.52	$8.99	$23.39	0.4	4.73
Green	$104.60	$10.50	$13.45	0.82	7.93
Orange	$134.36	$8.29	$34.13	0.24	3.97
Brown	$107.31	$9.04	$18.21	0.5	6.08
Purple	$124.98	$8.42	$39.10	0.22	3.3
Downtown Shuttle	$0.00	$0.00	$0.00	1.69	11
State Shuttle	$114.14	$12.26	$7.60	1.61	15.37

A review of this FY2023 data indicates the following:

- The Downtown Shuttle met the MDOT MTA performance measures for operating cost per hour, operating cost per mile, operating cost per passenger trip, and passenger trips per mile.
- The State Shuttle also met the MDOT MTA performance measures for passenger trips per mile and passenger trips per hour.
- The Green route met the MDOT MTA performance measures for passenger trips per mile.
- The Red Route, Orange Route, Brown Route, and Purple Route all fell below the performance measures for all categories.
- These results will be discussed with Annapolis Transit, and as noted earlier through the course of the TDP process, more recent ridership data will be obtained and assessed to provide an updated analysis related to the performance measures.

Table 2-11 shows that the operative cost per passenger trip for the state shuttle met the MDOT MTA performance measure in FY2024.

Table 2-11: Annapolis Transit FY2024, Operating Data Analysis

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Red	$117.46	$9.62	$24.82	0.39	4.73
Green	$112.98	$11.15	$12.51	0.89	9.03
Orange	$135.79	$9.97	$40.27	0.25	3.37
Brown	$117.25	$9.31	$19.20	0.48	6.11
Purple	$129.59	$8.65	$37.69	0.23	3.44
Downtown Shuttle	$0.00	$0.00	$0.00	1.58	10.33
State Shuttle	$130.79	$10.67	$6.75	1.58	19.38

Route Profiles

This section profiles current Annapolis Transit services, grouping relevant routes together. The profiles include specific data as reported by the City of Annapolis for FY2022 and FY2023, through *Form 2a: Service Performance Summary,* which is submitted to MDOT MTA quarterly.

As appropriate, each profile provides:

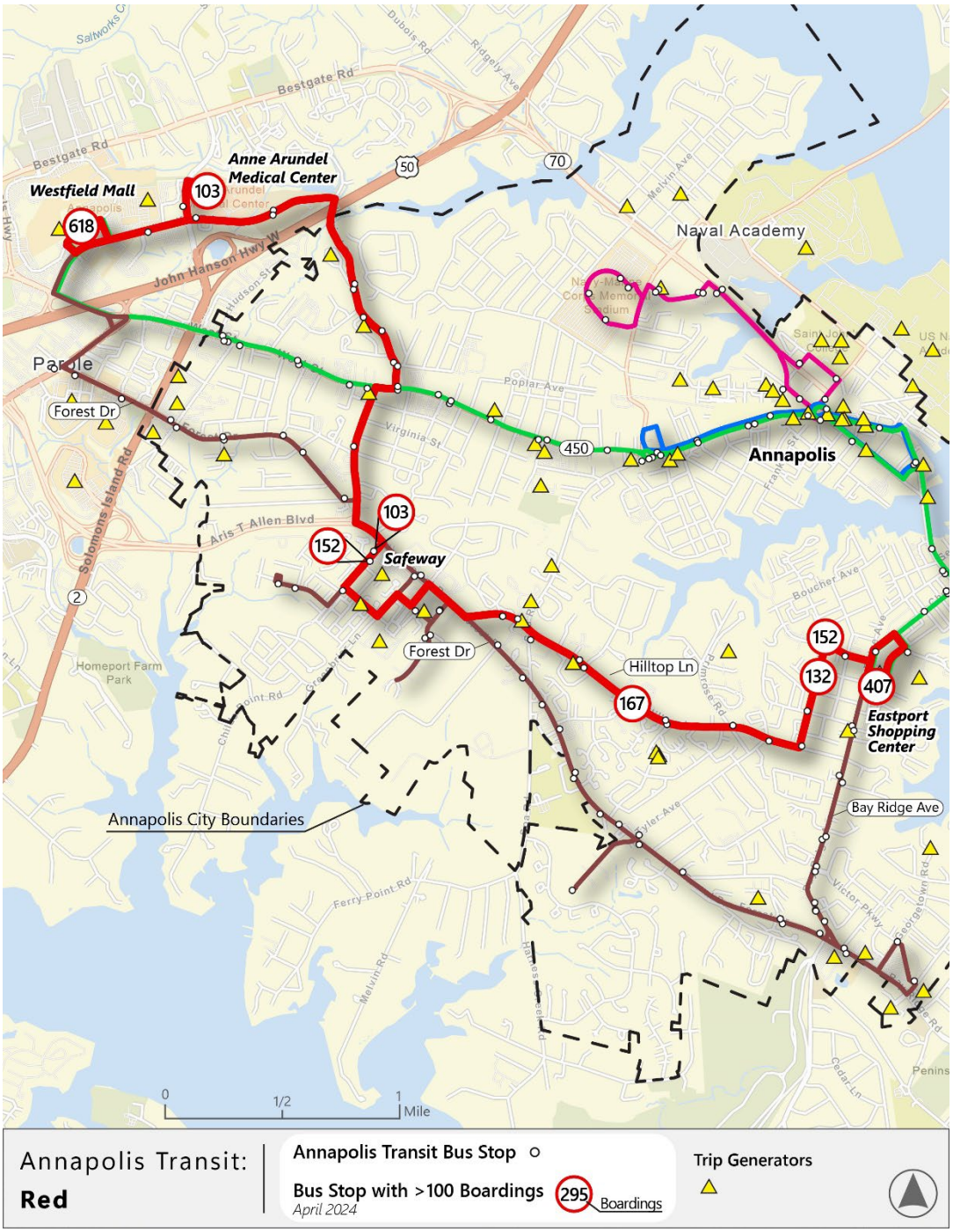
- Service Days and Hours
- Headways
- Annual Passenger Trips
- Annual Service Miles
- Annual Service Hours
- Annual Operating Cost
- Operating Cost per Hour
- Operating Cost per Mile
- Operating Cost per Trip
- Passenger Trips per Hour

Each profile presents a map with callouts for major origins and destinations on the route. The current route schedules are provided in Appendix A.

Red Route

Shown in Figure 2-5, the Red Route operates between Westfield Mall and Eastport via Admiral Drive and Hilltop Lane Anne Arundel Medical Center.

Figure 2-5: Red Route



Service Description: Red Route

Service Days	Monday-Saturday
Service Hours	M-F: 5:30 a.m. – 7:00 p.m., Sat: 7:30 a.m. – 7:00 p.m.
Headways	M-F: 30 minutes; Sat: 60 minutes

Operating Statistics: Red Route

	FY2022	FY2023	FY2024
One-Way Trips	28,221	35,263	35,751
Total Service Miles	92,012	91,749	92,250
Total Service Hours	6,991	7,601	7,553
Total Operating Costs	$939,023	$824,885	$887,166
Total Farebox	$37,451	$39,794	$39,514
Operating Cost/Hour	$134.32	$108.52	$111.46
Operating Cost/Mile	$10.63	$8.99	$9.62
Operating Cost/Passenger Trip	$33.27	$23.39	$24.82
Passenger Trips/Mile	0.32	0.40	0.39
Passenger Trips/Hour	4.12	4.73	4.73
Farebox Recovery	4.0	4.8	4.45

Key Performance Standards

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Red	$117.46	$9.62	$24.82	0.39	4.73

MTA Performance Standards for Suburban Fixed-Route

Red= "Needs Review" | *Blue= "Acceptable"* | *Green= "Successful"*

Green Route

The Green Route operates between Westfield Mall and Eastport via West Street.

Figure 2-6: Green Route

Service Description: Green Route

Service Days	Monday - Saturday
Service Hours	M-F: 5:30 a.m. – 7:00 p.m.; Sat: 7:30 a.m. – 7:00 p.m.
Headways	M-F: 30 minutes; Sat: 60 minutes

Operating Statistics: Green Route

	FY2022	FY2023	FY2024
One-Way Trips	56,629	59,128	68,189
Total Service Miles	78,715	75,748	76,500
Total Service Hours	6,995	7,605	7,553
Total Operating Costs	$900,470	$795,519	$853,340
Total Farebox	$68,739	$66,084	$69,691
Operating Cost/Hour	$128.73	$104,60	$112.98
Operating Cost/Mile	$11.44	$10.50	$11.15
Operating Cost/Passenger Trip	$15.90	$13.45	$12.51
Passenger Trips/Mile	0.75	0.82	0.89
Passenger Trips/Hour	8.28	7.93	9.03
Farebox Recovery	7.6	8.3	8.17

Key Performance Standards

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Green	$112.98	$11.15	$12.51	0.89	9.03

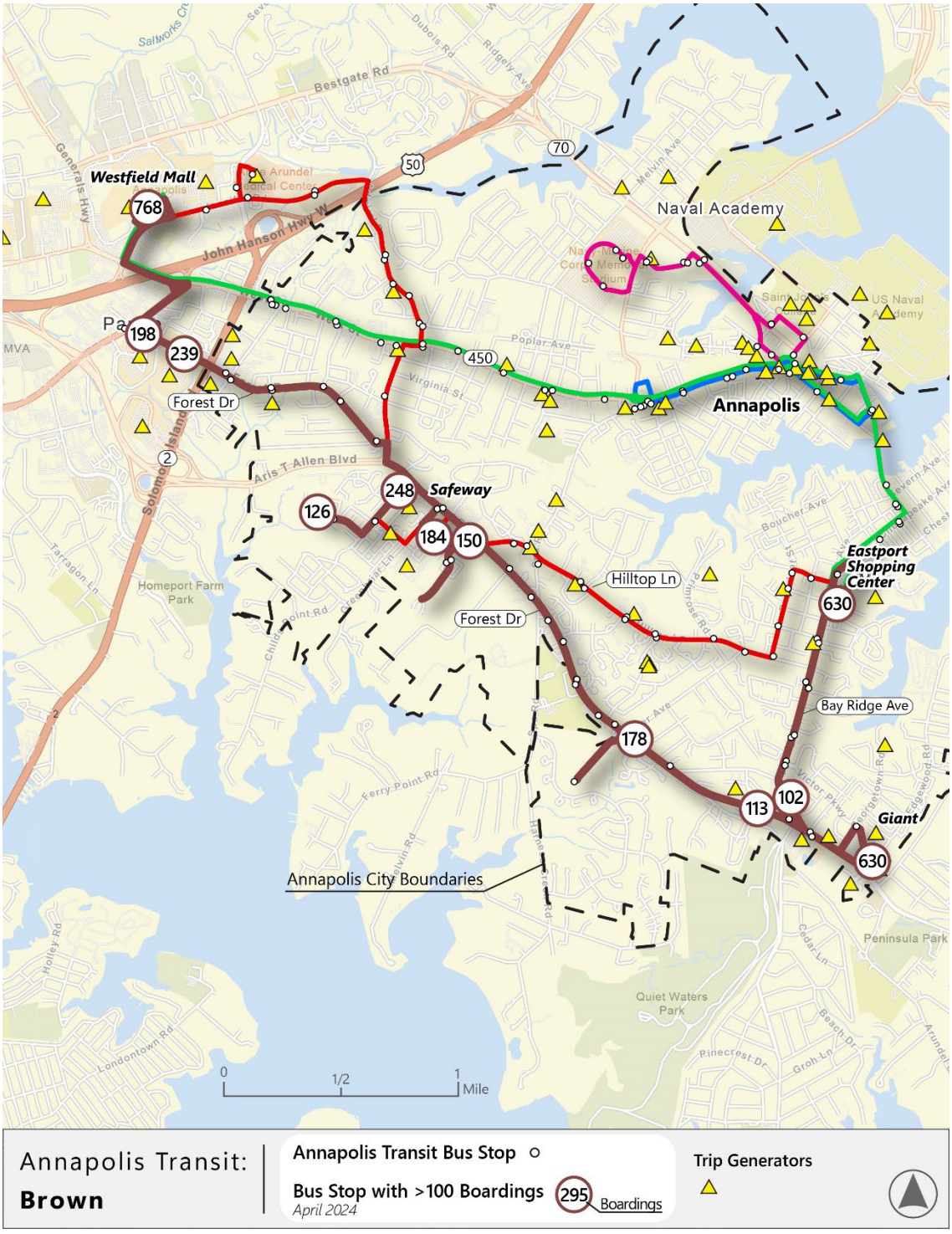
MTA Performance Standards for Suburban Fixed-Route

Red= "Needs Review" | *Blue= "Acceptable"* | *Green= "Successful"*

Brown Route

The Brown Route, as seen in Figure 2-7, operates from Westfield Mall to Eastport via Forest Drive.

Figure 2-7: Brown Route



Service Description: Brown Route

Service Days	Monday - Saturday
Service Hours	M-F: 5:45 a.m. – 7:00 p.m., Sat: 7:15 a.m. – 7:00 p.m.
Headways	M-F: 30 minutes; Sat: 45 minutes

Operating Statistics: Brown Route

	FY2022	FY2023	FY2024
One-Way Trips	39,703	49,236	50,256
Total Service Miles	97,861	103,345	103,626
Total Service Hours	9,133	8,357	8,230
Total Operating Costs	$1,163,889	$896,755	$964,952
Total Farebox	$47,375	$55,108	$57,709
Operating Cost/Hour	$127.44	$107.31	$117.25
Operating Cost/Mile	$11.89	$8.68	$9.31
Operating Cost/Passenger Trip	$29.31	$18.21	$19.20
Passenger Trips/Mile	0.42	0.50	0.48
Passenger Trips/Hour	4.47	6.08	6.11
Farebox Recovery	4.1	6.1	5.9

Key Performance Standards

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Brown	$117.25	$9.31	$19.20	0.48	6.11

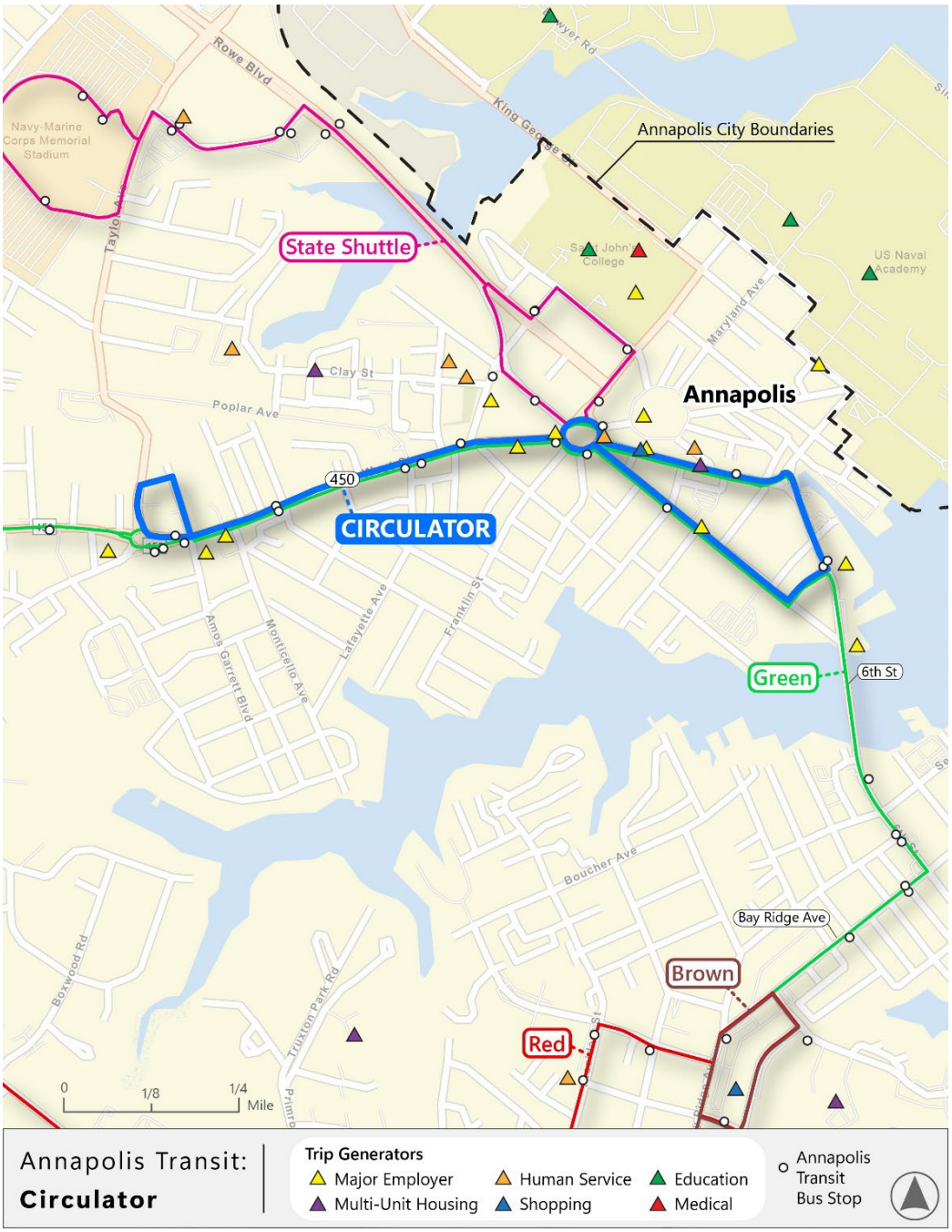
MTA Performance Standards for Suburban Fixed-Route

Red= "Needs Review" | *Blue= "Acceptable"* | *Green= "Successful"*

Downtown Shuttle

The free downtown circulator operates in a loop from Park Place Garage, making stops at City Hall and Main Street. The shuttle connects the main parking options to key destinations within Downtown Annapolis. The Downtown Shuttle is equipped with Automatic Vehicle Location (AVL) technology, which allows passengers to track the bus in real-time.

Figure 2-8: Downtown Circulator



Service Description: Downtown Shuttle

Service Days	Monday - Friday
Service Hours	M-Th: 6:00 a.m. – 11:00 p.m. Fri: 6"00 am – 12 midnight Sat: 8:00 am – 12 midnight Sun: 8:00 am – 8:00 pm
Headways	20 Minutes

Operating Statistics: Downtown Shuttle

	FY2022	FY2023	FY2024
One-Way Trips	36,389	83,925	79,254
Total Service Miles	34,198	50,180	50,025
Total Service Hours	5,559	7,643	7,671
Total Operating Costs*	$0	$0	$0
Total Farebox**	--	--	--
Operating Cost/Hour	$0	$0	$0
Operating Cost/Mile	$0	$0	$0
Operating Cost/Passenger Trip	$0	$0	$0
Passenger Trips/Mile	1.06	1.69	1.58
Passenger Trips/Hour	6.55	11.00	10.33
* cost is included in parking contract **Fare free service			

Key Performance Standards

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
Downtown Shuttle	$0.00	$0.00	$0.00	1.58	10.33

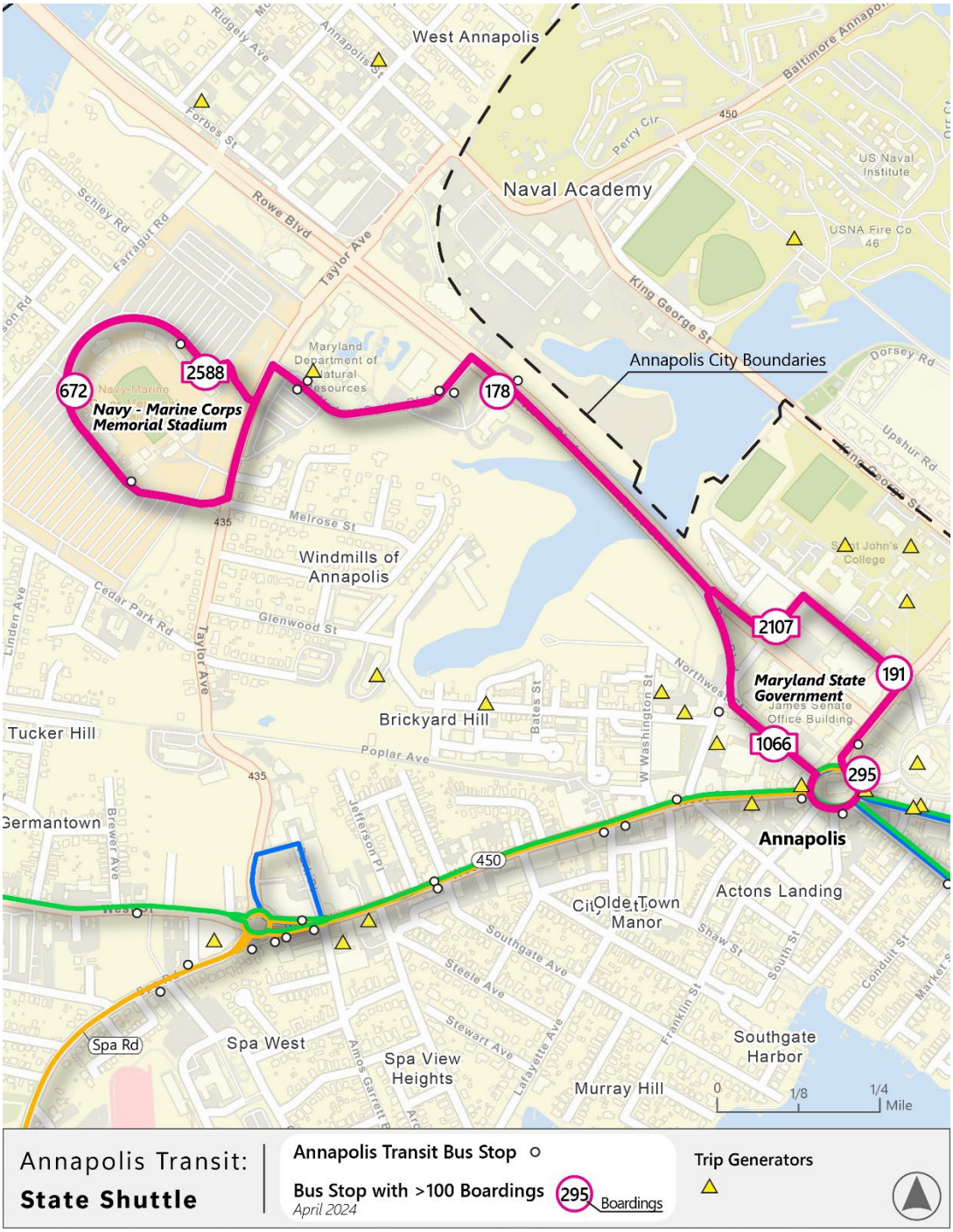
MTA Performance Standards for Suburban Fixed-Route

Red= "Needs Review" | *Blue= "Acceptable"* | *Green= "Successful"*

State Shuttle

As seen in Figure 2-9, Annapolis Transit operates a State Shuttle from the Navy-Marine Corps Memorial Stadium to the Central Business District.

Figure 2-9: State Shuttle



Service Description: State Shuttle

Service Days	Monday - Friday
Service Hours	M-F: 6:40 a.m. – 8:00 p.m.
Headways	20 minutes

Operating Statistics: State Shuttle

	FY2022	FY2023	FY2024
One-Way Trips	31,399	54,450	67,311
Total Service Miles	36,006	35,073	42,564
Total Service Hours	3,527	3,627	3,473
Total Operating Costs	$450,951	$413,980	$454,225
Total Farebox	$284,164	$136,087	$135,423
Operating Cost/Hour	$127.86	$114.14	$130.79
Operating Cost/Mile	$12.52	$11.80	$10.67
Operating Cost/Passenger Trip	$14.36	$7.60	$6.75
Passenger Trips/Mile	0.90	1.61	1.58
Passenger Trips/Hour	9.12	15.37	19.38
Total Farebox Recovery	63%	32.9%	29.8%

Key Performance Standards

Route	Operating Cost per Hour	Operating Cost per Mile	Operating Cost per Passenger Trip	Passenger Trips per Mile	Passenger Trips per Hour
State Shuttle	$130.79	$10.67	$6.75	1.58	19.38

MTA Performance Standards for Suburban Fixed-Route

Red= "Needs Review" | *Blue= "Acceptable"* | *Green= "Successful"*

Other Area Transportation Services

Public Transportation

Annapolis 10-Minute Trolleys

The free Annapolis 10-minute trolley is designed to provide a convenient option in the downtown and Eastport areas. Two battery-electric, five-passenger "neighborhood" vehicles operate between 11:00 a.m. and 5:30 p.m. on Saturday and Sunday, subject to weather conditions (as both are provided in open-air electric vehicles):

- The Maryland Avenue/State Circle Avenue Trolley services Gotts, Whitmore, and Calvert Street parking garages to the shops and restaurants along Maryland Avenue and State Circle.

- The Eastport Trolley makes a continuous loop between Norman Drive, Chesapeake Avenue, Chester Avenue, Second Street, and Bay Ridge Avenue. Transit passengers can connect to the trolley via the Green, Brown, Red, and Purple (weekends only) transit lines.

Anne Arundel County Transportation

Transit services in Anne Arundel County are administered by the Office of Transportation, which also provides guidance on behalf of Anne Arundel County. This includes planning and engineering studies conducted by the Maryland State Highway Administration for improvement or new construction of the state-maintained roadway network. Anne Arundel County Transit provides a variety of public transit services, which include fixed-route services, shuttle services, on-demand services, ADA complementary paratransit services, and general paratransit services. Figure 2-10 displays the different Anne Arundel County service that provide service to Annapolis.

Maryland Transit Administration (MDOT MTA)

MDOT MTA is a division of the Maryland Department of Transportation and operates one of the largest multi-modal transit systems in the nation. The MDOT MTA service network is comprised of Local Bus, Metro Subway, Light Rail, MARC Train, Commuter Bus, Mobility Paratransit, and Call-A-Ride subsidized taxi and sedan services. Figure 2-11 displays the different MDOT MTA commuter bus services that provide service to Annapolis.

Figure 2-10: Anne Arundel Services in Annapolis

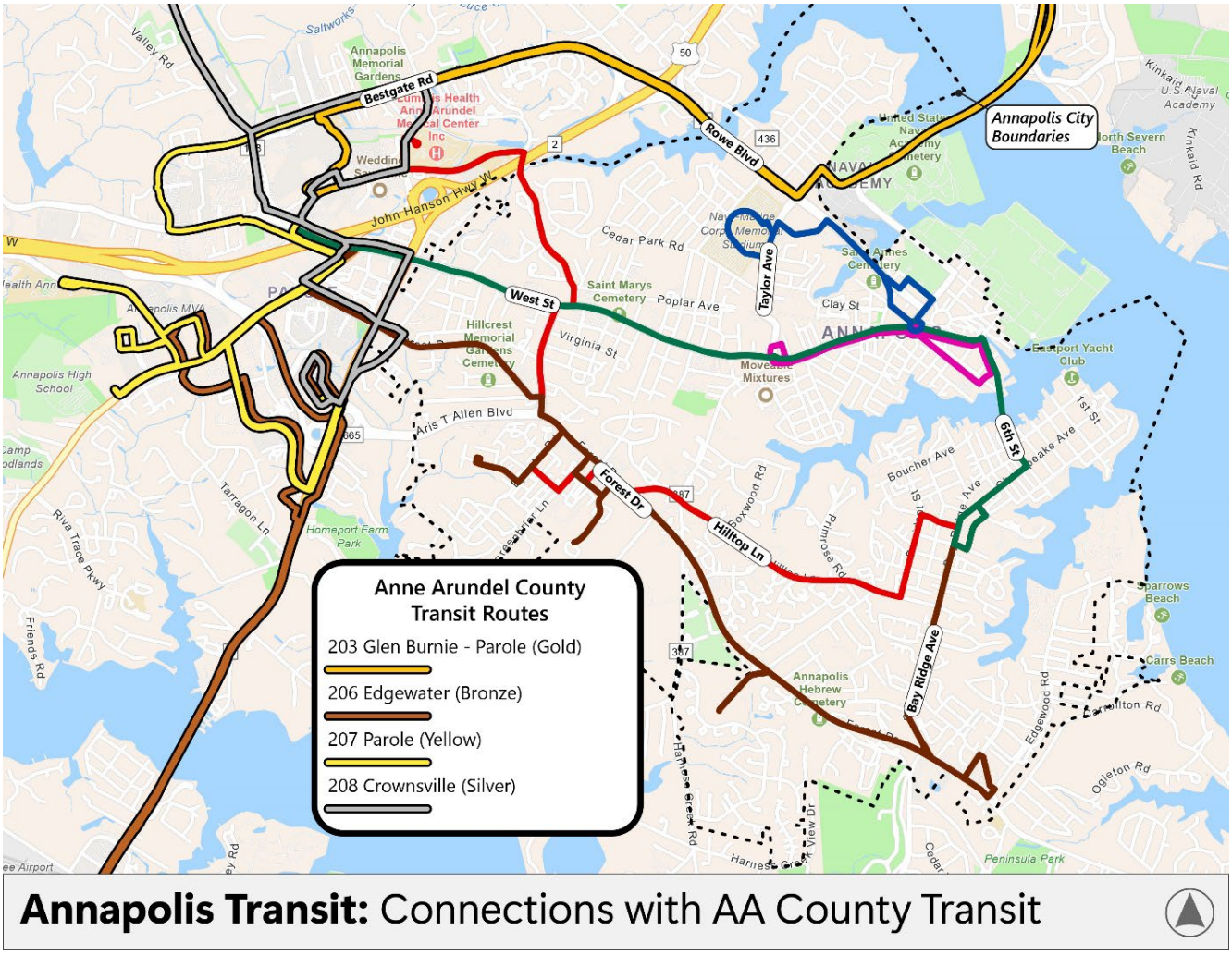
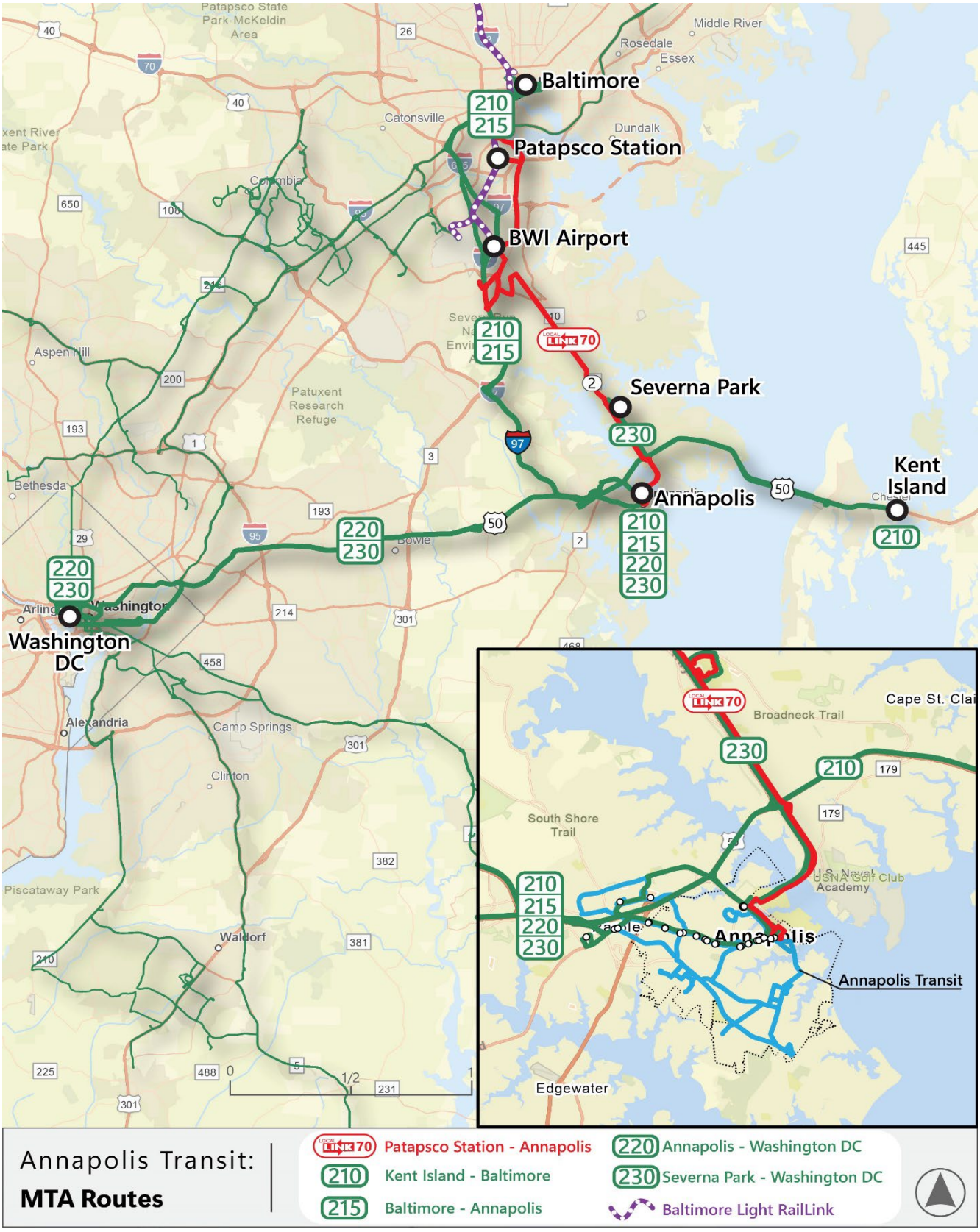


Figure 2-11: MDOT MTA Services in Annapolis



Local Bus / Light Rail

There is a light rail from Baltimore Downtown to Patapsco Station that connects to the MTA Bus 70 to Annapolis. MTA Bus 70 to Annapolis has stops at Glen Burnie Light Rail Station, Severna Park & Ride, Anne Arundel Community College, and Annapolis Downtown. During weekdays, the MTA Bus 70 departs from Patapsco Station at about 5:00 a.m. and the last bus departs at 1:20 a.m. On Saturdays, the 70 Bus departs from Patapsco Station towards Annapolis.

Commuter Bus

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

- Route 210: Kent Island – Annapolis/Baltimore
- Route 215: Baltimore – Annapolis
- Route 220: Annapolis – Washington, DC
- Route 230: Severna Park & Annapolis – Washington, DC

One-way fares for these Commuter Bus routes are $6.00 for the general public. Fares are discounted by $1.00 for seniors and people with disabilities, who pay $5.00 for a one-way trip.

Human Services Transportation

Anne Arundel County Department of Aging and Disabilities

The Statewide Special Transportation Assistance Program (SSTAP) is a state-funded program to provide general purpose transportation to elderly individuals and individuals with disabilities. These funds are annually apportioned to the counties in Maryland based on a formula. Funds can be used for operating and capital with a local share required—a minimum of 25% for the net operating deficit and five percent for capital projects.

In Anne Arundel County, SSTAP funds are administered by the Department of Aging and Disabilities, which works closely with the Office of Transportation to ensure program efficiency. In addition to providing coupons for a taxi voucher program to Anne Arundel County residents with disabilities over 18 years of age and residents over 55 years of age, the Department of Aging and Disabilities also provides resource navigation for an array of service needs through Options Counseling. Each book costs $5.00 and has a value of $10.00. Each approved resident is entitled to purchase up to 15 books per month.

The Anne Arundel County Department of Aging and Disabilities' Taxi Voucher Program helps residents pay for taxi services from participating taxicab companies. Participating cab companies include Associated Cab Company Inc., The Independent Taxi, Reliable, Annapolis Bay Area, and Diamond Cab.

Bay Community Support Services (Bay-CSS)

Bay-CSS provides personalized services to adults with intellectual and developmental disabilities living in Central and Southern Maryland. Services are tailored to support varying levels of intellectual abilities and physical mobility, and include a Supported Employment program. Bay-CSS receives funding support for transportation services through the Section 5310 Program administered by MDOT MTA.

Bello Machre

Bello Machre is a non-profit, residential and support service agency serving people with cognitive and developmental disabilities. They operate and run their own vehicles in Anne Arundel County and parts of Carroll County.

Care Connection

Care Connection is a privately-owned, in-home and onsite psychiatric rehabilitation center. They serve seriously mentally ill adults, providing psychiatric therapy, social services, and vocational training. They have a location that serves Anne Arundel County. Care Connections helps identify and obtain transportation options for clients, reimburses staff for use of personal vehicles, and occasionally uses agency-owned vehicles to transport clients.

ComForCare

ComForCare caregivers are available to provide non-medical home care services to clients in Greater Annapolis, including transportation assistance. The transportation can be utilized for errand assistance, doctors' appointments, and social activities.

Langton Green

Langton Green is a non-profit agency serving over 100 individuals in Anne Arundel County. They offer residential services, supported employment, day habilitation, family and individual support services, community-supported living arrangements, and respite services. They provide transportation with their own vehicles and offer training for independent travel. They serve adults with disabilities.

Partners in Care

Partners in Care is a community non-profit organization dedicated to helping seniors and adults with disabilities to live independently in their own homes. Partners in Care has a location in Anne Arundel County with Ride Partners, which utilizes volunteers who ensure safe transportation to/from destinations, such as medical/dental appointments, shopping, etc. Volunteers will pick up passengers at their front door, drive them to appointments, wait with them, and drive them home again, helping wherever needed. Time commitments range from a few hours to an entire day. Service hours are transferred to "time in the bank," which volunteers may use when they are in need or donate to seniors to use as "credit in the bank." Partners in Care has wheelchair-accessible buses for members.

Right At Home

Right At Home transportation services provides transportation options for medical appointments, social activities, etc., for seniors.

Visiting Angels

Visiting Angels Annapolis provides incidental transportation services for Annapolis-area seniors to Annapolis, Glen Burnie, Millersville, Pasadena, Crownsville, Arnold, and the surrounding areas in Northern Anne Arundel County.

Woods Adult Day Services

Woods Adult Day Services is a non-profit organization providing medical day care in Anne Arundel County. They operate their own vehicles, providing rides for clients to adult day care, medical, recreation, and shopping.

Taxicab Companies

- ABC Green Cab
- Annapolis City Taxi Service
- Annapolis Flyer Cab
- Annapolis Taxi Service
- Bay Area Cab
- The Independent Taxi Association
- Reliable Cab

Ridehailing

Ridesharing or ridesourcing services are provided by Transportation Network Companies (TNCs) such as Uber and Lyft. These services use smartphone apps that connect passengers with drivers who typically use their personal, non-commercial vehicle. Uber and Lyft services are available throughout Annapolis.

Ridesharing: Carpools, Vanpools

Anne Arundel County utilizes carpooling through their website and mobile app with Commuter Connections. Commuter Connections is an app that will help identify potential carpool partners living near your home, who also work near your place of business and have similar schedules. Commuter Connections also utilizes a vanpool system with pool rewards offering up to $200 monthly to subsidize newly formed vans or carpools. Anne Arundel County Office of Transportation is also the recipient of the Ridesharing/Commuter Assistance Program grant. The Commuter Crew coordinates the program to reduce traffic congestion and improve air quality. The CMAQ Rideshare funds are administered by the MTA.

Review of Previous and Current Plans and Studies

The following section reviews recent plans and current initiatives relevant to public transportation in Annapolis. The reviewed plans include those specific to transportation, as well as those covering broader issues and planning efforts. The review begins with plans and studies for the City of Annapolis and Annapolis Transit, followed by those for Anne Arundel County and the broader region.

Annapolis Transit – Transit Development Plan (2019)

As noted earlier, the previous Annapolis Transit TDP was completed in 2019. Proposed alternatives in the TDP involved:

- A pilot feeder connection that replaces the Orange fixed-route as an initial step in determining microtransit viability within the Annapolis Transit service area.
- Restoring ridership to previous levels.
- Attracting new ridership, with an emphasis on choice riders.
- Improving on-time performance.
- Implementing route modifications to improve current services.
- Improving the passenger experience at bus stops.
- Increasing marketing.
- Considering fare changes or new fares to increase ridership, and coordinating with the MTA and other regional transit providers.
- Reconsidering local funding options.

The TDP included a proposed implementation schedule for service improvements, based on funding availability. These improvements included new services, expanded service frequency, expanded service hours, and new on-demand microtransit service.

Annapolis Ahead: 2040 Comprehensive Plan (2024)

Annapolis Ahead, the 2040 Comprehensive Plan for the City of Annapolis, explores current conditions and anticipates what the future of Annapolis will hold. An overall vision for Annapolis in the Comprehensive Plan is a more equitable, healthy, and resilient city that is more walkable, and has multiple safe and reliable transportation options to reduce personal vehicle dependency. All goals and recommendations throughout the document are categorized into three themes: Equity, Health, and Resilience. Some of the transportation-focused goals within the Comprehensive Plan include:

- Shift the mix of mobility investments towards public transit, micro-mobility, and active transportation to reduce dependency on personal automobiles.
- Establish a transportation policy environment that is equitable, oriented to safety, and prioritizes connectivity of the city's streets, sidewalks, and trails.
- Promote transportation policies to create a greener and healthier Annapolis that sustains the economic, environmental, and social quality of the city.
- Build a bicycle infrastructure network for the city that allows cycling to become a viable transportation option for all residents and visitors regardless of age or comfort level.
- Expand partnerships with key public and private stakeholders to improve mobility, safety, and connectivity for residents and visitors alike.

Annapolis Transportation Board Fare-Free Transit Report (2021)

The Annapolis Transportation Board (ATB) is an advisory body to the City of Annapolis, created by city ordinance, and comprised of citizens appointed by the mayor and confirmed by the City Council. This report noted that while route design, operations, scheduling, and vehicle fleet were important considerations, attention throughout this report was on transit fare collection. It also mentioned that FY2018 and FY2019 served as the basis for the financial analysis, noting that data from FY2020 and FY2021 were skewed due to the ridership and other impacts caused by the COVID-19 pandemic.

The report included the following recommendations:

1. The Annapolis Transportation Board strongly recommends that the city expeditiously create and implement a plan for a fare-free transit model on all its routes.

2. The City Dock and Hillman Garage reconstruction projects create both an urgent need and a unique opportunity to make a transition to fare-free transit. It should be seized as an important element of both projects, as well as for the long-term vitality of All Annapolis. Fare-free transit in both the fixed-route and alternative systems should be used to help offset the loss of parking spaces during the construction of the new Hillman Garage.

3. The small percentage of total revenues lost from fare collections can be replaced by other sources. The city can choose from a menu of potential options below, in any combination that can be realized most equitably and expeditiously:

    a. Preserving and enlarging state government contributions.
    b. Enlarging Anne Arundel County's contribution.
    c. Transit subscriptions by major employers in Annapolis.
    d. Special assessments charged to businesses and developments generating increased overall transportation demand in any and all modes.
    e. Enhancing efforts to apply for grants from public and private sources.
    f. An increment to sales tax collected in both the city and county, possible under Maryland law if authorized by the state legislature after a campaign for such authorization.
    g. Increasing the portion of parking revenues committed to public transit.
    h. Elimination or reduction of free parking presently provided to city employees, city residents, and participants in special events.
    i. Increases in parking fees and/or wider implementation of paid parking.
    j. Increase contributions from the city's general fund to transit operations.
    k. Contract revenues for providing transit to schools and organizers of special events.
    l. Financial benefits that might be realized by better connections and coordination with city and county transit departments for regional effectiveness and efficiency.
    m. Advertising.
    n. Donations.

4. In no event should service be degraded by decreasing the number of routes, the frequency of bus arrivals, or the speed of service in order to cover revenues formerly provided by fare collections. Indeed, benefits from fare-free transit are expected to allow for some improvement in service performance.

Move Anne Arundel! County Transportation Master Plan (2019)

In December 2019, the *Move Anne Arundel!* Plan was created as the county's first Transportation Functional Master Plan, which was recommended in the 2009 General Development Plan. The overall goals for the Move Anne Arundel Plan include creating:

- A safe transportation system
- A multimodal transportation system with practical and reliable transportation choices and connections
- A resilient transportation system that protects the environment
- A well-maintained transportation system

The plan noted that currently Anne Arundel County is served by five transit operators, including Annapolis Transit. The plan discusses traffic congestion and travel times throughout Anne Arundel County. The five priority investments of the plan include:

- Making communities more walkable
- Building a connected bicycle network
- Advancing new models of transit
- Upgrading county corridors and strengthening community cores
- Improving regional corridors and making commutes more reliable

Anne Arundel County Transit Development Plan (Draft 2024)

Anne Arundel County Transit Development Final Draft Plan, currently in a draft final format, discusses potential service alternatives. One of the potential service alternatives includes a route that was proposed in the previous Central Maryland TDP between Annapolis Mall and Arundel Mills and BWI Airport. The route is suggested to operate Monday through Sunday at various schedules and would operate stops at Cromwell Light Rail Station, BWI Airport and Arundel Mills Mall.

The Anne Arundel County TDP also discusses expansion with their current on-demand services. One of the suggested expansion zones includes the Annapolis/Parole area. This on-demand service is suggested to start in Year 1 of the service plan.

Other suggested alternatives from other plans that would include coordination between Anne Arundel County Transit and MDOT MTA include an express service between Parole and New Carrollton Metro Station, and the I-97 express bus between the Parole Transportation Center and Cromwell Light Rail Station.

Baltimore Metropolitan Council's Bus Stop Assessment for the LOTS (2022)

In 2022, the Baltimore Metropolitan Council (BMC) completed a bus stop assessment study for all Baltimore area Locally Operated Transit Systems (LOTS), including Annapolis Transit. The goal of the study was to strengthen the region's transit network, identify where bus stop improvements would provide the greatest benefits, and develop a holistic approach to improving bus stops within the BMC region.

Study objectives included:

- Develop a thorough inventory of all bus stops maintained and operated by the LOTS within the region.
- Identify the specific locations of each bus stop and existing amenities.
- Determine American with Disabilities Act (ADA) compliance for each of the bus stops.
- Evaluate multimodal connections and existing passenger amenities at each bus stop.
- Prepare recommendations and cost estimates for bus stop improvements.

The study located 143 active bus stops in Annapolis; however, Annapolis Transit bus stop signs were only found at 55 of the stops. Since the completion of the study, the city has undergone a bus stop signage redesign effort where new signs have been installed throughout the service area. Based on the study data, 82% of bus stops are along a sidewalk, but only 11% of those stops have an ADA compliant landing pad, whereas shelters and seating are provided at 38% and 43%, respectively. A summary of the Annapolis bus stop data is provided in Table 2-12.

Table 2-12: Annapolis Bus Stop Statistics from the Bus Stop Assessment

ADA Landing Pad	Sidewalk Connection	Shelter	Seating
11%	82%	38%	43%

The study's recommendations include developing an improvement hierarchy for bus stops, categorizing stops as transit centers, enhanced service stops, and basic bus stops. This hierarchy category would set the standard for the level of passenger amenities at the stop. All bus stops should include a sign, ADA landing pad, and sidewalk connection. Amenities such as seating, information cases, and lighting would be determined based on the stop classification and specific sight needs (e.g., senior center). The study also recommends setting an average daily boardings standard for installing shelters at bus stops. Cost estimates are provided for bus stop improvements, and a GIS dashboard was created to assist with developing cost estimates for improvement projects.

MD 32 Enhanced Bus Feasibility Study (2021)

With a grant from the Baltimore Regional Transportation Board's Unified Planning Work Program, the Anne Arundel County Office of Transportation was tasked with leading a study to determine the feasibility of bus rapid transit or enhanced bus service in the MD 32 corridor between Annapolis and Clarksville. Enhanced bus services include express bus, commuter bus, and bus rapid transit. A key takeaway regarding existing transit services in the area is that most transit services operate between BWI Airport and BWI MARC Station, and between Columbia Mall and East Columbia/Gateway. The major trip generators and targeted growth areas include Parole Town Center, Odenton Town Center, BWI Airport/Business District, Arundel Mills, Fort Meade, National Business Park, US 1 Corridor, Columbia Gateway, and Downtown Columbia. The study laid out four alternative segments, which included Columbia to US 1, US 1 to Odenton, Odenton to MD 3, and MD 3 to Annapolis/Parole. The study also discusses the benefits, drawbacks, and estimated travel times for each segment.

Anne Arundel County Transportation Center (2020)

In January 2020, Whitman Requardt Associates (WRA) and KFH Group completed a feasibility report for the Baltimore Metropolitan Council (BMC). It identified the Westfield Annapolis Mall site as a preferred location for the Parole Transportation Center. Currently, the mall is serviced by five pass-throughs and five terminal bus routes. The proposed center would serve Annapolis Transit, Anne Arundel County Transit, MTA Commuter Bus, and intercity bus services.

Chapter 3
Needs Assessment

Introduction

This chapter summarizes the community outreach process and the input that was received during the development of the TDP. The community outreach process consisted of a rider survey, community survey, stakeholder interview and an Annapolis Transit bus driver questionnaire. Through this process, feedback was obtained on current Annapolis Transit services, and on potential improvements that would help expand mobility. Input ranging from the community's perception of existing transit services to future transit priorities was collected and is summarized here.

Findings through the stakeholder and community input process are combined with the results of previous TDP tasks to identify issues and opportunities that need to be addressed in the development of alternatives for the plan, and ultimately as recommendations in the final TDP.

Overall, this chapter is divided into the following sections:

- **Rider (Customer) Survey -** Review of rider feedback collected from current users of the Annapolis Transit system.
- **Community Survey** – Summary of an online survey that provided the opportunity to gather opinions and input from the general public.
- **Stakeholder Interviews** – A review of the feedback received from local stakeholders regarding existing transit services and priorities for the future. A stakeholder is typically an elected official, a representative of public agency, major employer, etc.
- **Driver Questionnaire** – Review of feedback received from Annapolis Transit drivers regarding existing transit services, feedback they receive from riders, and priorities for the future.

Stakeholder and community input was supported by a project website that provided background information on the planning process, the link to an online community survey, copies of interim study documents, and contact information.

Rider Survey Results

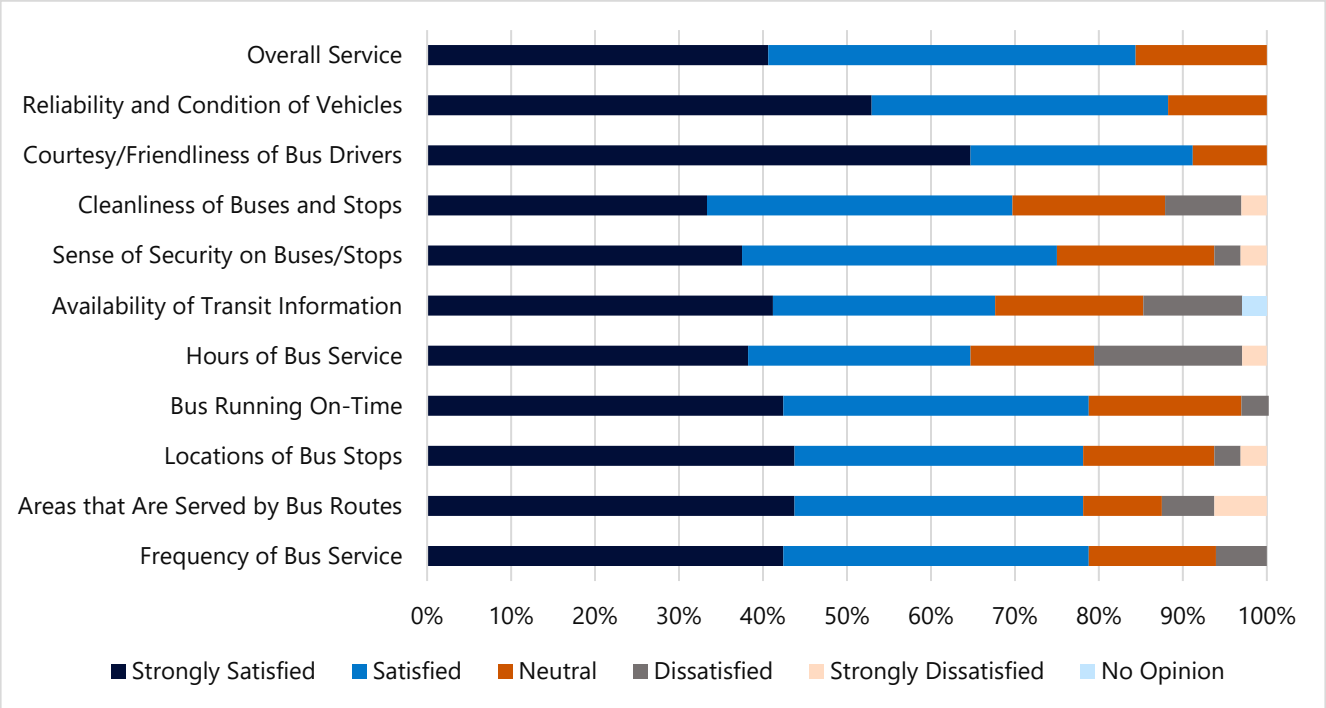
Current Annapolis Transit customers were offered the opportunity to provide their input through a survey process. The survey was available in both English and Spanish, and a copy is included in Appendix A. As indicated in the rider survey, customers were able to complete the survey through multiple methods, and the survey covered a variety of topics—including trip characteristics, typical travel patterns, desired service improvements, satisfaction levels, and basic demographic questions. Both hard copies and a QR code for the surveys were available on all buses from August 26, 2024, to September 30, 2024. As an incentive for those filling out the survey, riders were given an option to leave their contact information and be entered into a drawing for a free bus pass.

Overall, a total of 43 rider surveys were collected, and the results are summarized in the following section. These important findings, together with others, will be used in the development of service alternatives through an upcoming phase of the TDP process.

Satisfaction with Annapolis Transit Services

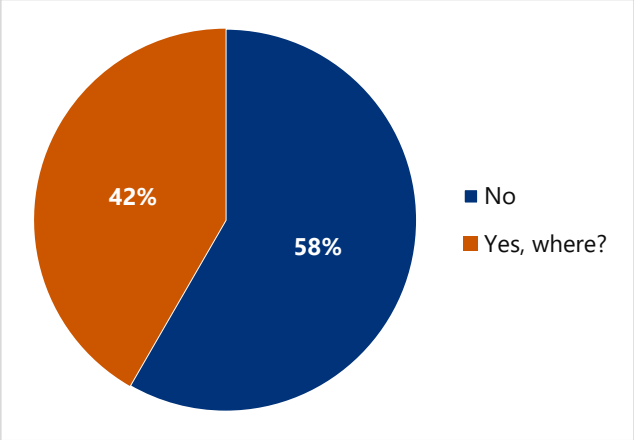
Most respondents were either strongly satisfied or satisfied with the overall services (41% and 44%, respectively), as seen in Figure 3-1. Riders were strongly satisfied with the reliability and condition of the vehicles (53%) and courtesy/friendliness of bus drivers (65%).

Figure 3-1: Satisfaction with Annapolis Transit Services



Respondents were asked about locations that currently are not served by Annapolis Transit, but that need services. As seen in Figure 3-2, a majority of respondents (58%) stated no other location(s), suggesting that they are satisfied with the current service area. However, 42% of the respondents stated "yes" there are other locations that need to be served, including the Riva Road corridor, Annapolis High School, Anne Arundel Community College, Edgewater Shopping Center, Bestgate, Harbour Center, and New Carrollton Metro Station.

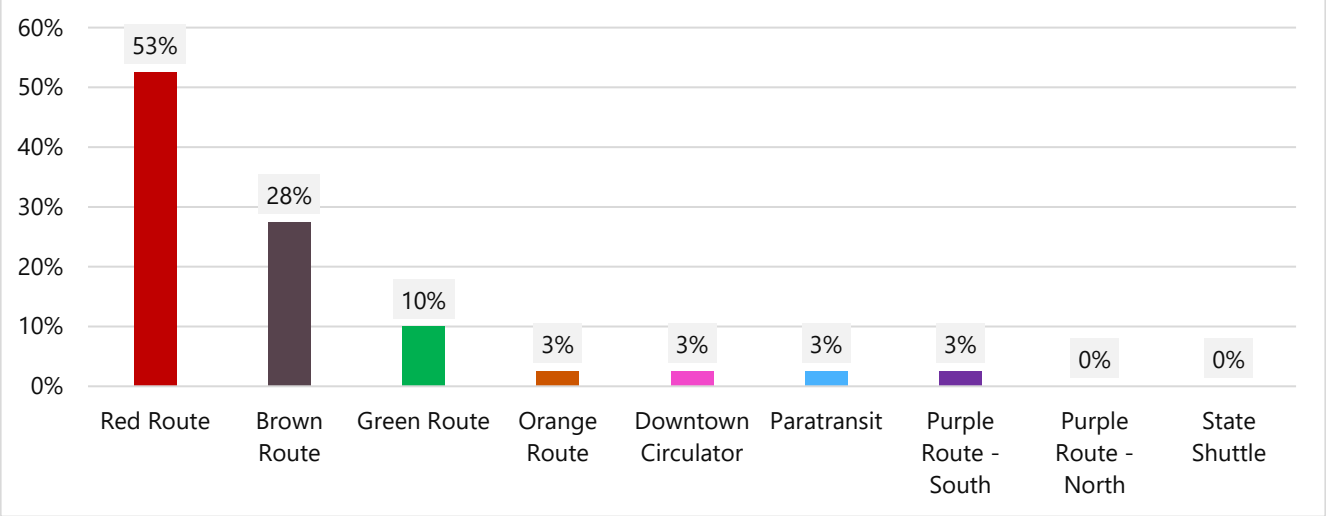
Figure 3-2: Locations Not Served by Annapolis Transit Services



Bus Routes, Purpose, and Frequency

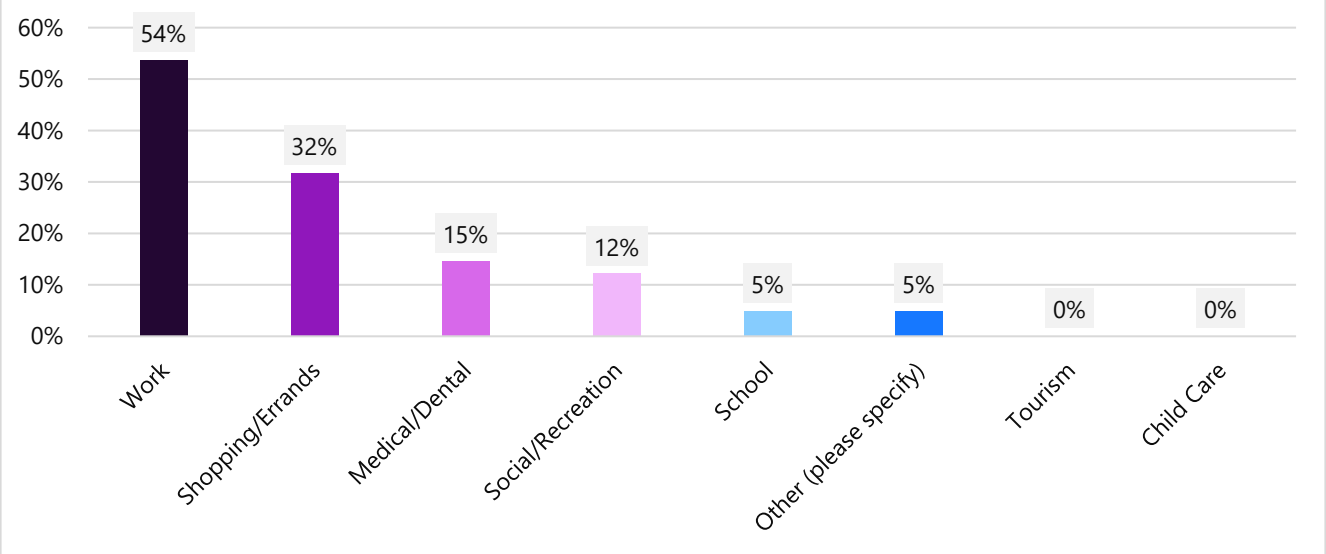
A majority of riders were using the Red Route (53%), as seen in Figure 3-3. The other two top routes utilized by respondents were the Brown Route and Green Route (28% and 10%, respectively).

Figure 3-3: Bus Routes Used by Survey Respondents



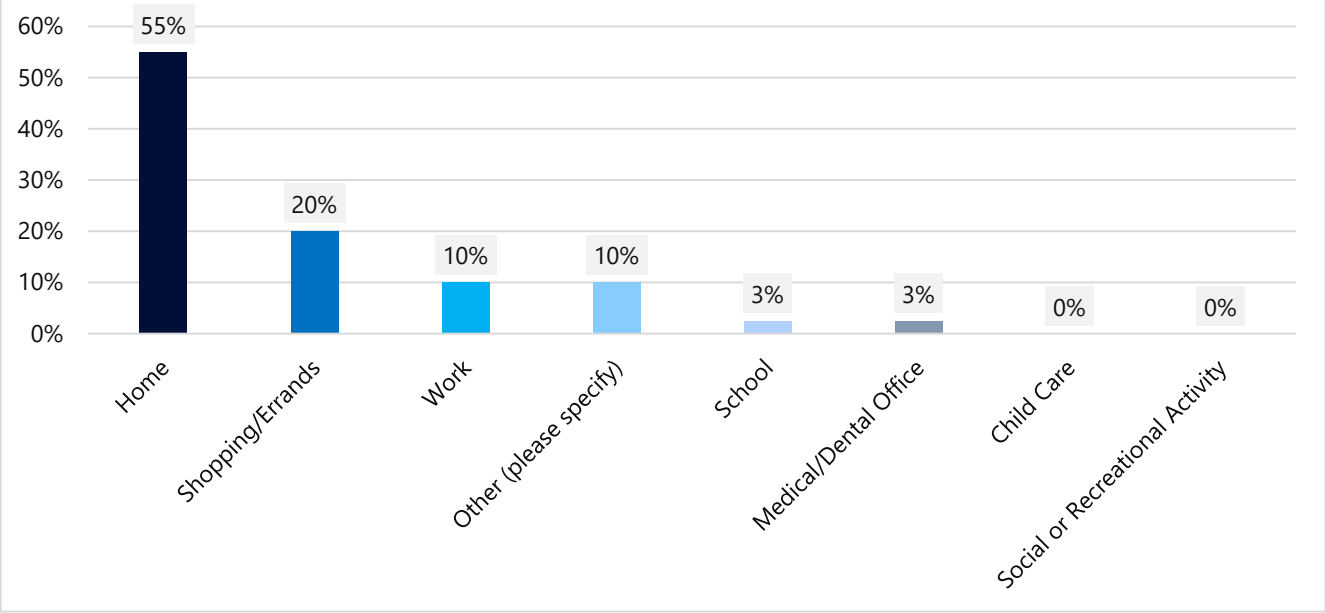
For trip purposes, a majority of respondents stated that they were using the bus to get to work (54%). As shown in Figure 3-4, other respondents stated that they were using the bus for shopping/errands, medical/dental, social/recreation, school, and other services, such as Active Day Centers.

Figure 3-4: Trip Purpose



As seen in Figure 3-5, respondents were also asked about their trip origin (starting location), and a majority of riders were starting from their home (55%).

Figure 3-5: Trip Starting Point



The majority of the respondents (83%) accessed the bus stop by walking, as shown in Figure 3-6.

Figure 3-6: Access to Bus Route

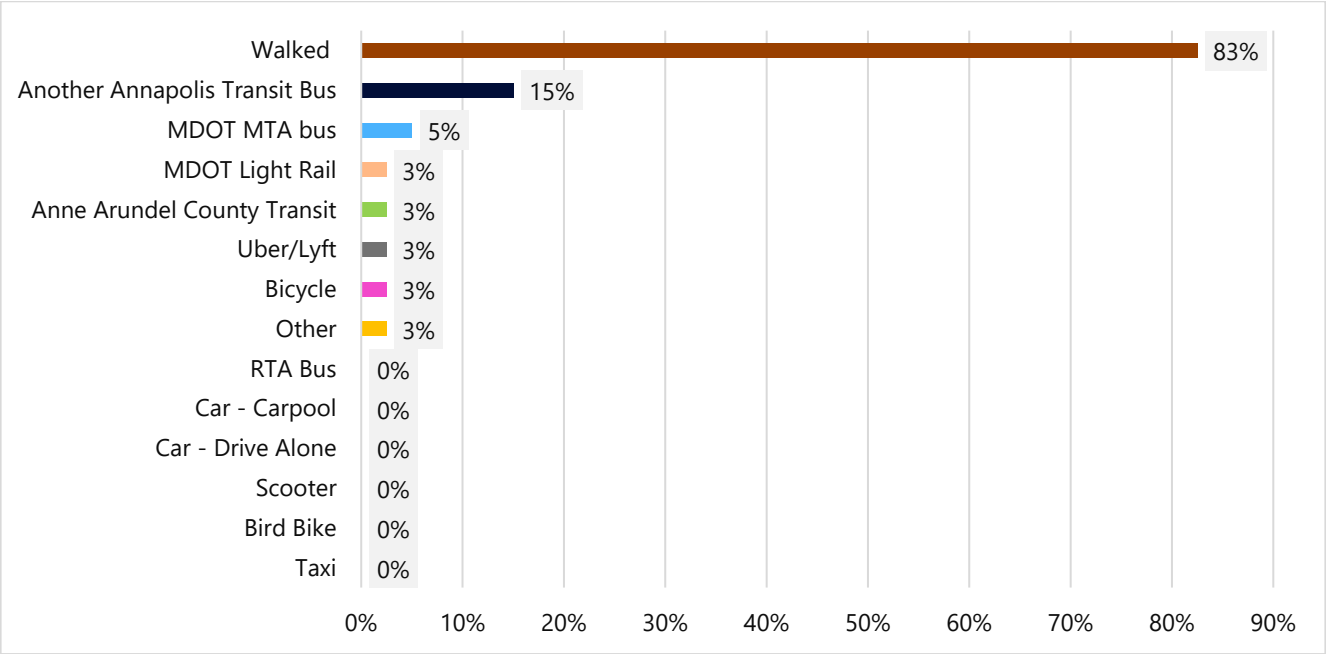
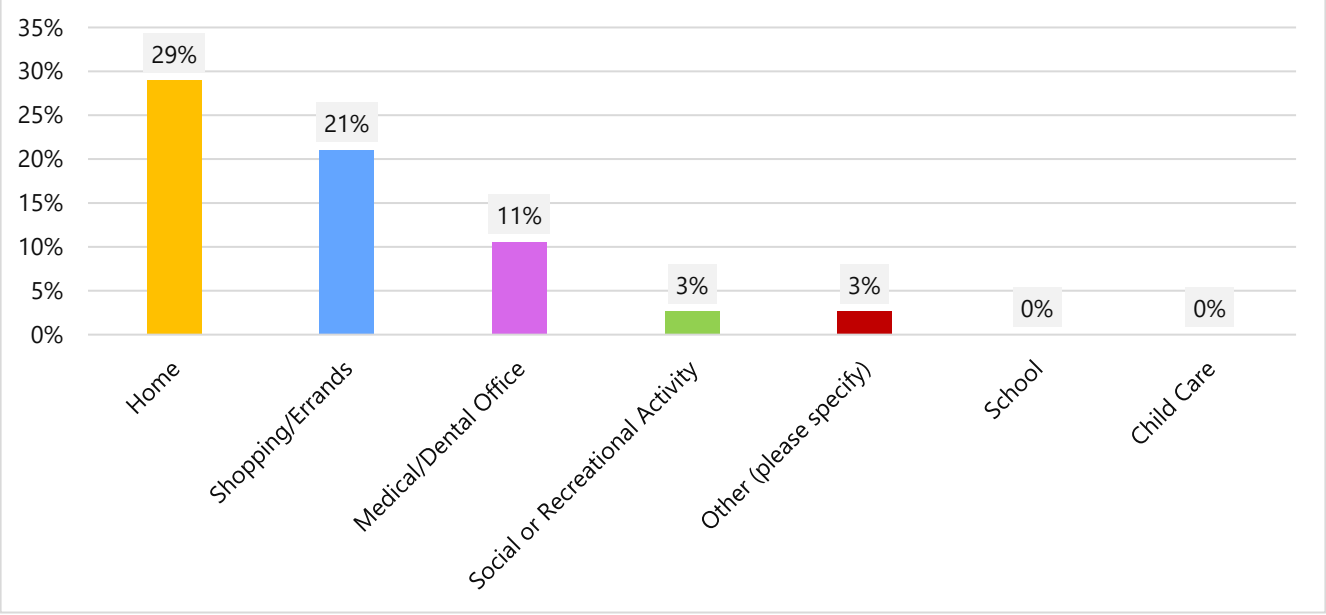


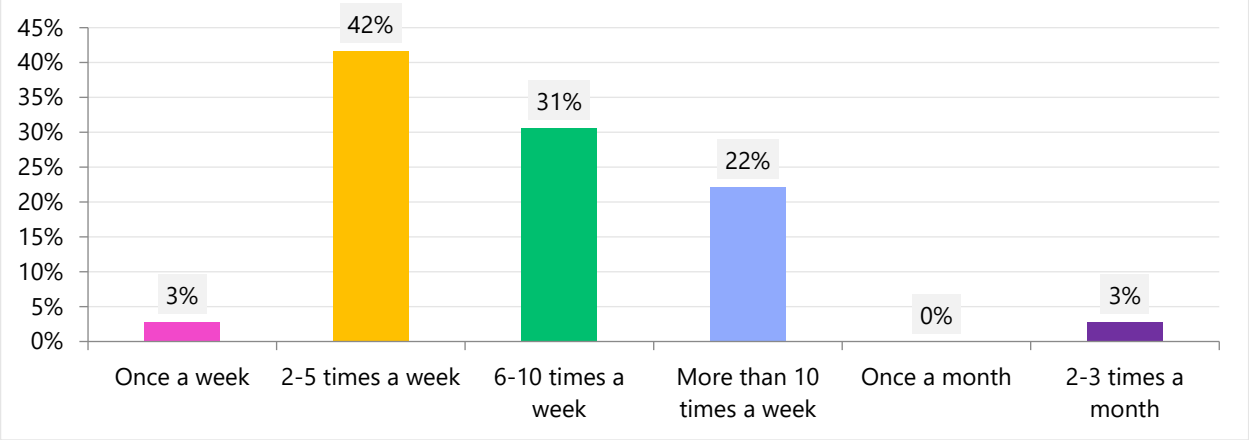
Figure 3-7 shows the final destination of respondents' bus trip. The top three destinations were home (29%), shopping centers (21%), and medical/dental offices (11%).

Figure 3-7: Access to Final Destination



As shown in Figure 3-8, 95% of respondents riders use the bus transit service at least twice a week. Within this group, 42% use the service two to five times a week, another 31% use it six to 10 times a week, and another 22% of the respondents use the service more than 10 times a week. The survey results regarding the frequency of use clearly show that riders depend largely on Annapolis Transit services for their mobility needs.

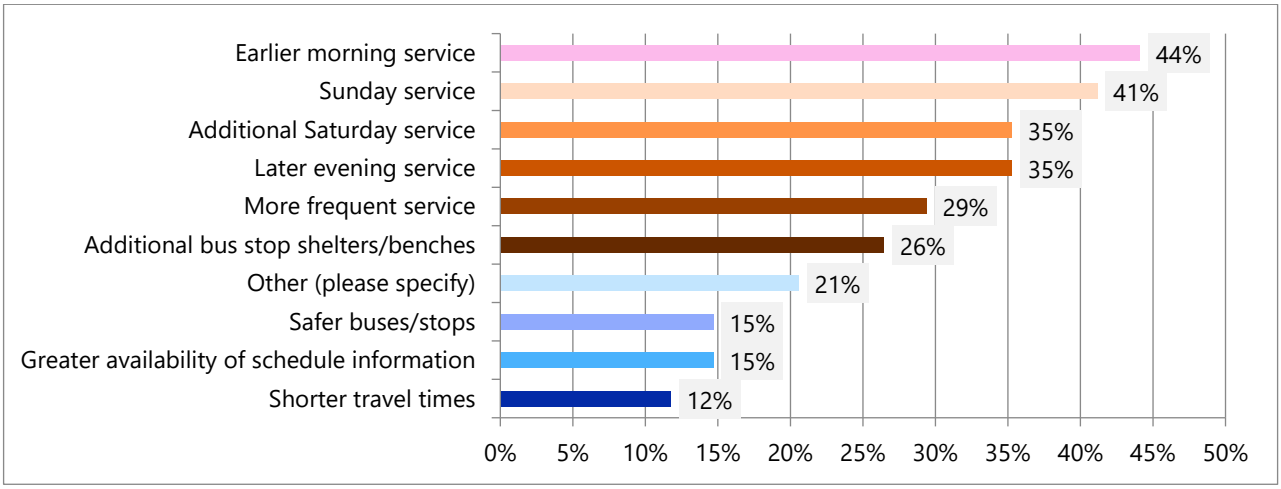
Figure 3-8: Frequency of Public Transportation Use



Possible Transportation Service Improvements

Respondents were asked to rate their top three choices for the most useful improvements for Annapolis Transit, shown in Figure 3-9. The top choices included earlier morning service (44%) and Sunday service (41%). Later evening service and additional Saturday service were tied as the third choice at 35% each. When it comes to the single most important service improvement, a majority of respondents stated, "more frequent service."

Figure 3-9: Top Three Desired Improvements



Rider Information

In order to understand the existing rider population, key demographic attributes and other rider information were collected. Rider information was collected on the following: residence zip code, gender, age, driver's license, vehicles in a household, employment status, annual household income, and ethnicity. Figure 3-10 through Figure 3-17 show the results of these responses.

Below is a summary of findings from the rider information.

- Majority of respondents lived in the 21403 Zip Code, which includes Eastport, Annapolis Neck, and Highland Beach.
- Majority of riders (68%) were female.
- The dominant age group of riders are 25 years to 49 years old (38%) and 50 years to 64 years old (32%).
- About 74% of riders do not have a valid driver's license.
- Most riders, about 66%, come from households with no vehicles.
- Respondents who have full-time employment constitute 52%, while part-time workers consist of 32% of the respondents.
- The annual household income of most respondents (36%) is under $20,000. Another 32% of respondents have household income of between $20,000 and $39,999.
- With respect to ethnicity, 53% of respondents identified themselves as African American/Black, while 27% classify themselves as Caucasian/White. Only seven percent of respondents identified themselves as Hispanic or Latino.

Table 3-1: Zip Codes of Respondents

Zip Code	# of Respondents
21401	9
21403	22
21606	1
21207	1

Figure 3-10: Gender of Respondents

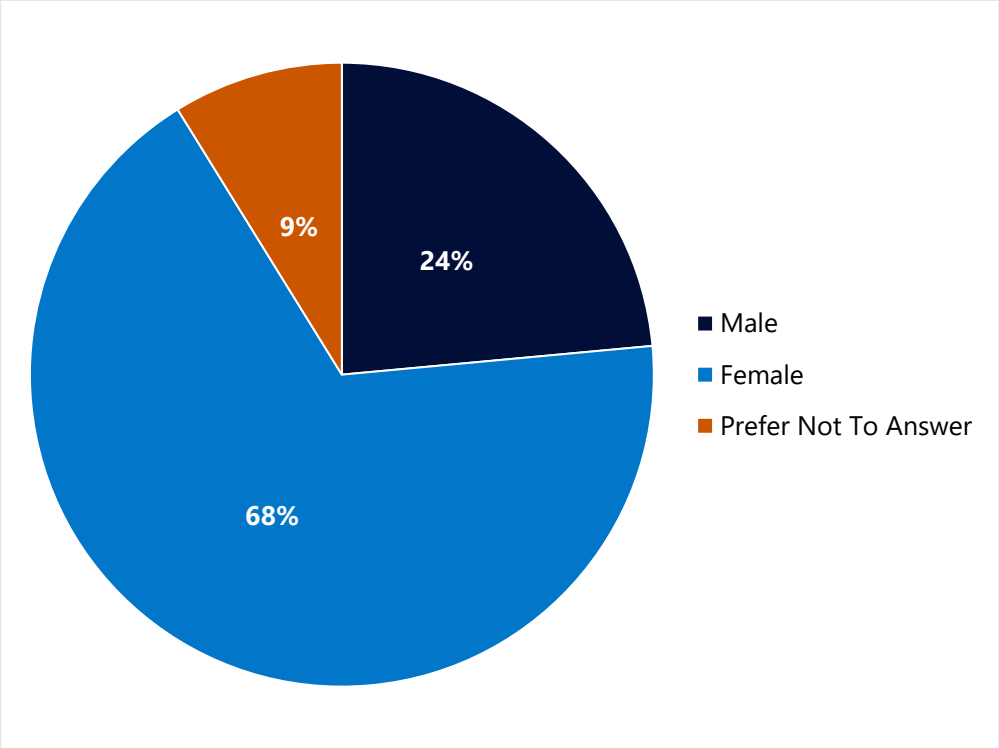


Figure 3-11: Age Group of Respondents

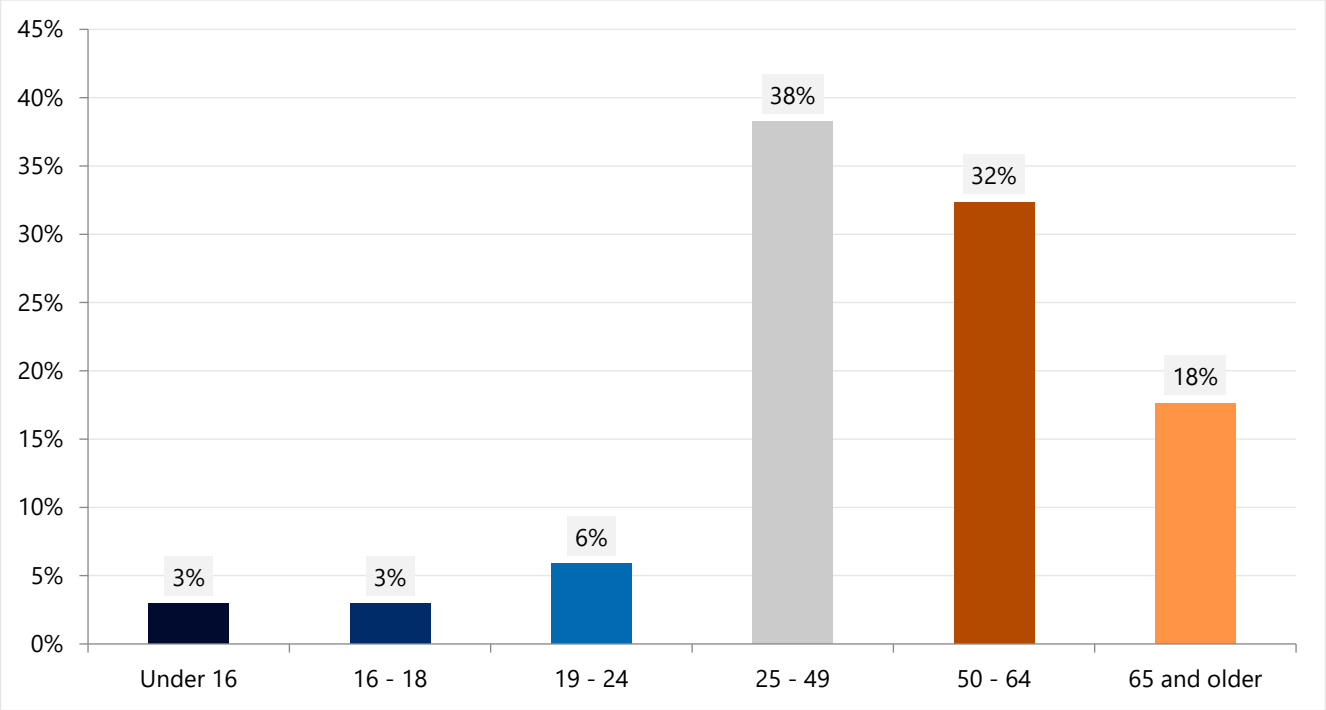


Figure 3-12: Valid Driver's License

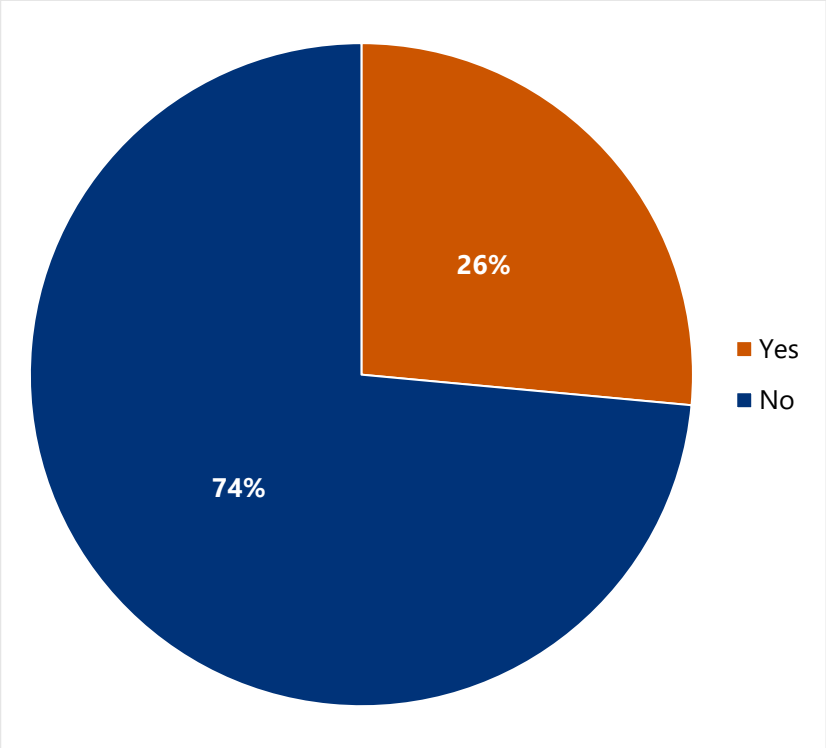


Figure 3-13: Number of Cars in Household

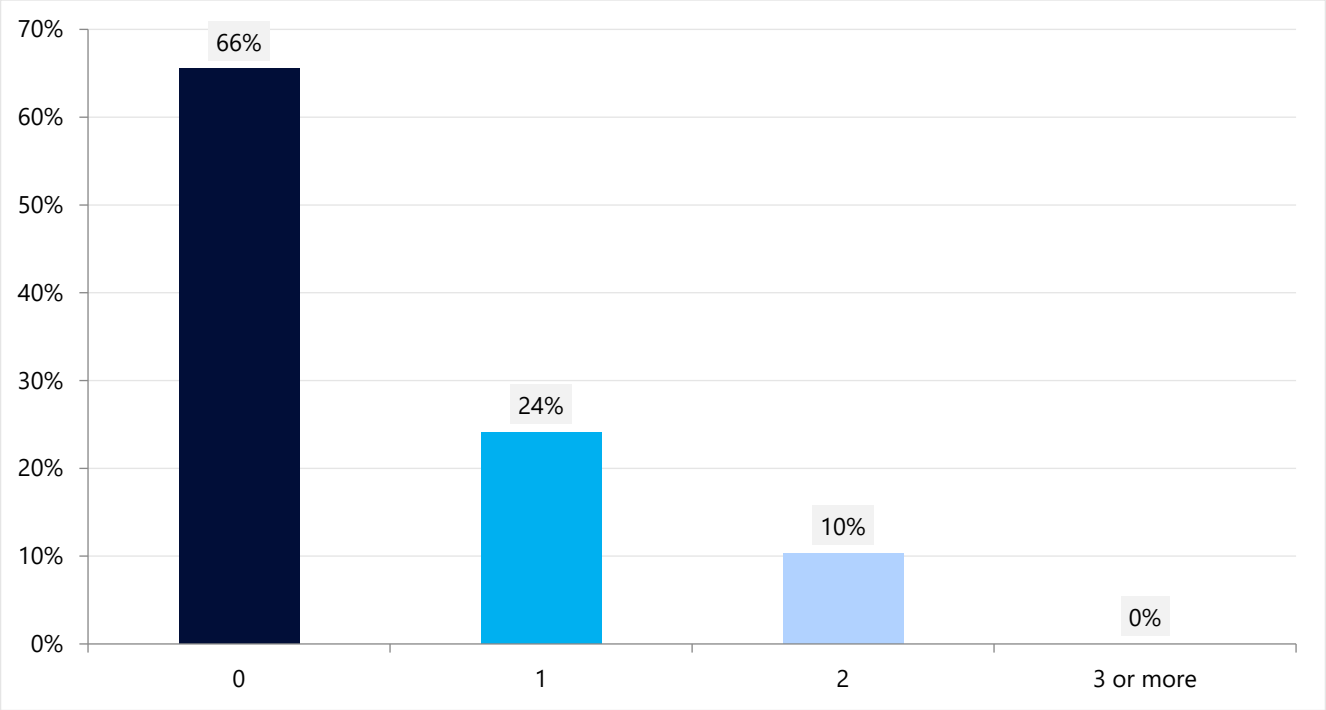


Figure 3-14: Availability of a Car for Current Trip

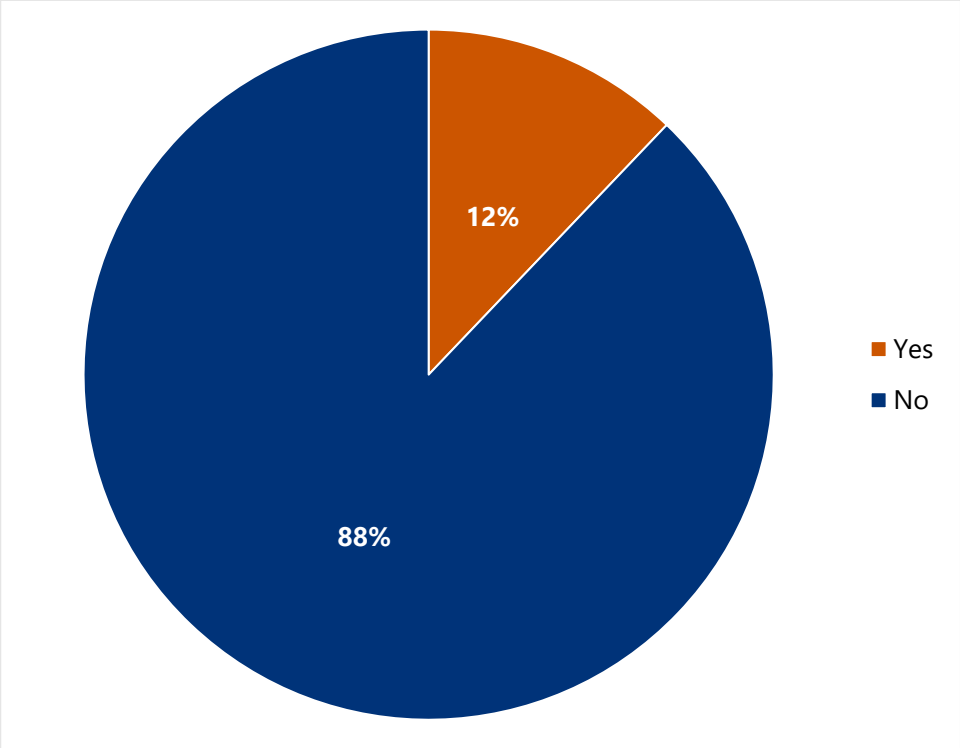


Figure 3-15: Current Employment Status of Respondent

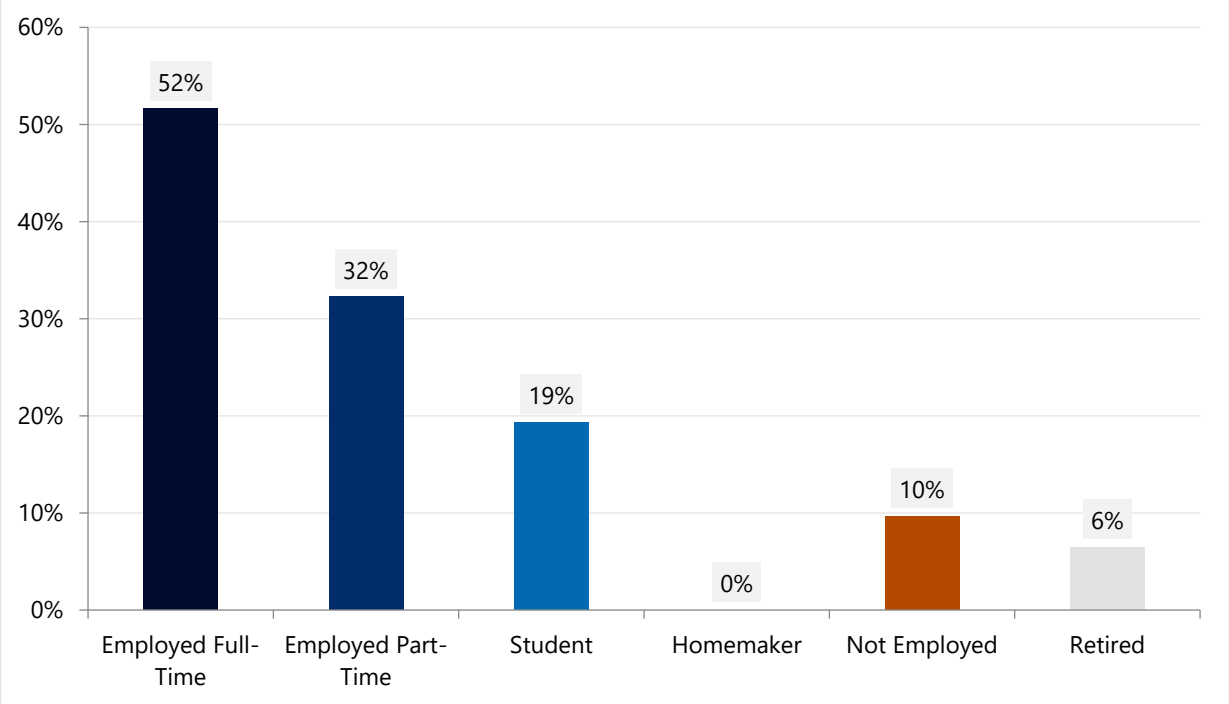


Figure 3-16: Total Annual Household Income

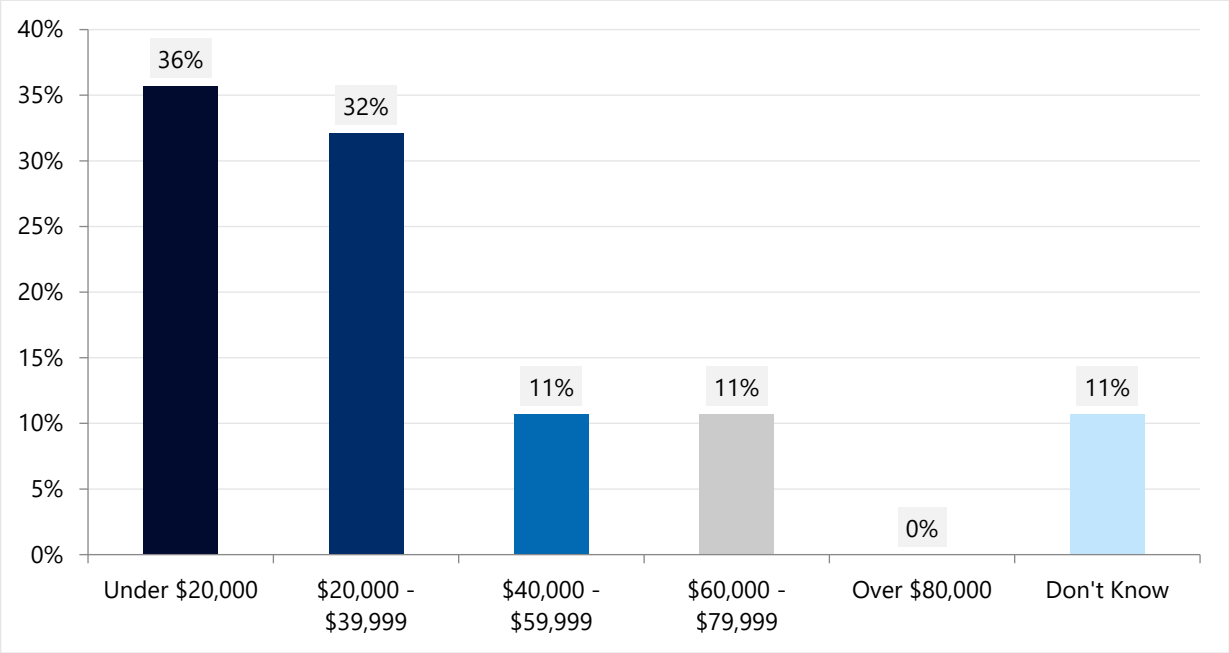
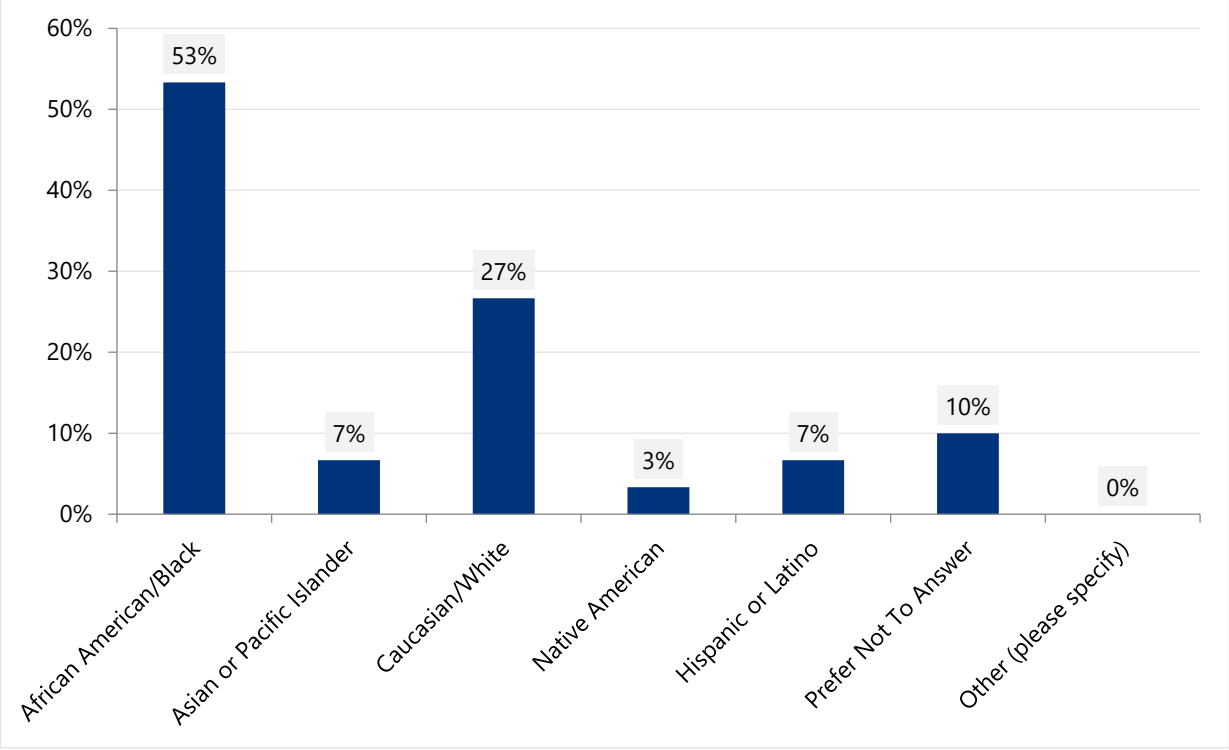


Figure 3-17: Classification of Respondents



Additional Comments

Finally, respondents were asked to leave additional comments regarding their current trip or transit services in general. The comments primarily involved compliments to the drivers.

Community Survey Results

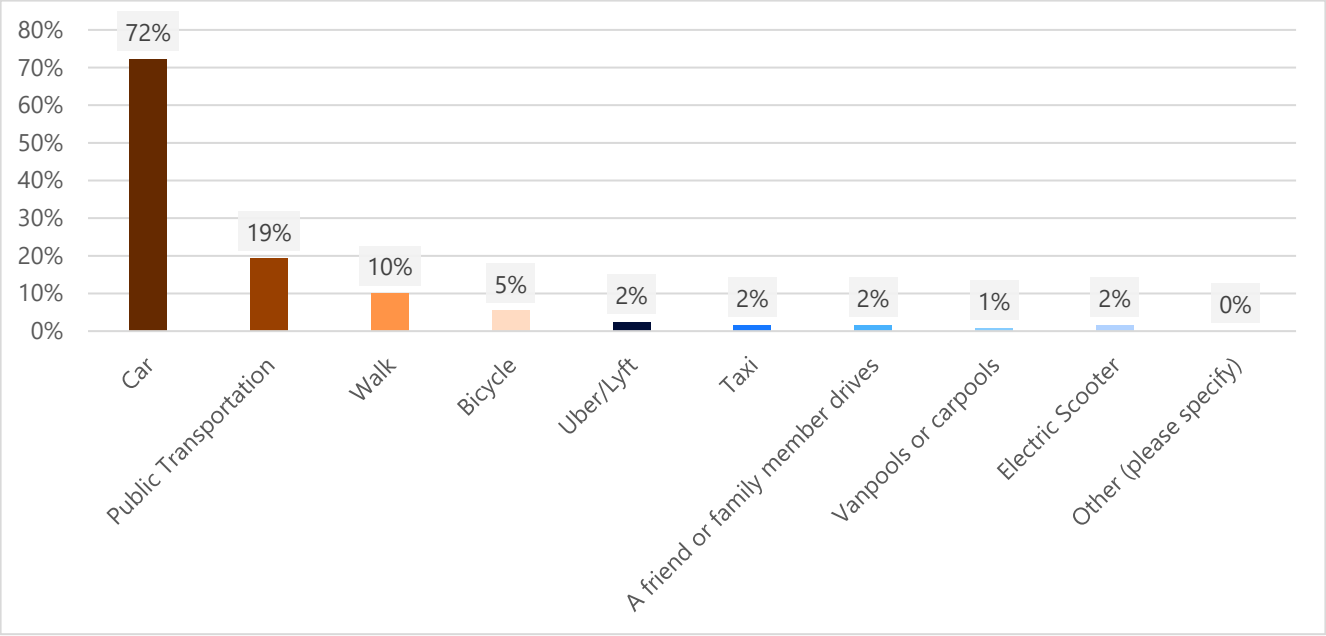
A community survey was launched on July 15, 2024, and closed on October 7, 2024. This survey was placed on the project website, the Annapolis City Government Homepage, and a link was distributed through Annapolis City mailing lists. The project team also promoted the community survey through discussions with key stakeholders (discussed later in this chapter). The survey was available in both English and Spanish, and a copy is included in Appendix B.

A total of 131 responses were collected through the online survey. The community survey covered a range of topics that included transportation choices, the impression of public transportation, typical travel patterns, desired transportation improvements, and demographic questions. The following section provides a review of key community survey results.

Primary Mode of Transportation

Of the respondents who answered this question, 72% stated that their primary mode of transportation is their car. However, the second highest answer, with 19% of respondents, was public transportation.

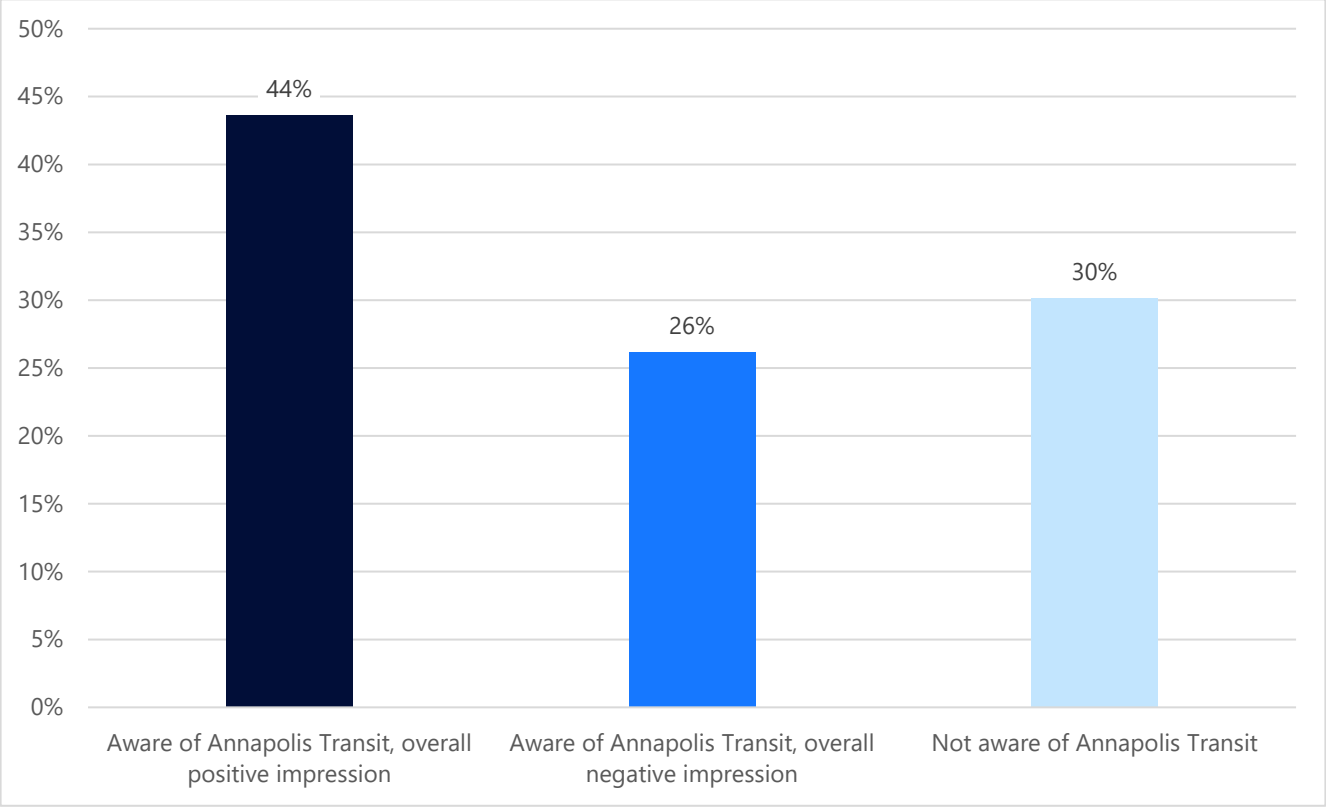
Figure 3-18: Primary Mode of Transportation



Awareness/Impression of Transit Services Provided

When the community was asked about the awareness and impression of Annapolis Transit, 44% of respondents stated that they are aware and have a positive impression of the services, while 30% of respondents stated that they were unaware of Annapolis Transit. Figure 3-19 shows the overall awareness of Annapolis Transit Services.

Figure 3-19: Awareness and Impression of Annapolis Transit Services



What Services are Used

Community members were asked whether they use Annapolis Transit Public Transportation Services, and 37% of the respondents stated that they *do use* the services, as seen in Figure 3-20. Figure 3-21 shows the frequency of use of public transportation users. When looking at the frequency of use of Annapolis Transit Services, a majority utilized the services two to three times a week or more (32%), as well as about once a month (27%). As seen in Figure 3-22, social/recreation and shopping were the top two choices as to why community members would use public transportation (55% and 33%, respectively). The third choice was work (27%).

Figure 3-20: Use of Public Transportation in Annapolis

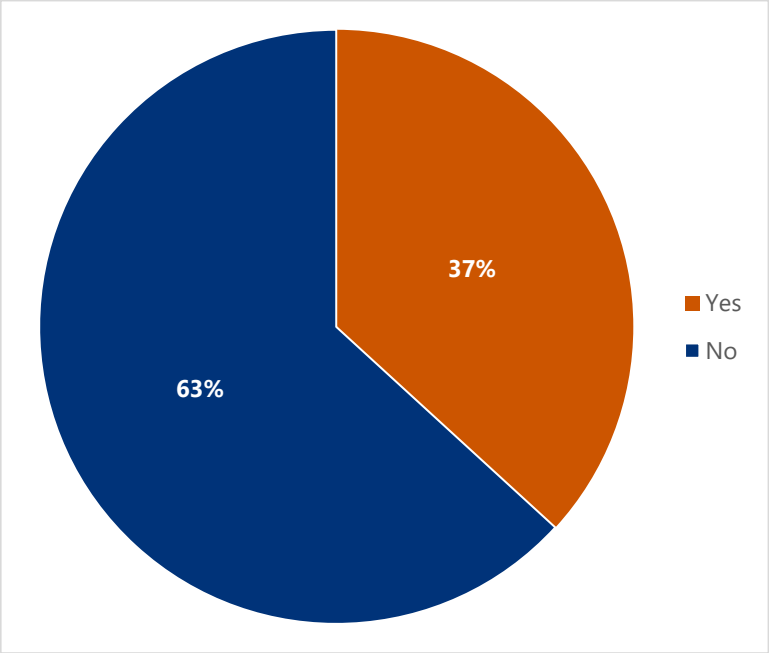


Figure 3-21: Frequency of Use of Public Transportation Users

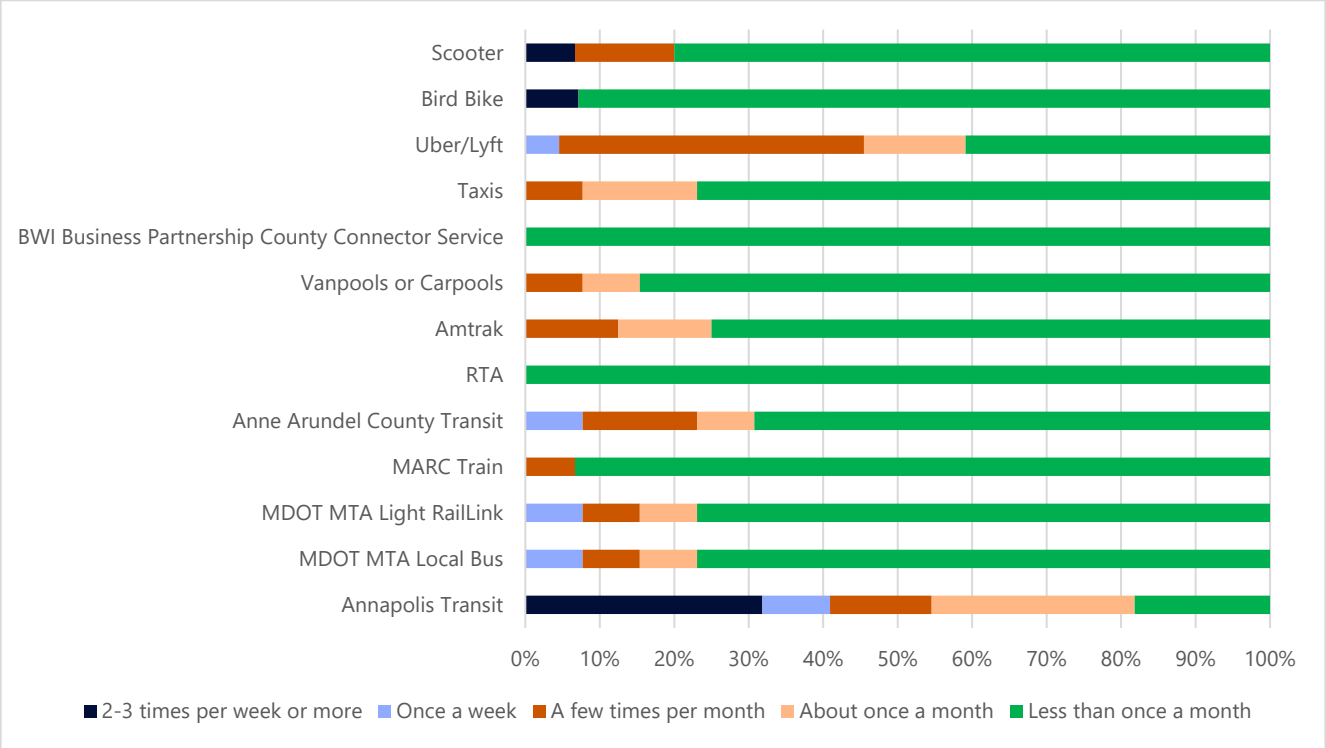
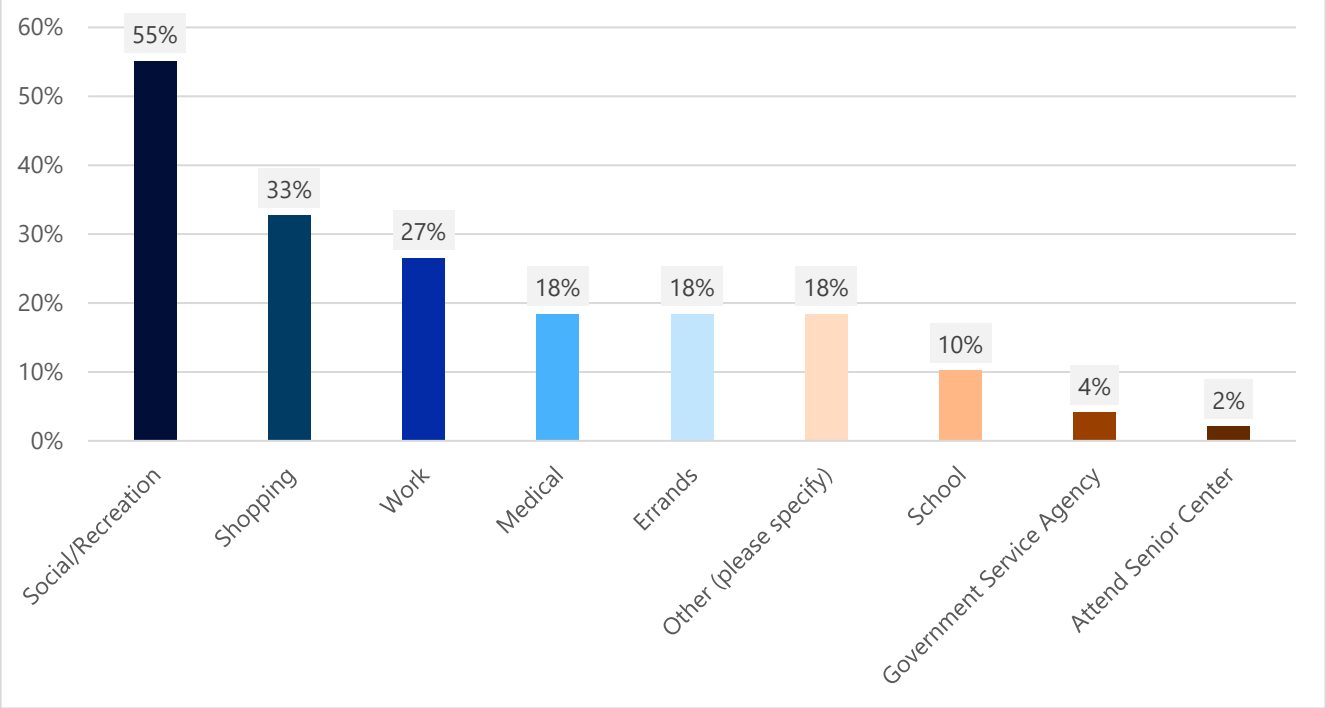


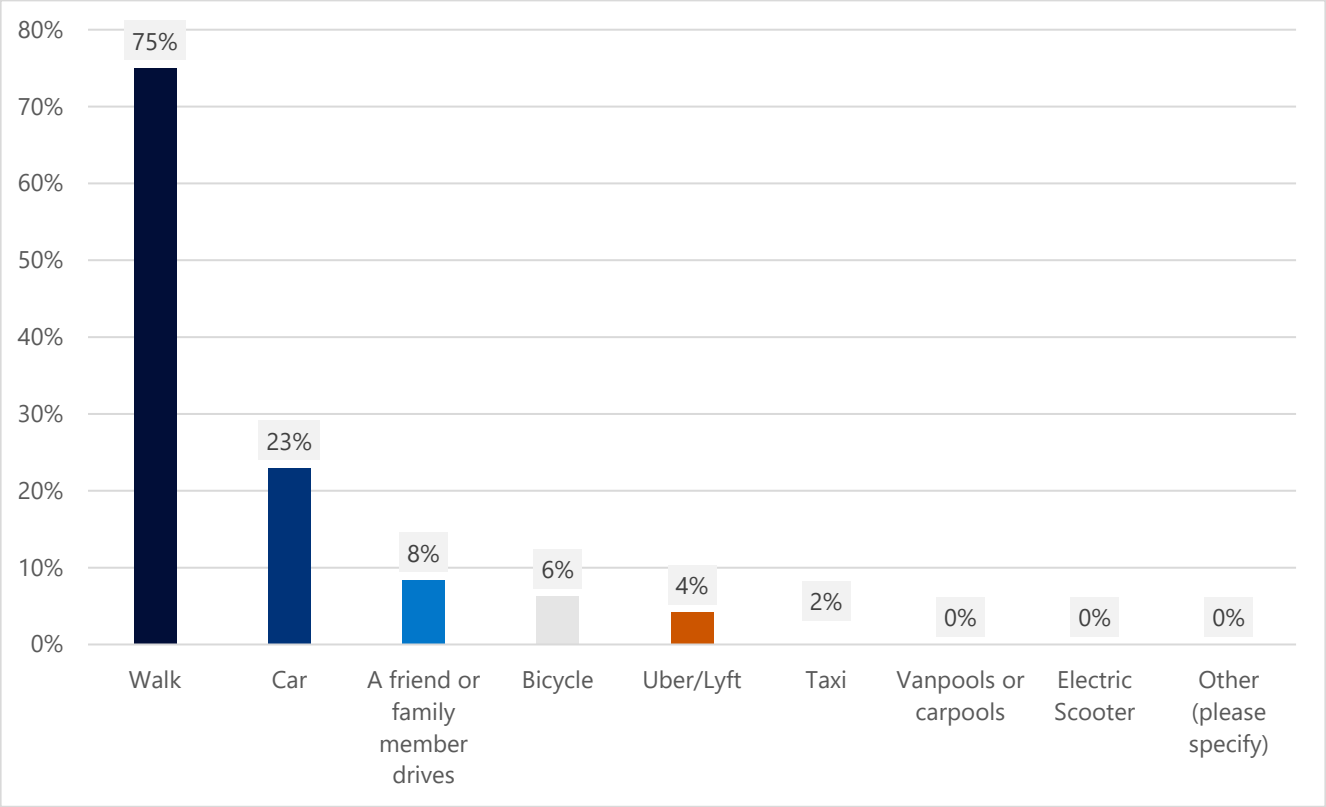
Figure 3-22: Public Transportation User's Trip Purpose



Travel to the Bus Stop or Park & Ride

Of those who use the public transportation services provided in Annapolis, a majority walked to get to their bus stops or to the park & rides, as seen in Figure 3-23. None of the respondents stated that they use vanpools or carpools or electric scooters.

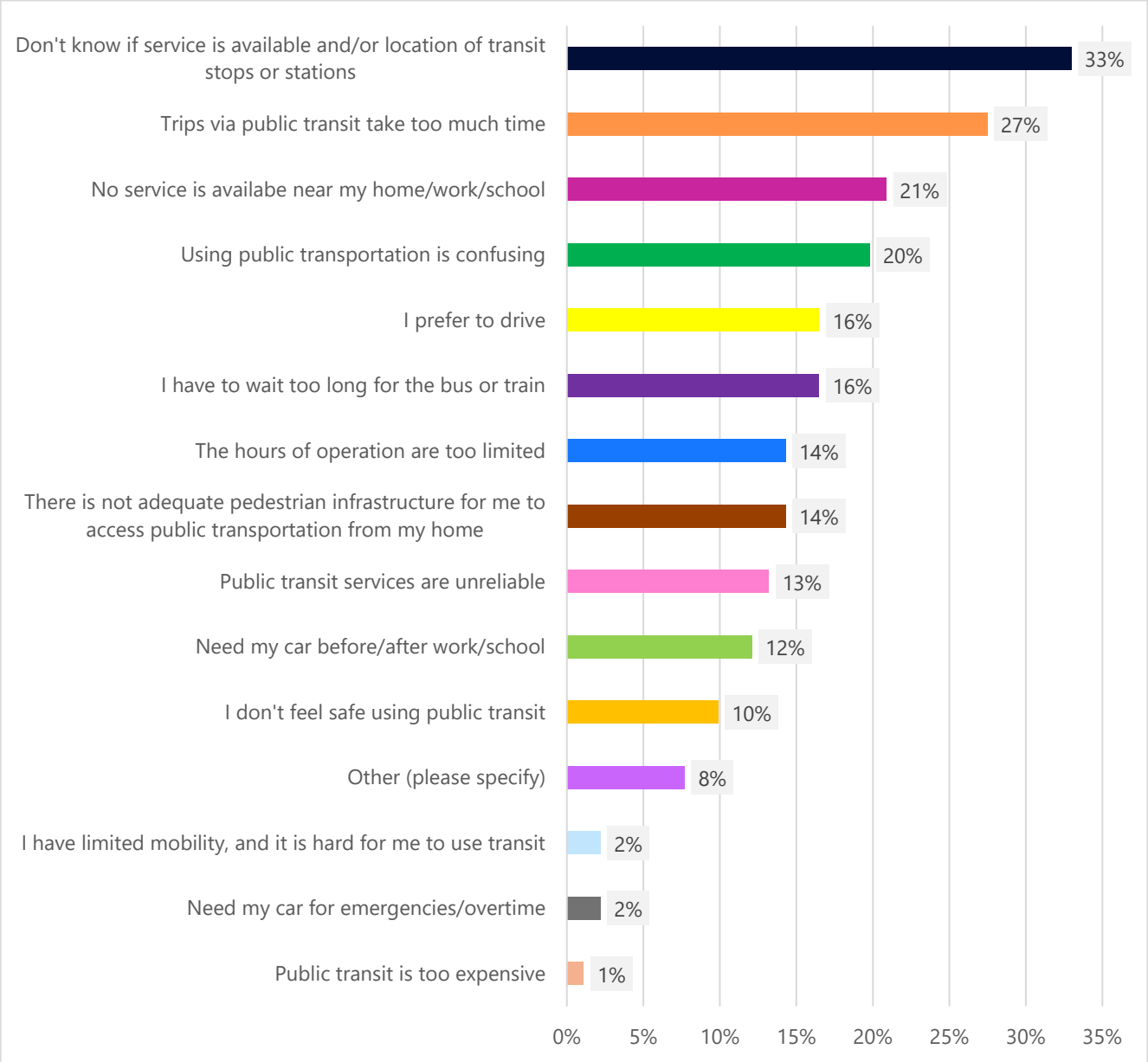
Figure 3-23: Method of Transportation to Access Public Transportation



Reasons for Not Using Public Transportation

The community was asked to check reasons as to why they do not use public transportation, and the majority of respondents stated that it was due to not knowing if service was available or the location of stops (33%). Figure 3-24 shows the breakdown of reasons why the respondents do not use public transportation. The second reason for not using public transportation was that trips via public transit took too much time (27%).

Figure 3-24: Reasons for Not Using Public Transportation



Service Improvements and Travel Needs

It is significant to note that a majority of community survey respondents stated that there is a need for additional or improved public transportation in Annapolis (86%), as seen in Figure 3-25.

Figure 3-26 shows the types of improvements community members felt were necessary to encourage them to utilize transportation services in Annapolis. The top three choices included improved information on available services (37%), service near my home (36%), and more frequent service (31%). The bottom two improvements included additional park & ride facilities (6%) and less crowded vehicles (5%). Some of the areas that community members stated would encourage them to use transit was service to Crownsville and a single ride within a 30-mile radius of Annapolis. Other key locations that respondents stated need additional or improved services include King George Street, Anne Arundel Community College, Annapolis High School, Parole, Highland Beach, Arnold, Riva Road, Edgewater, BWI Area, and Hilltop Lane.

Figure 3-27 shows which improvements community members feel are needed in Annapolis. The top three improvements include new service that would connect communities or key destinations (80%), local service within my community (49%), and new or expanded service that would provide access to a MARC Station (39%). Some key locations that respondents stated need additional or improved services include King George Street, Anne Arundel Community College, Annapolis High School, Parole, Highland Beach, Arnold, Riva Road, Edgewater, BWI Area, Truman Park & Ride, and Hilltop Lane.

Figure 3-25: Need for Additional or Improved Public Transportation in Annapolis

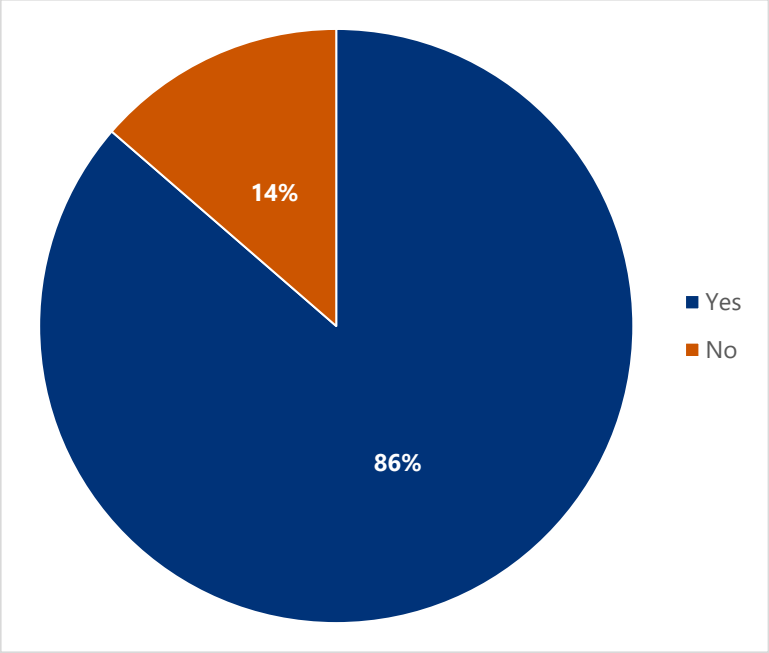


Figure 3-26: Transit Service Improvements are Needed to Encourage Usage

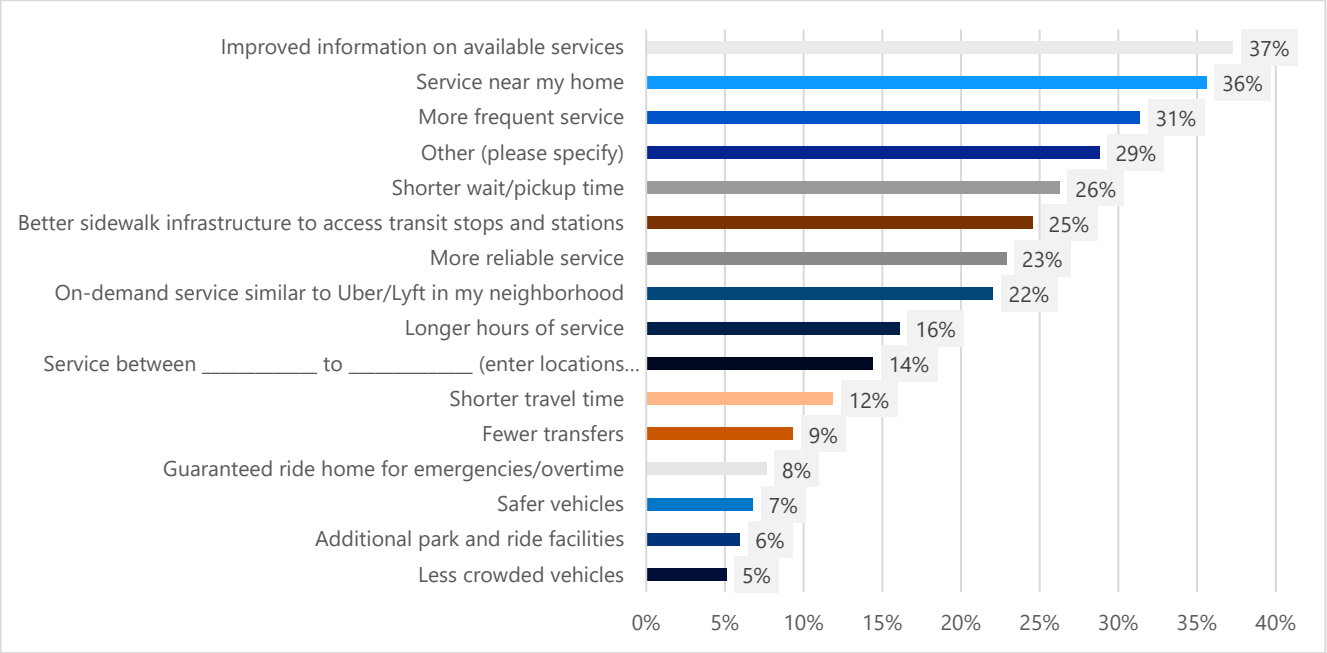
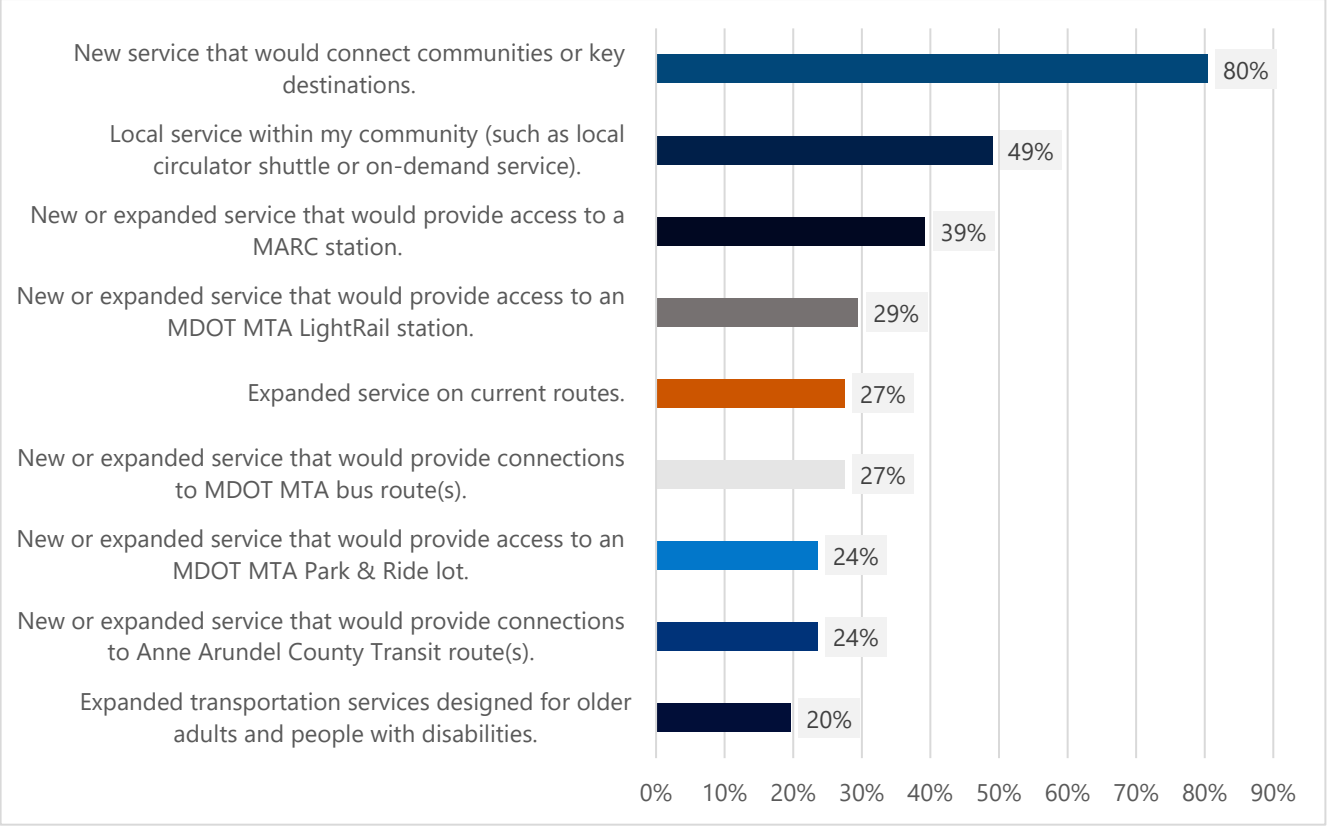


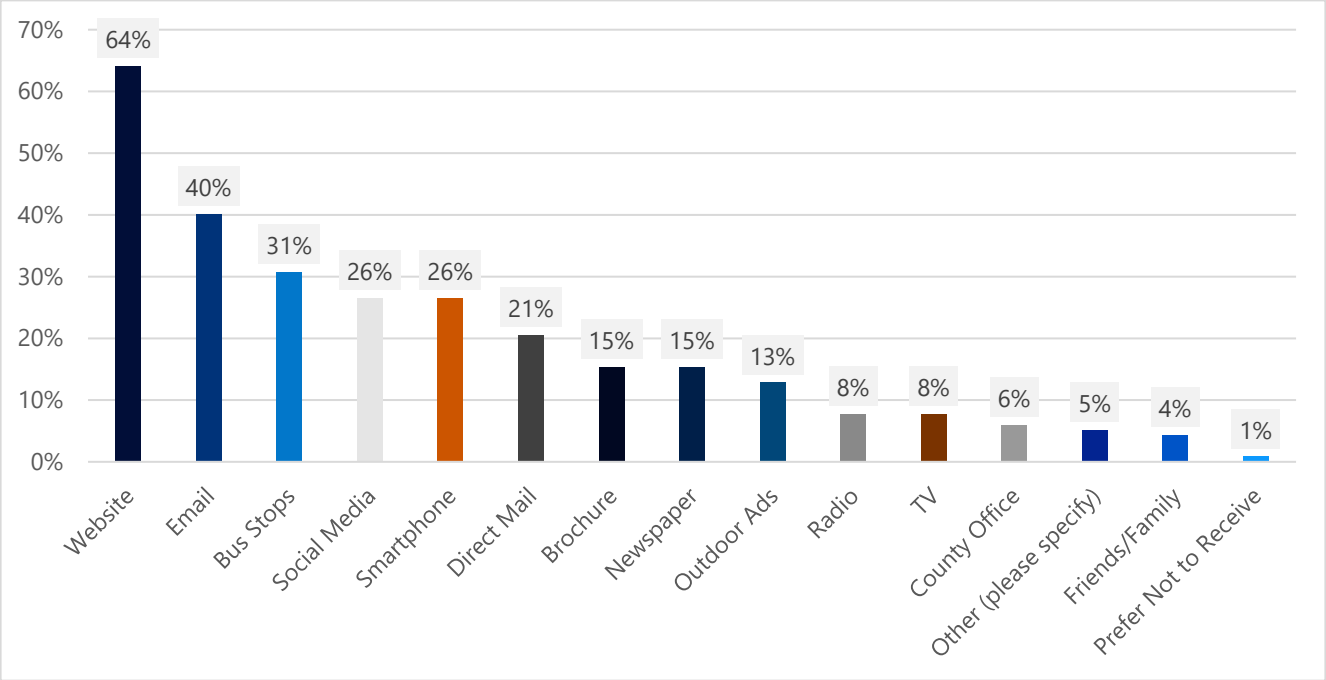
Figure 3-27: Transit Service Improvements Needed for Annapolis Transit



Receiving Transit Information

Community members were asked how they prefer to receive information about public transportation. As seen in Figure 3-28, the top three ways community members want to receive information are: through the website (64%), through email (40%) and at bus stops (31%).

Figure 3-28: Preferences for Information Dissemination



Community Survey Respondent Profile

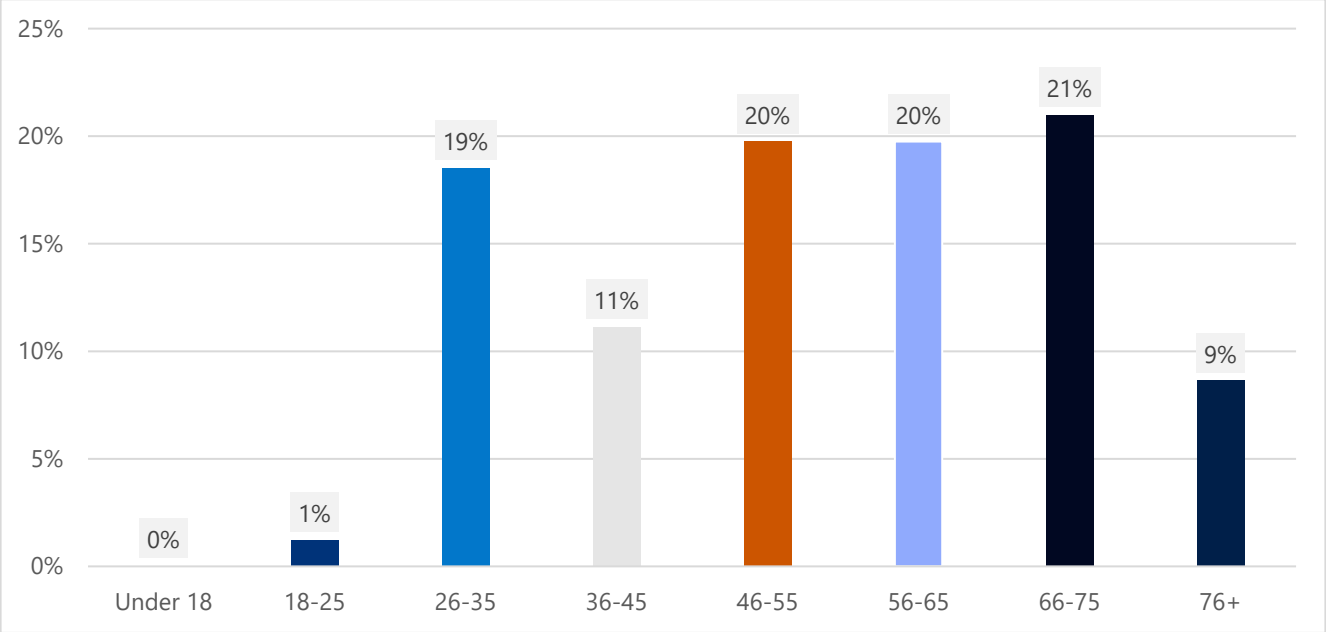
The survey asked multiple questions regarding basic demographics of the community survey respondents.

Table 3-2: Zip Codes of Respondents

Zip Code	# of Respondents
21401	39
21403	36
20776	1
21140	1
21037	2
21409	3

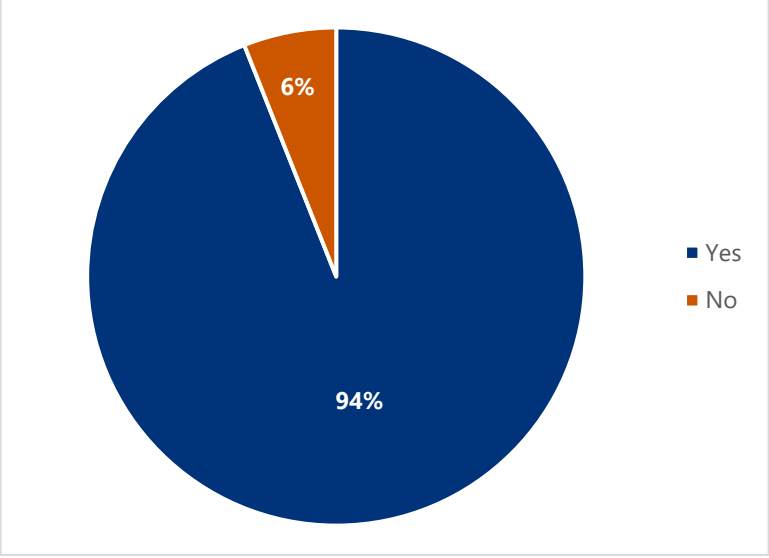
As seen in Figure 3-29, the range of ages of the respondents was wide, with the highest groupings being aged 66–75 (21%), 46-55 (20%), 56-65 (20%), and 26-35 (19%).

Figure 3-29: Age Range of Respondents



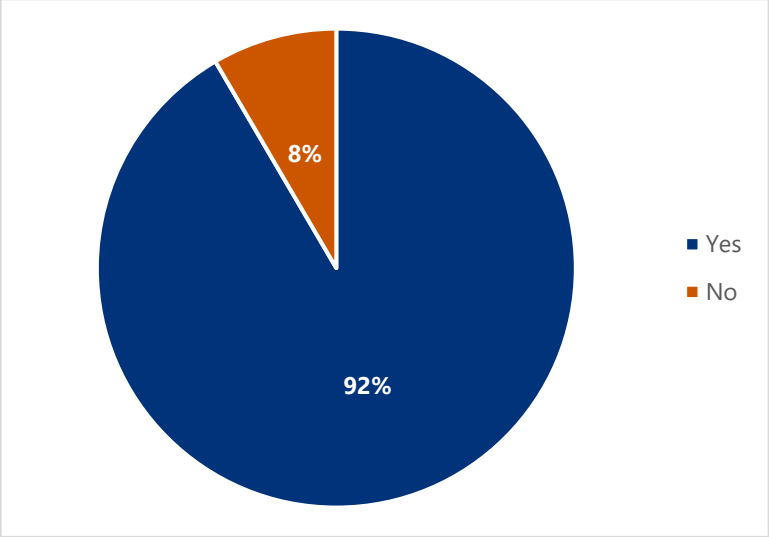
As shown in Figure 3-30, 94% of the community survey respondents stated that they have a valid driver's license.

Figure 3-30: Driver's License



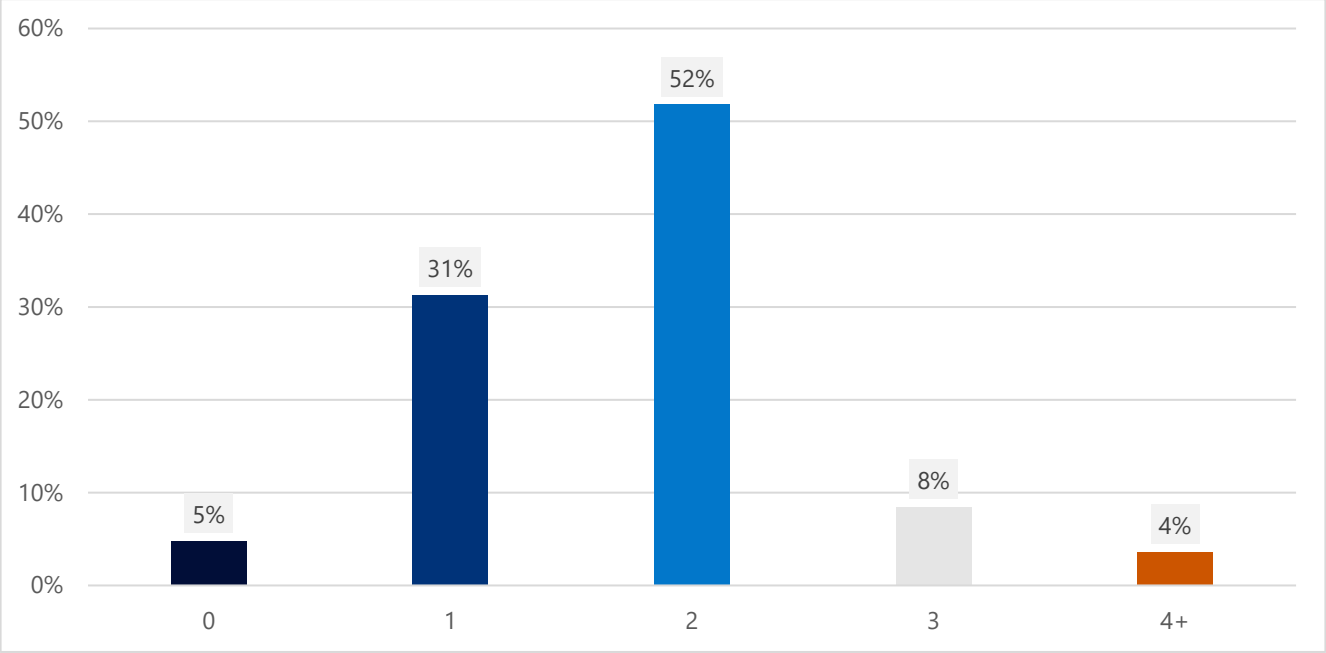
When asked about their access to a personal vehicle on a daily basis, 92% of respondents stated that they do have access, as seen in Figure 3-31.

Figure 3-31: Access to A Personal Vehicle on a Daily Basis



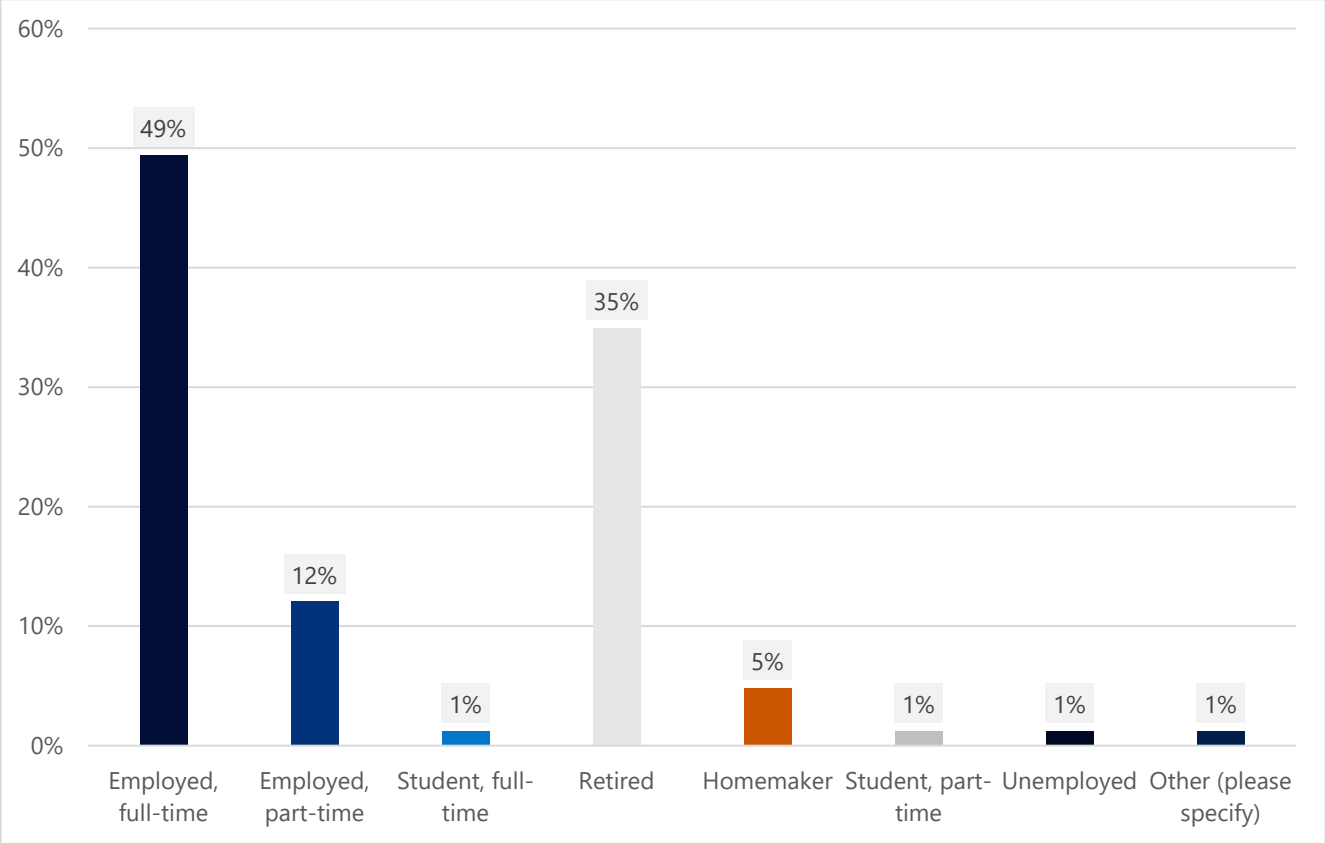
Respondents were asked about the number of working vehicles in their household, as shown in Figure 3-32. A majority of respondents (52%) stated that they have two working vehicles. Only five percent of respondents stated that they have zero working vehicles, while 12% stated they have three or more vehicles.

Figure 3-32: Number of Working Cars/SUVs/Motorcycles in a Household



When asked about their current employment status, a majority of respondents stated that they were either employed full-time or retired (49% and 35%, respectively), as seen in Figure 3-33.

Figure 3-33: Current Employment Status of Respondents



Additional Comments

Finally, respondents were asked to leave additional comments regarding public transportation in Annapolis. A few respondents provided comments regarding potential changes to the current transportation system. Some themes included:

- Altering the path of the Purple line to be more effective and increase passenger trips
- Connecting the current system to the New Carrollton Metro
- Greater distinction on the final destination of each bus
- Expand service both with increased frequency and increased geographic area
- Greater connectivity to surrounding cities (Baltimore and Washington, DC) and other areas (Anne Arundel County) with less transfers

Stakeholder Interview Results

An important task with the TDP process is soliciting perspectives from local stakeholders. In consultation with Annapolis Transit, a variety of stakeholders were identified, and then contacted via email to schedule a brief interview or to complete a questionnaire. This outreach was aimed at getting a sense of public transportation challenges and opportunities in the Annapolis Transit service area. Representatives from the following organizations and agencies provided their input through this process:

- Annapolis City Council
- Anne Arundel County Public Schools
- Anne Arundel Lodge

The following section provides a summary of the input provided by these stakeholders. It will be supplemented with feedback from additional interviews scheduled, and this section will be updated for the draft final TDP.

Lack of Knowledge Regarding the Availability of Services

Stakeholders noted that there is a lack of knowledge and understanding of the Annapolis Transit services, especially regarding where the services go. Current marketing for Annapolis Transit services may not be reaching multiple populations, specifically those who may not be tech savvy. Some stakeholders mentioned a need for more information at bus stops along the routes.

More Frequent and Direct Services

Stakeholders mentioned many different issues regarding timing, locations, and availability of current services, including:

- Transit riders must spend a lot of time on buses
- Difficulties with connection between Annapolis Transit and Anne Arundel County Transportation
- Locations of bus stops are not always accessible and require lots of walking
- Overcrowding on vehicles
- A need for later service hours

Transportation Service Options

Many stakeholders expressed interest in on-demand services as a better way for Annapolis Transit to overcome current obstacles. It was noted that many schools currently do not have public transportation options for after-school programs and activities.

Driver Questionnaire Results

The Annapolis Bus Driver Survey, designed by the consultants and distributed to Annapolis Transit Drivers received 10 responses. Each driver was asked to provide input specific to Annapolis Transit services. The feedback collected offers valuable insights into system-wide issues related to fixed routes, highlights specific comments regarding various routes, identifies locations for potential service expansion, and presents drivers' recommendations to address these challenges. The following section summarizes the findings from the driver survey.

Strengths and Weaknesses of Annapolis Transit

Drivers were asked what they consider to be current strengths of Annapolis Transit, which included:

- Affordability of current service options
- On-time services
- Kindness and overall positive customer service of drivers

On the other hand, Annapolis Transit Drivers stated that current weaknesses include:

- Long travel time for riders
- Geographic limitations due to limited routes
- Delays in service due to traffic

Improvements to Current Services

Many drivers felt that there were no geographic areas or specific destinations that need new or improved services. However, a few drivers noted that there is a need for new or improved services to West Annapolis and Southern Annapolis.

Drivers were also asked about specific days and hours needed with new or improved services, which included:

- Starting the Brown Route earlier on Saturday
- Increased Saturday and Sunday service hours
- Service on Sunday between 10:00 a.m. and 6:00 p.m.

Some other suggested service improvements included the ability to pay by credit card, rather than only having cash fares, and an answering service for phones during evening hours. Drivers also discussed a need for better knowledge of locations, businesses, schools, etc., throughout the service area. Finally, drivers mentioned a need for better marketing and use of social media in order to provide more information and access the community.

Regarding improvements for the employees, many mentioned the desire for CDL training for drivers, higher pay, and a new facility with better amenities.

Chapter 4
Review of Demographics and Land Use

Introduction

An important step for the TDP process is to assess current and future transit needs through the analysis of demographic and land use data. As part of the broader needs assessment that includes stakeholder and community input discussed in the previous chapter, this analysis helps to guide the development of potential alternatives to improve and expand public transportation services.

The review of demographics and land use includes a general population profile for Annapolis, identification and evaluation of population subgroups who often depend upon public transportation services; a review of the demographic characteristics pertinent to a Title VI analysis; and an assessment of major trip generators. The primary data sources comprise the 2020 Census, along with the American Community Survey (ACS) five-year estimates for 2018-2022[1] (as available).

Population Profile

This section provides a broad overview of Annapolis's population, identifies and assesses the underserved population subgroups, and examines the demographic factors pertinent for Title VI.

Historical Population

As of 2020, Annapolis's population was 40,812 (Table 4-1). Compared to both Anne Arundel County and the State of Maryland (which have both experienced between seven to nearly 10% growth in each of the last two decades), Annapolis has seen a slightly more modest growth. As a result, the city has grown 13.6% from 2000-2022 compared to 20.1% for Anne Arundel County and 16.3% for the State of Maryland.

The latest 2018-2022 ACS estimates indicate that the populations of Annapolis, Anne Arundel County, and Maryland have all remained stable from 2020 to 2022.

[1]2022 ACS 5-Year Estimates were not accessible at the Census Block Group level at the time of the analysis

Table 4-1: Historical Populations for Annapolis

Geography	2000	2010	2020	2022	2000-2010%	2010-2020%	2020-2022%	2000-2022%
Annapolis, MD	35,838	38,394	40,812	40,719	7.1%	6.3%	-0.2%	13.6%
Anne Arundel County	489,656	537,656	588,261	588,109	9.8%	9.4%	-0.0%	20.1%
State of Maryland	5,296,486	5,773,552	6,177,224	6,161,707	9.0%	7.0%	-0.2%	16.3%

SOURCE: U.S. CENSUS, ACS 5-YEAR B01001

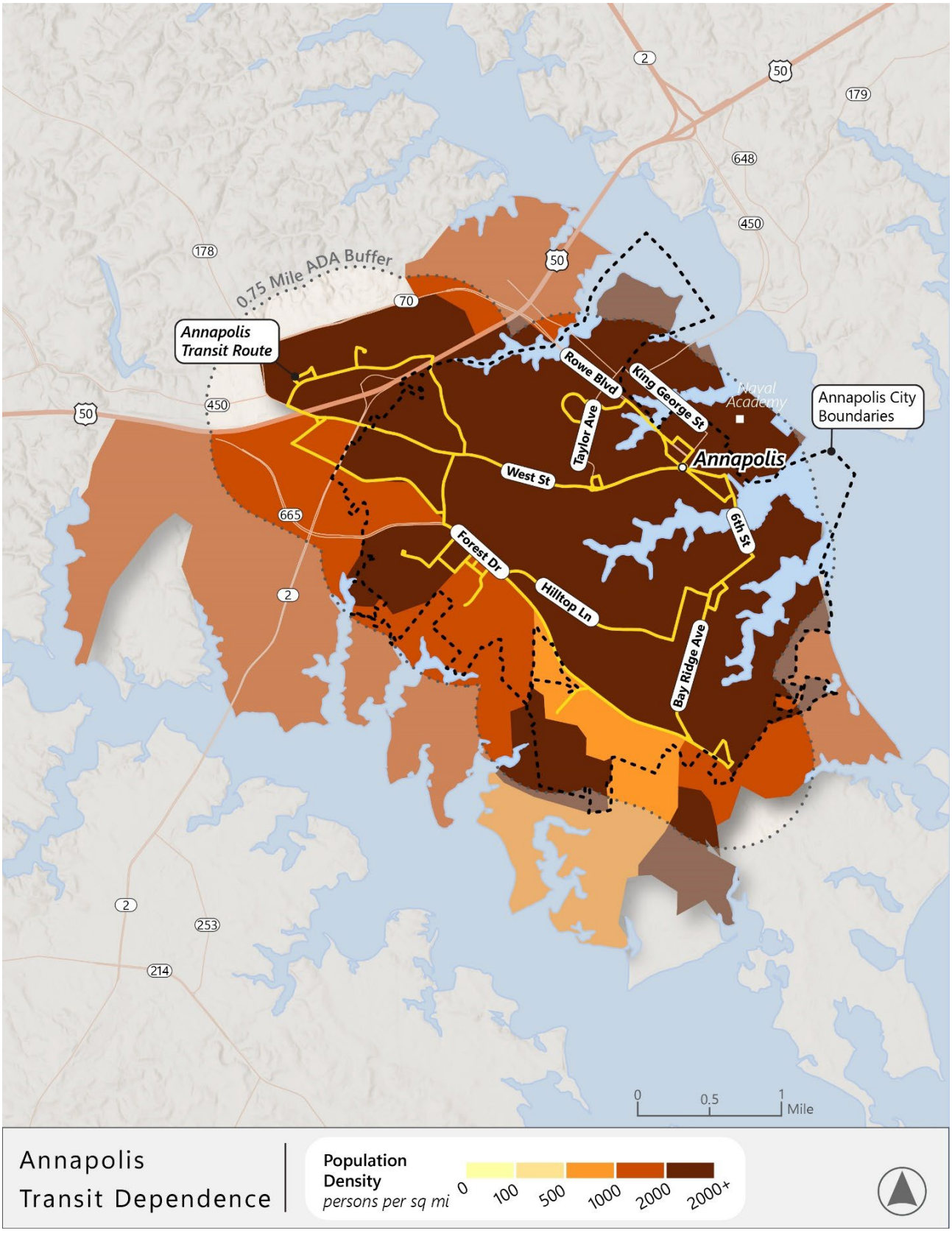
Population Density

Population density serves as a valuable indicator for determining the feasibility of various public transit services within a specific study area. Although there may be exceptions, an area with a population density of 2,000 persons per square mile typically has the capacity to support traditional fixed-route transit services that operate frequently on a daily basis. On the other hand, an area with a population density below this threshold, but above 1,000 persons per square mile, might be more suitable for alternative transit options such as flex fixed-route or demand-response services, including microtransit on-demand services. These alternative services can better accommodate the transportation needs of areas with slightly lower population densities.

Figure 4-1 illustrates the distribution of population density in Annapolis, focusing on the census block group level. Annapolis Transit's current routes are displayed in purple.

Compared to the service area of most of Maryland's Locally Operated Transit Systems, Annapolis is a highly dense area. As a result, most of the region sees densities greater than the 2,000 persons per square mile threshold. With the exception of one block group in the southern portion of the service area which is dominated by Quiet Waters Park, all block groups have densities of at least 1,000 persons per square mile. Viewing population density compared to existing bus routes, Annapolis Transit currently operates fixed-route service almost exclusively in the densest parts of the service area. The only areas of Annapolis with densities over 2,000 currently lacking fixed-route service are the neighborhoods of West Annapolis, Wilshire, and part of Eastport.

Figure 4-1: Population Density, Annapolis Area



Transit Dependent Populations

To understand the public transportation requirements, it is important to identify specific segments within the overall population that are more inclined to utilize transit services. These segments often include transit-dependent populations which either lack access to private vehicles, or are unable to drive themselves due to factors such as age or disability. Analyzing the size and distribution of these transit-dependent populations helps assess the effectiveness of existing transit services and evaluate the extent to which they meet the needs of the community. By identifying these populations and their geographical locations, informed decisions can be made regarding service improvements and adjustments to better serve the community.

The Transit Dependence Index (TDI) is an aggregate measure displaying relative concentrations of transit dependent populations. Six factors make up the TDI calculation: population density, autoless households, elderly populations (age 65 and over), youth populations (ages 10-17), populations of individuals with disabilities, and below poverty populations. As shown in the Annapolis Comprehensive Plan 2040, it is noted that Annapolis has a higher percentage of population over the age of 65 than the State of Maryland.

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

As illustrated in Figure 4-2, the relative classification system utilizes averages in ranking populations. For example, areas with less than the average transit dependent population fall into the "Very Low" classification, whereas areas that are more than twice the average will be classified as "Very High." The classifications "Low, Moderate, and High" all fall between the average and twice the average; these classifications are divided into thirds.

Figure 4-2: Transit Dependent Populations Classification System

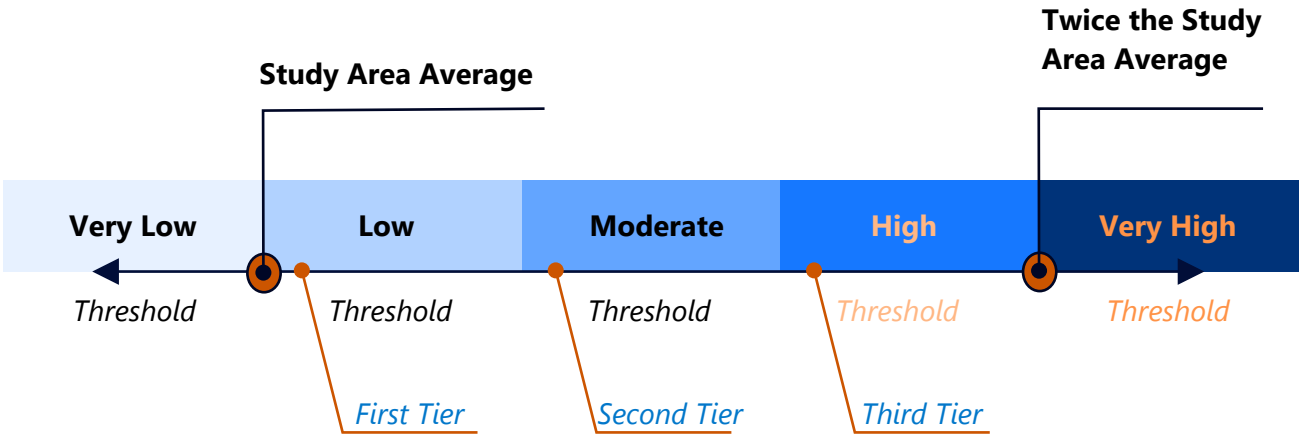


Figure 4-3 exhibits the TDI rankings assigned to different areas within Annapolis. Areas characterized as having a "Very High Need" can be found near downtown and in the Wilshire neighborhood to the southeast. Block groups with "High Need" are predominantly found in the western part of the service area.

The Transit Dependence Index Percent (TDIP) provides a complementary analysis to the TDI measure. It is nearly identical to the TDI measure except for the exclusion of population density. Figure 4-4 displays the distribution of need levels in different block groups within Annapolis. Given the high population density throughout the service area, differences between the TDI and TDIP are minimal. The areas of "Very High Need" and "High Need" are concentrated in three parts of the service area: Old Fourth Ward, the area just north of the Bay Ridge Giant Foods Shopping Center which has a high concentration of senior housing; and the western portion of the service area along Admiral Drive.

Figure 4-3: Transit Dependence Index, Annapolis Area

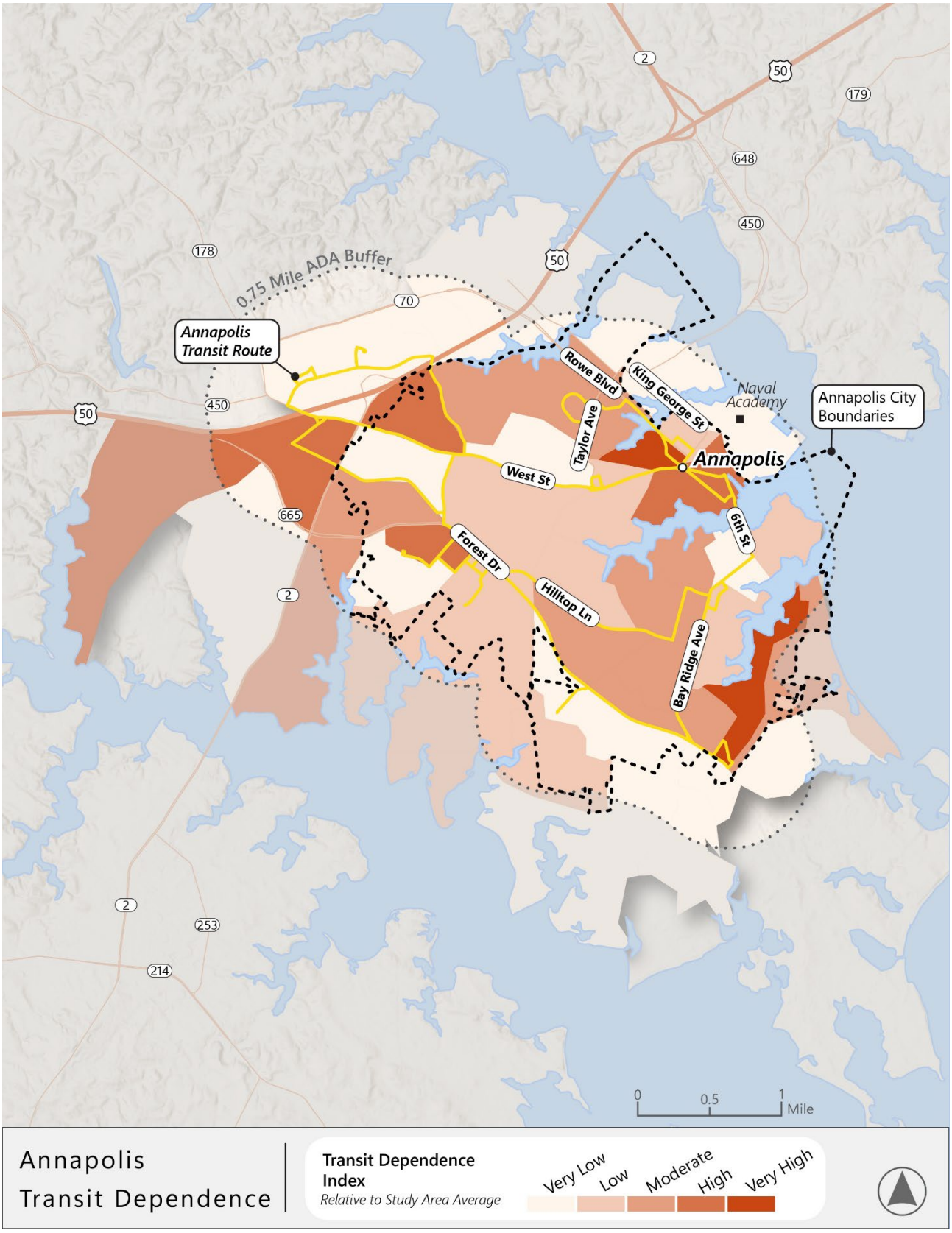
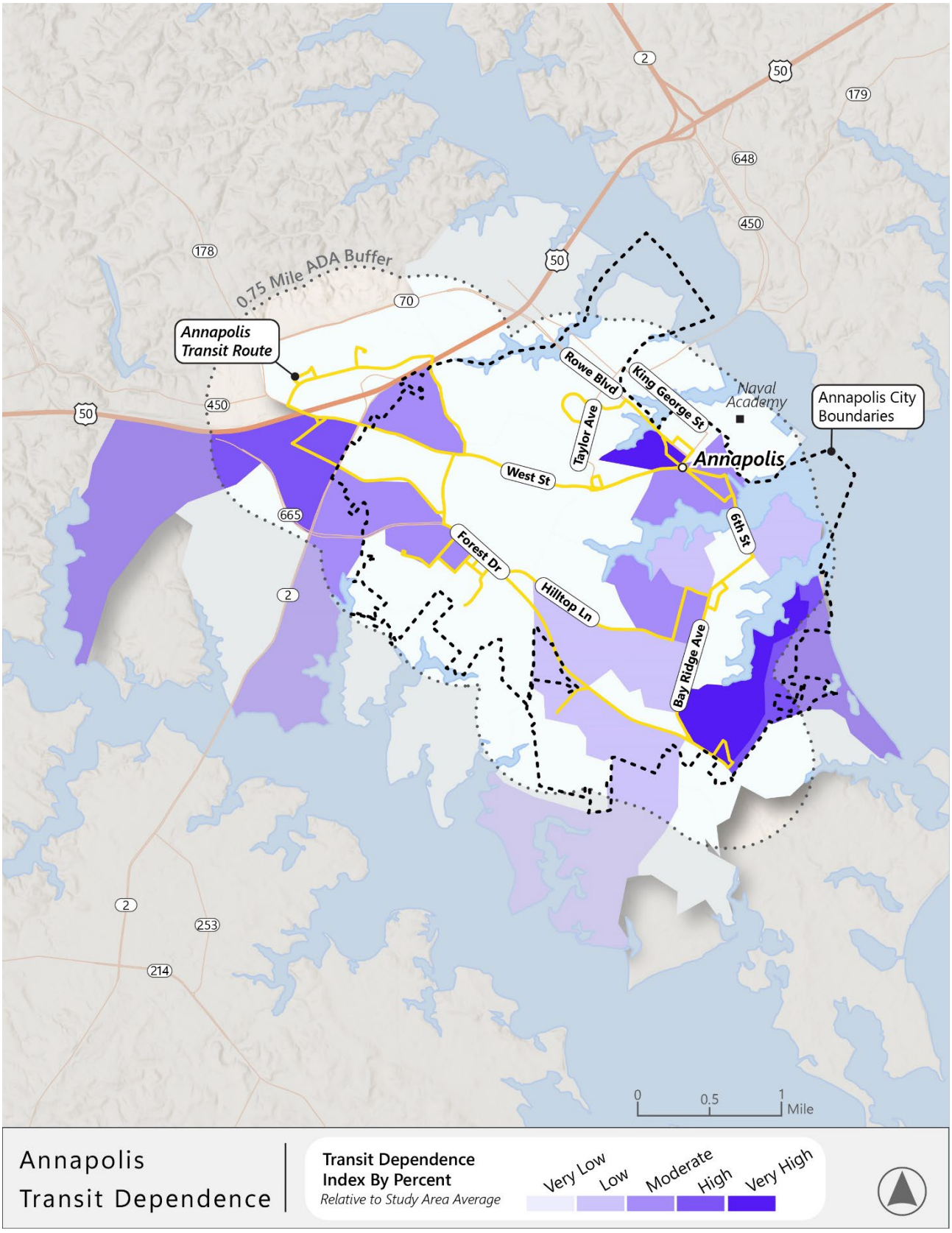


Figure 4-4: Transit Dependence Index Percentage, Annapolis Area



An analysis of the specific population groups within the Annapolis area are detailed below.

Autoless Households

Households without at least one personal vehicle are more reliant on public transit for their transportation needs compared to households with car access. While both the TDI and TDIP measures account for households without vehicles, it is crucial to display this specific segment of the population separately. This is important because, even in an area as dense as Annapolis, most land uses are located at distances that are impractical for non-motorized travel.

Figure 4-5 illustrates the proportionate number of households without vehicles. Block groups with a "Very High" concentration of households with zero vehicles can be found throughout the service area with concentrations in downtown Annapolis, northwest Annapolis near US 50, and southwest Annapolis around Eatons Landing.

Senior Adult Population

A second socioeconomic group analyzed by the TDI and TDIP indices is the senior population defined as individuals 65 years and older. As previously mentioned, the Annapolis Comprehensive Plan 2040 notes that Annapolis has a higher percentage of individuals over the age of 65 compared to the State of Maryland. Senior populations may scale back their use of personal vehicles as they age, leading to greater reliance on public transportation compared to those in other age brackets.

Figure 4-6 presents the relative distribution of seniors in Annapolis. As with the TDI and TDIP, the block groups with "Very High" concentrations of senior adult populations are found near downtown Annapolis, northwest Annapolis near US 50, and southeast Annapolis just north of the Bay Ridge Giant Foods.

Youth Population

Youths and teenagers, ages 10 to 17 years, who cannot drive or are just beginning to drive but do not have an automobile available, appreciate the continued mobility offered by public transportation.

Figure 4-7 illustrates the areas with high concentrations of youth populations. Areas with "Very High" concentrations of youth populations are found in three blocks within the service area: near downtown Annapolis, near the shopping centers along US 50, and in the western portion of the service area by the Donovans Pier neighborhood.

Individuals with Disabilities

Individuals with disabilities often face challenges in operating personal vehicles, leading to a higher reliance on public transportation. Figure 4-8 depicts the block groups with high concentrations of individuals with disabilities. The two locations of the service area with either "Very High" or "High" concentrations of individuals with disabilities are near downtown Annapolis and to the southeast of the area near the Wilshire neighborhood, due to the presence of group homes in these areas.

Figure 4-5: Classification of Autoless Households

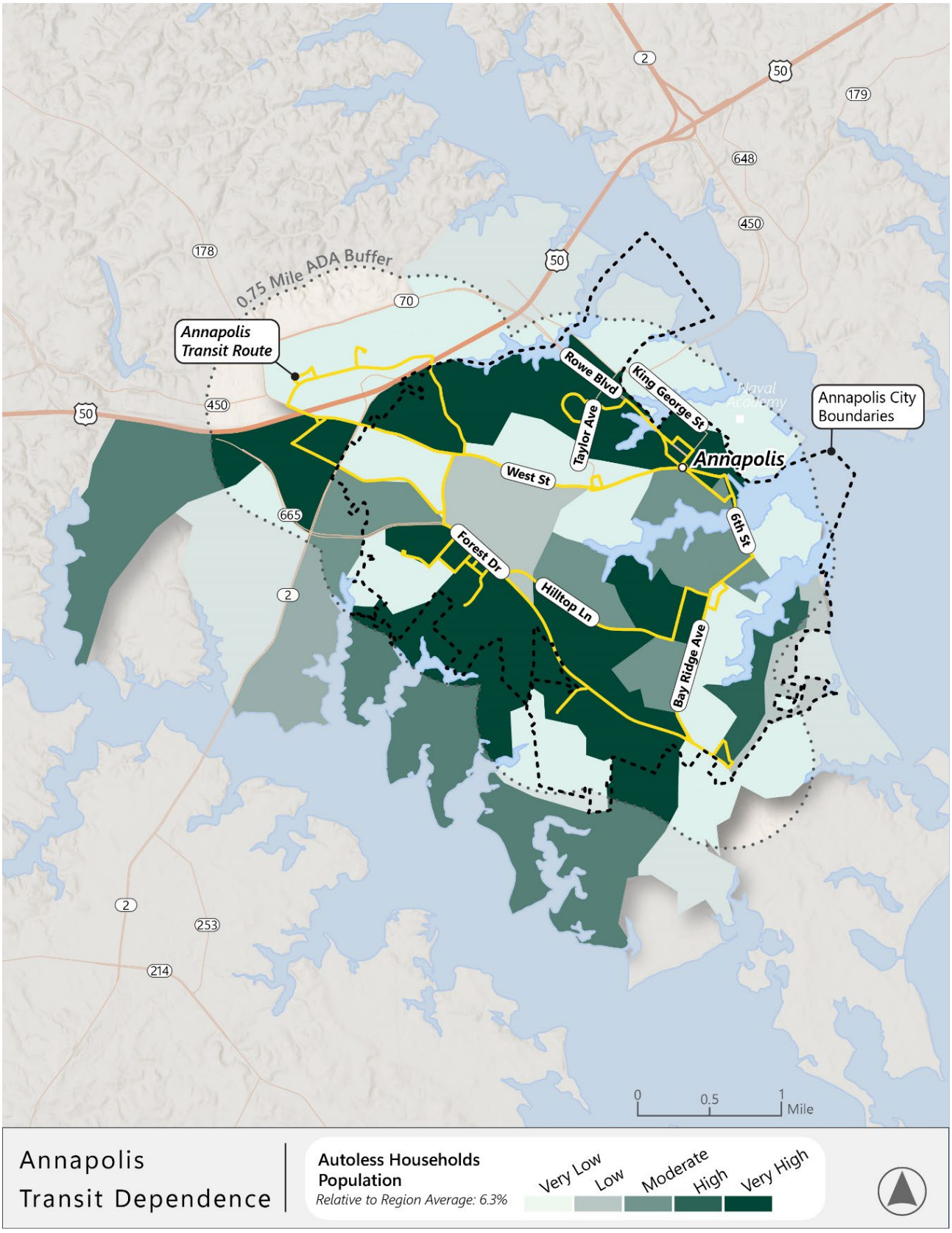


Figure 4-6: Classification of Senior Adults

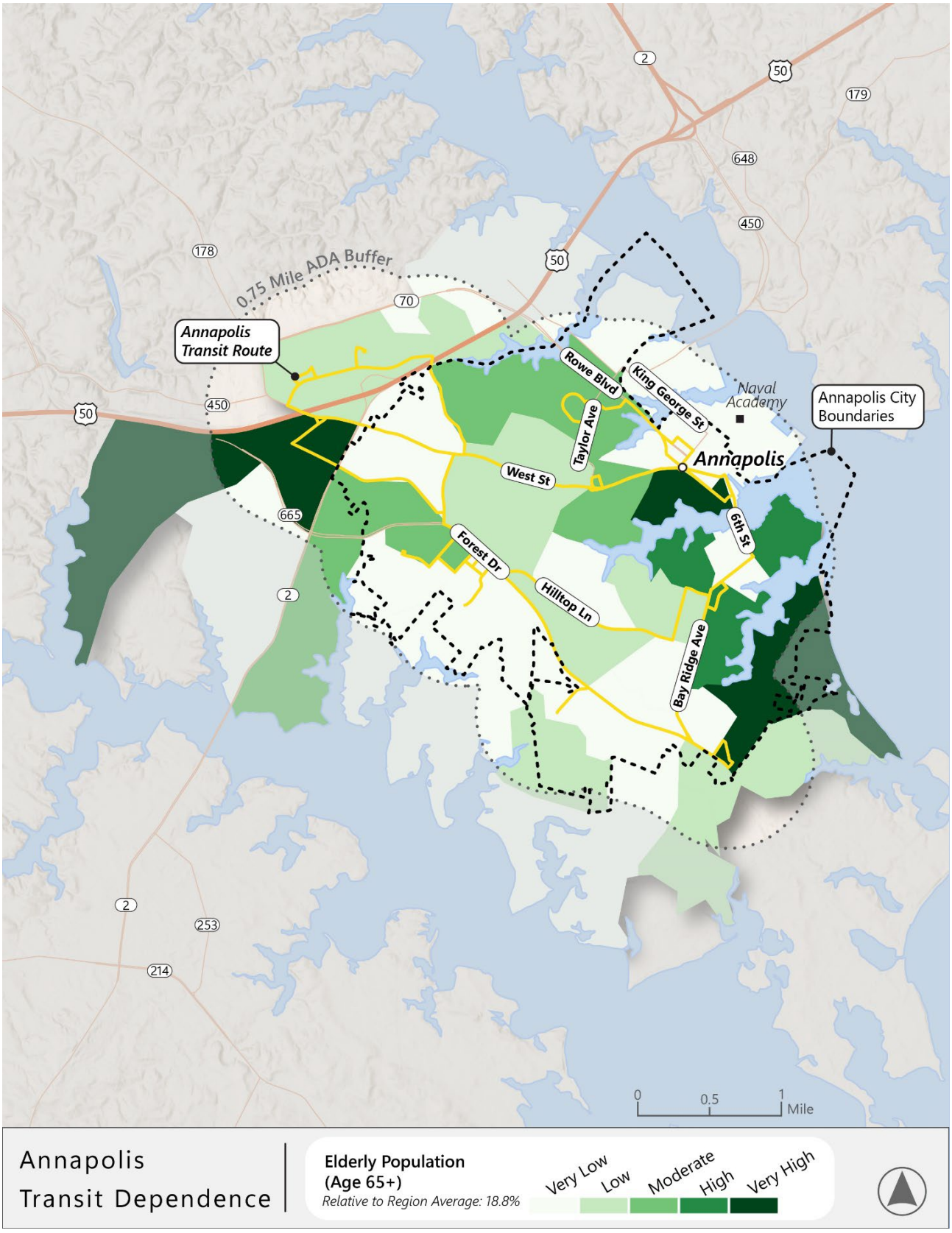


Figure 4-7: Classification of Youths

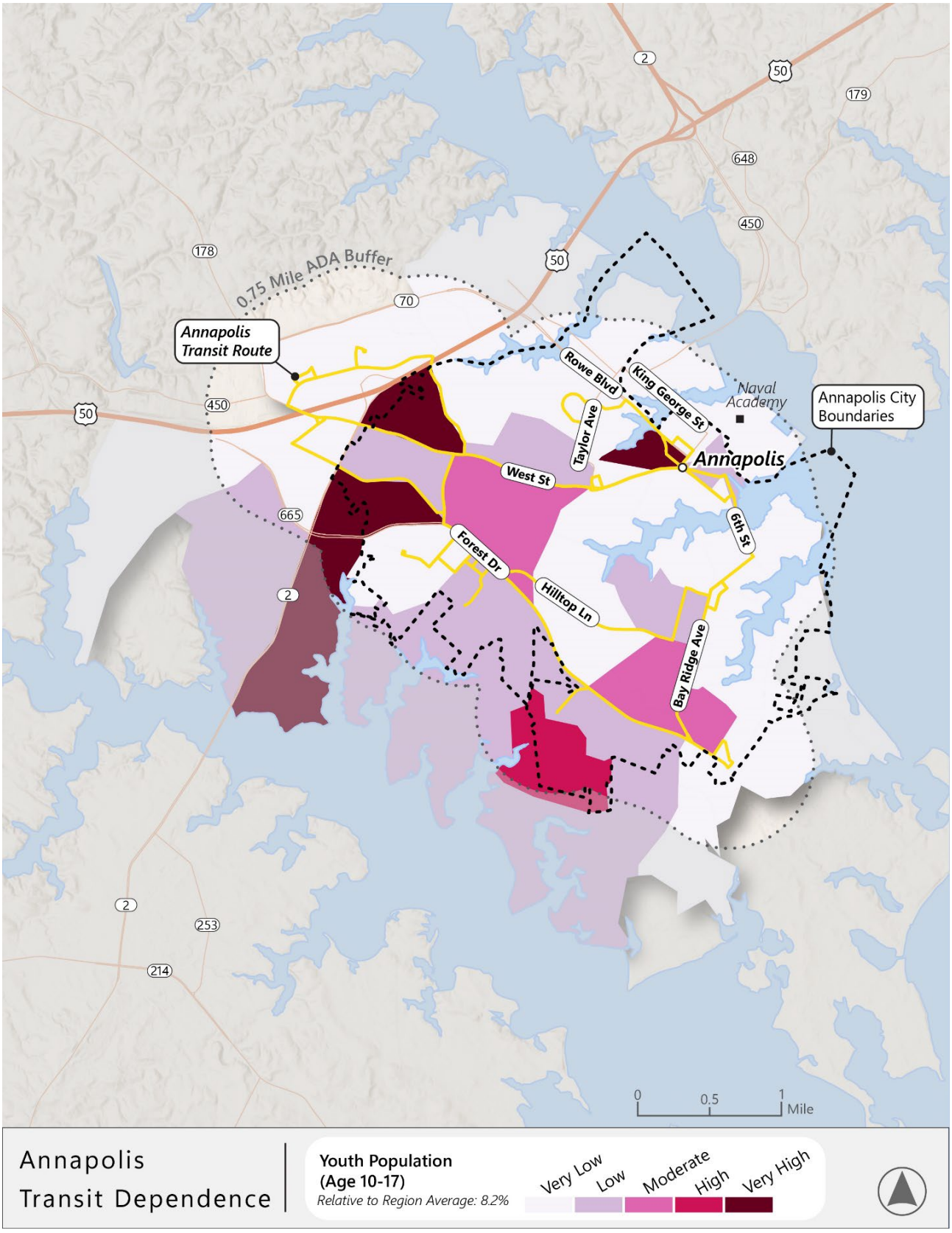
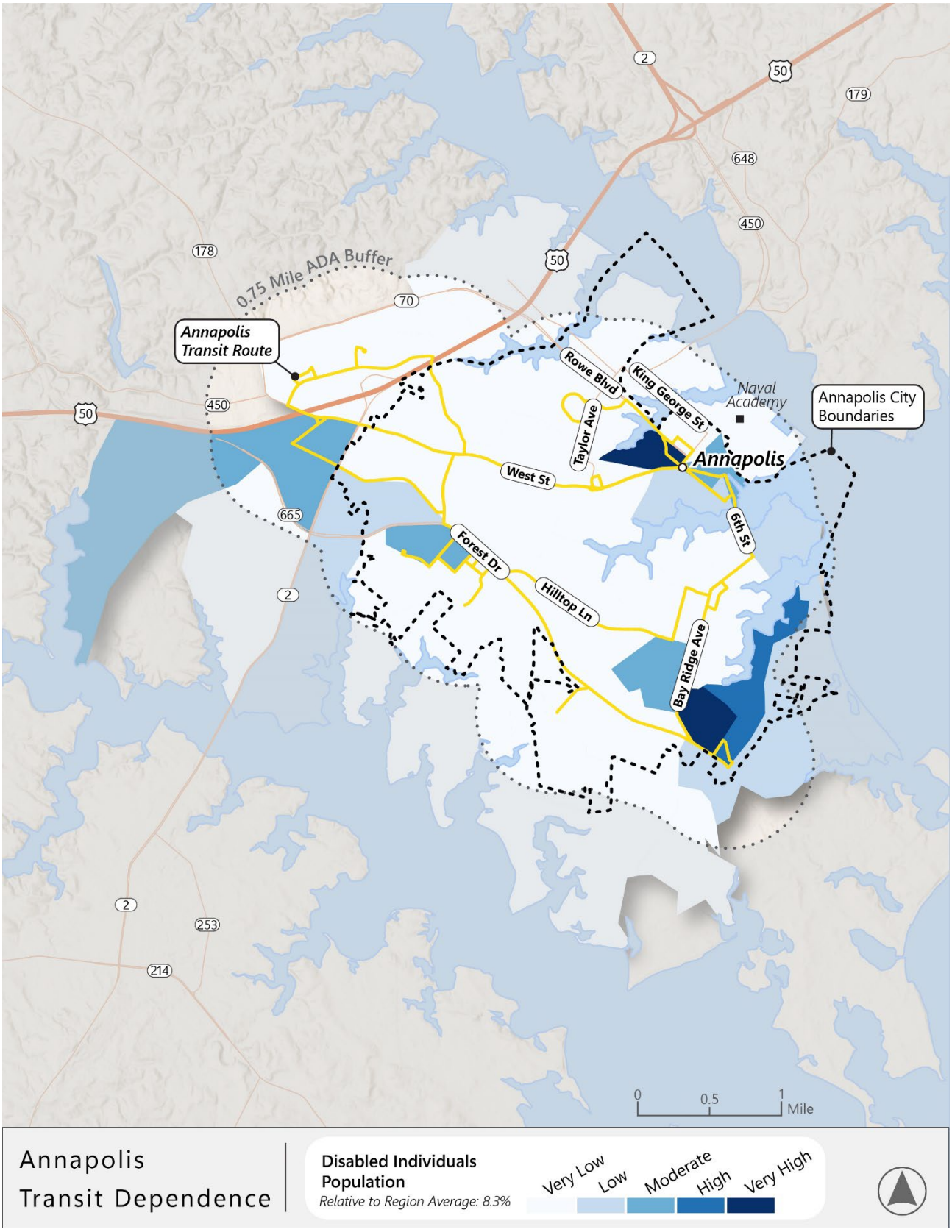


Figure 4-8: Classification of Individuals with Disabilities



Title VI Demographic Analysis

As part of the Civil Rights Act of 1964, Title VI prohibits discrimination based on race, color, or national origin in programs and activities receiving federal subsidies. This includes agencies providing federally-funded public transportation. The following section examines the minority and below-poverty populations of Annapolis. It then summarizes the prevalence of residents with Limited-English Proficiency (LEP). Annapolis Transit is not required to evaluate its service and fare changes under Title VI because it does not meet the FTA thresholds regarding Urbanized Aera (UZA) population (200,000 or more in population), or the number of vehicles operated in peak service (50 or more fixed-route vehicles). However, based on MTA guidance, it should still consider the following analysis before implementing any changes as a part of this TDP.

Minority Population

It is important to ensure that areas with an above average percentage of racial and/or ethnic minorities are not disproportionately impacted by any proposed alterations to existing public transportation services. Figure 4-9 depicts the percentage of minority persons above or below the study area mean per block group in Annapolis.

Out of the total 39 block groups, 16 block groups had a minority population higher than the county average of 39.6%. These block groups with above-average minority populations are primarily situated in the vicinity of downtown Annapolis and across the central and southern regions of the service area.

Low-Income Population

The second socioeconomic group included in the Title VI analysis represents those individuals who earn less than the federal poverty level. These individuals face financial hardships that may make the ownership and maintenance of a personal vehicle difficult. In such cases, they may be more likely to depend on public transportation. Figure 4-10 depicts the percentage of below-poverty individuals above or below the study area mean per block group.

Among the 39 block groups, 15 block groups had a below-poverty population exceeding the county average of 8.2%. These block groups are found throughout the county with particular concentrations around downtown Annapolis.

Figure 4-9: Minority Individuals

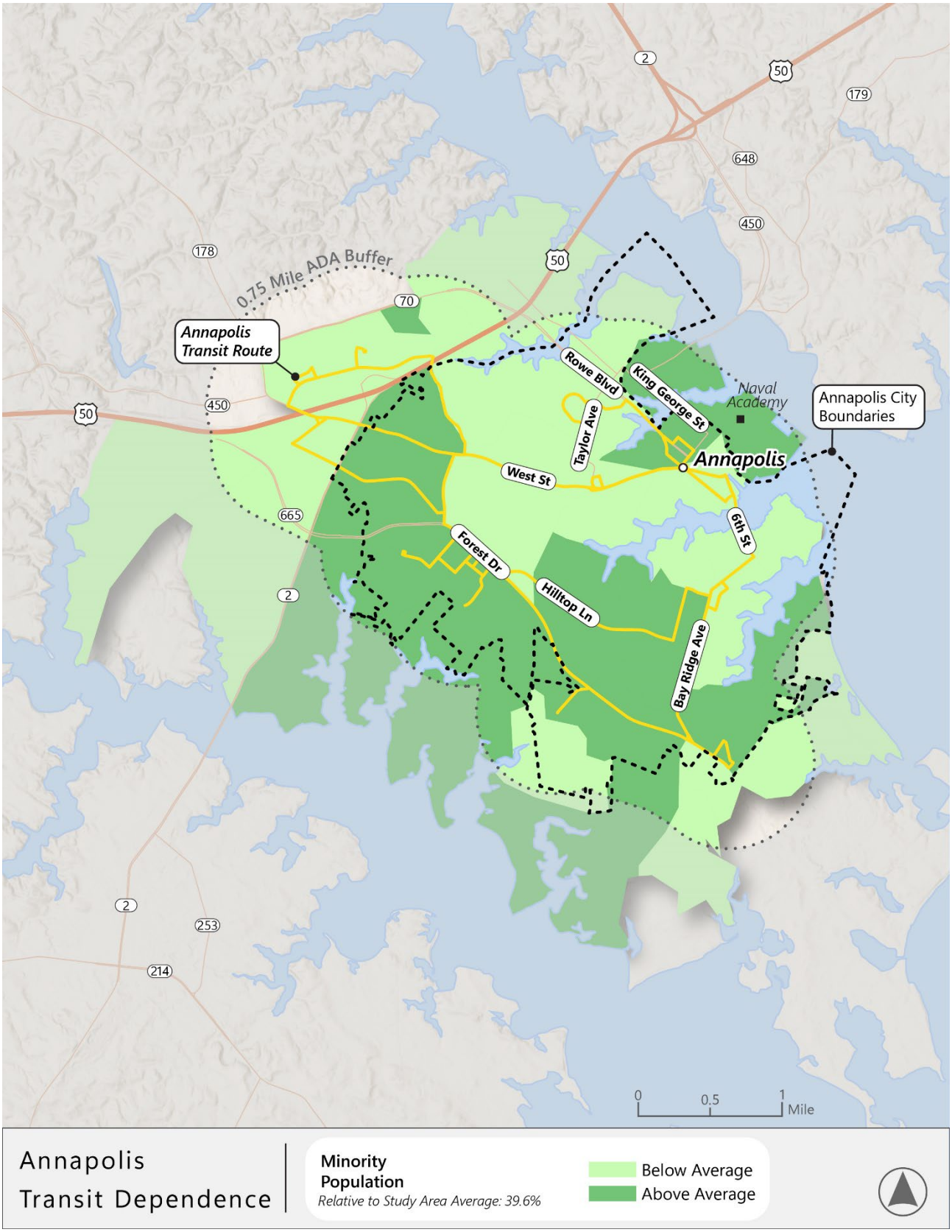
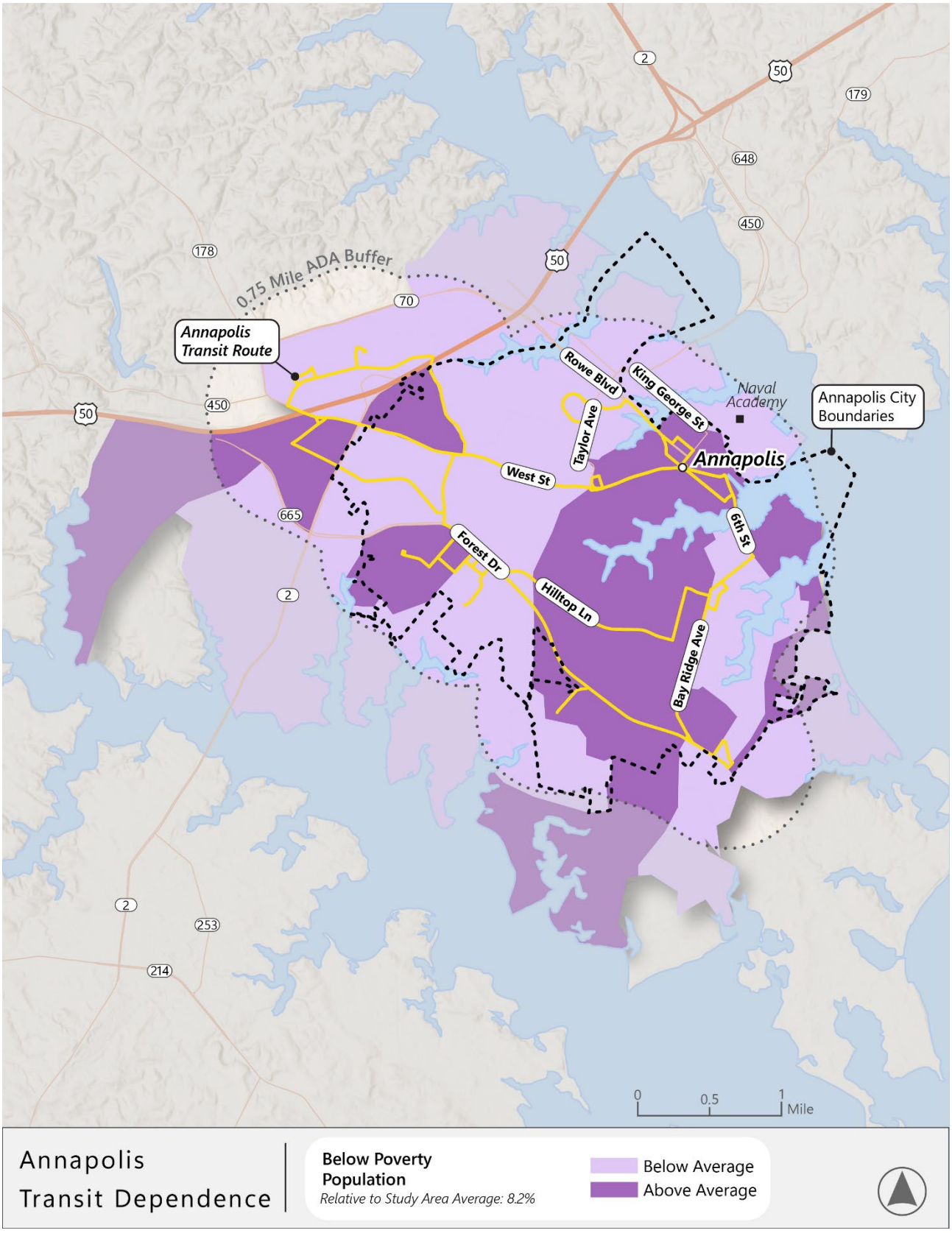


Figure 4-10: Individuals Below Poverty



Limited-English Proficiency

Ensuring inclusive public transportation involves not only catering to various socioeconomic groups, but also effectively communicating and providing information to individuals with different linguistic backgrounds. The Limited English Proficiency (LEP) population comprises individuals whose primary language is not English, and their proficiency in English is below the level of "very well." According to the Safe Harbor Provision of Title VI[2], organizations that receive federal funding must offer written translations of all essential documents for each language group that constitutes either five percent or 1,000 persons (whichever is lower) of the total population in the service area. This requirement aims to guarantee equal access to vital information for diverse language communities in the transit service area.

According to Table 4-2, the majority of residents in the Annapolis Transit service area primarily use English as their language of communication, accounting for 86.2% of the population. Spanish is the next most common language, with 1,793 residents or 3.1% of the service area population speaking it. Since there are over 1,000 Limited English Proficient (LEP) individuals who speak Spanish residing within the Annapolis Transit service area and meeting the Safe Harbor threshold, it is mandatory that Annapolis Transit provide services that accommodate the Spanish-speaking LEP population in their service area. Additionally, Annapolis Transit must ensure that all vital documents are available in the Spanish language.

Table 4-2: Limited English Proficiency

	Annapolis		Anne Arundel County		Annapolis Transit Service Area	
	#	%	#	%	#	%
Total Pop. (5 yrs. and over)	37,516	N/A	552,826	N/A	57,061	N/A
Speak only English	31,341	83.5%	483,388	87.4%	49,187	86.2%
Speak:	**Est. LEP Pop.**	**% LEP Pop.**	**Est. LEP Pop.**	**% LEP Pop.**	**Est. LEP Pop.**	**% LEP Pop.**
Spanish	1,652	4.4%	10,516	1.9%	1,793	3.1%
French, Haitian, or Cajun	14	0.0%	151	0.0%	14	0.0%
German or other West Germanic languages	23	0.1%	444	0.1%	23	0.0%
Russian, Polish, or other Slavic languages	29	0.1%	324	0.1%	47	0.1%
Other Indo-European languages	171	0.5%	2,821	0.5%	298	0.5%
Korean	78	0.2%	1,378	0.2%	92	0.2%
Chinese (incl. Mandarin, Cantonese)	32	0.1%	1,651	0.3%	55	0.1%
Vietnamese	0	0.0%	446	0.1%	9	0.0%
Tagalog (incl. Filipino)	114	0.3%	1,144	0.2%	114	0.2%
Other Asian and Pacific Island languages	44	0.1%	821	0.1%	51	0.1%
Arabic	0	0.0%	235	0.0%	0	0.0%
Other and unspecified languages	79	0.2%	815	0.1%	198	0.3%

[2] Title VI Requirements And Guidelines For Federal Transit Administration Recipients (FTA C 4702.1B), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Title_VI_FINAL.pdf, Chapter III

Land Use Profile

Major Trip Generators

Identifying land uses and major trip generators throughout the transit service area provides a clearer understanding of the travel needs and demands of Annapolis residents and Annapolis Transit riders. These trip generators are largely clustered by land use and are in proximity to each other. That is, similar land uses are geographically grouped together. Shopping trip generators are typically located near other shopping trip generators, multi-family housing by other multi-family housings, etc. They also serve as trip origins and destinations.

When looking broadly at the service area, the clusters of trip generators are concentrated around downtown Annapolis. This is particularly true for major employers and educational facilities. Shopping destinations, in contrast, are clustered around US 50 in the west of the service area. Overlaying the existing Annapolis Transit route network over the distribution of trip generators demonstrates that the current route network aligns closely with the location of trip generators. The distribution of all trip generators in the Annapolis Transit service area is found in Figure 4-11. A detailed list of all trip generators and their categories can be found in Appendix A. The categories in which the trip generators fall are as follows:

1. **High-Density Housing:** Residential structures that house more than one unit or family, often on multiple floors or larger tracts of land. These are found throughout the service area, though there is a notable low concentration of high-density housing in downtown Annapolis.

2. **Major Employers:** The top 20 largest employers in Annapolis according to 2021 Annapolis Office of Economic Development data. By far, the largest employers are the State of Maryland and the Anne Arundel County government.

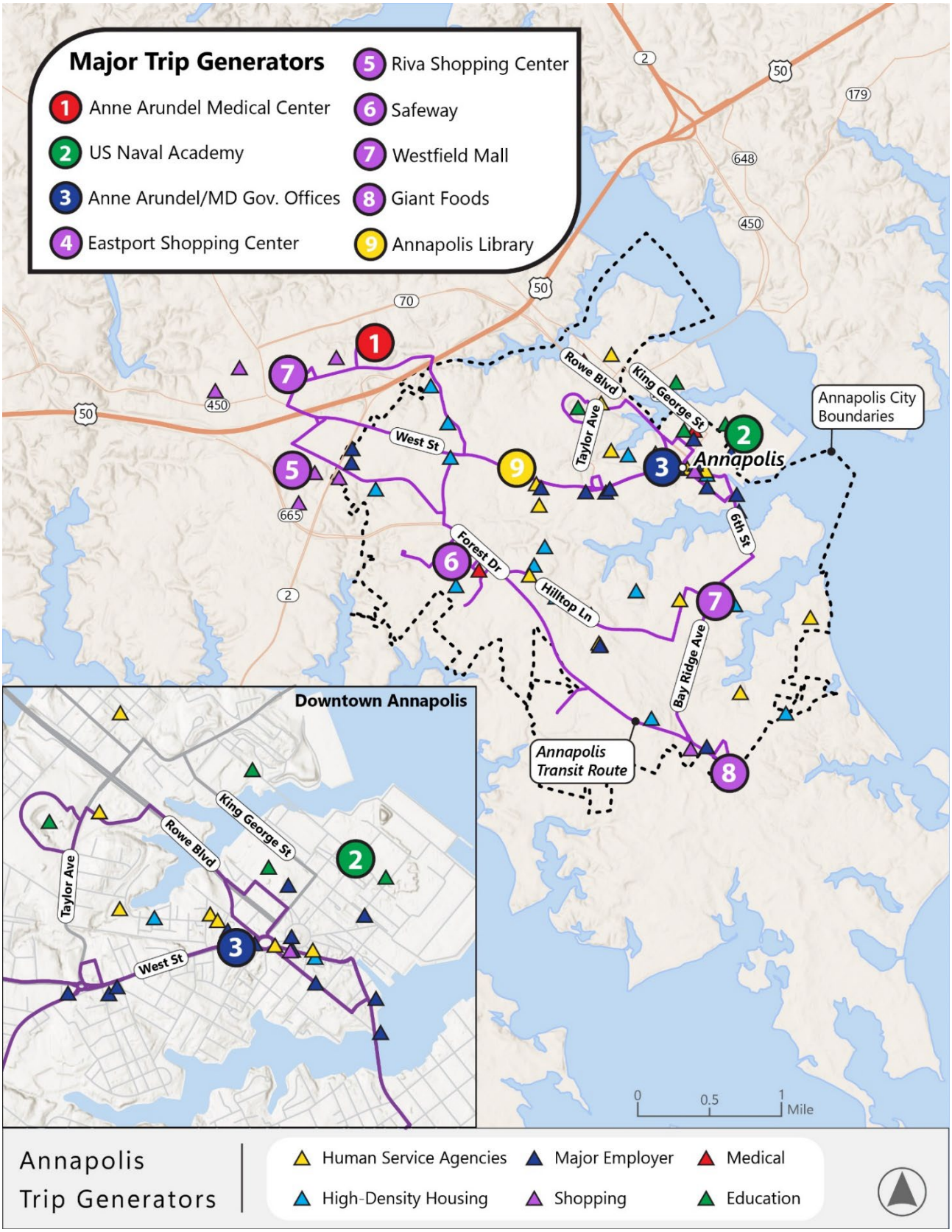
3. **Medical:** Includes major medical facilities including hospitals, medical centers, and urgent care. The Anne Arundel Medical Center is the primary medical trip generator in the area.

4. **Shopping:** Shopping centers with multiple retail outlets or large grocery or department stores. The outskirts of Annapolis along US 50 are a major shopping hub with multiple malls and shopping centers in close proximity.

5. **Education:** Large educational institutions such as the United States Naval Academy.

6. **Human Service:** Organizations and agencies that provide a variety of services for health, wellness, or social programs. These include, but are not limited to, libraries, community and activity centers, adult daycare centers, recovery organizations, assisted living facilities, and second-hand stores.

Figure 4-11: Major Trip Generators, Annapolis, MD



Employment Travel Patterns

In the assessment of transportation needs in Annapolis Transit service area, it is crucial to consider not only the locations of major employers within the service area, but also the commuting patterns of its residents, including those who work both within and outside the service area. Employment in the area is centered around Annapolis, but a significant proportion of commuters, 19.7% according to the 2022 ACS Five-Year Estimates, still leave Anne Arundel County to work in other employment hubs such as Baltimore and Washington DC. Of note, Annapolis' share of workers who commute via single-occupancy vehicle is lower (65.7%) than that of Maryland as a whole (68.2%), as indicated in Table 4-3. The percentage of Annapolis commuters using Public Transportation instead is generally in line with that of the state; however, it is the proportion of commuters who walk to work that stands as an outlier. The percentage of Annapolis commuters who walk to work is 4.5%, compared to just 1.9 % of state residents, highlighting the city's higher density.

Table 4-3: Journey to Work Patterns for Annapolis

Place of Residence	Annapolis		Anne Arundel County		Maryland	
Workers 16 Years and Older	21,002		306,689		3,101,081	
Location of Employment	#	%	#	%	#	%
In state of Residence:	19,235	91.6%	283,635	92.5%	2,660,536	85.8%
In County of Residence	15,089	71.8%	195,526	63.8%	1,841,181	59.4%
Outside County of Residence	4,146	19.7%	88,109	28.7%	819,355	26.4%
Outside State of Residence	1,767	8.4%	23,054	7.5%	440,545	14.2%
Means of Transportation to Work	#	%	#	%	#	%
Car, truck, or van - drove alone	13,808	65.7%	225,863	73.6%	2,114,759	68.2%
Car, truck, or van – carpooled	1,622	7.7%	19,932	6.5%	243,165	7.8%
Public Transportation	1,096	5.2%	7,879	2.6%	171,785	5.5%
Walked	945	4.5%	4,611	1.5%	59,507	1.9%
Taxicab, motorcycle, bicycle, other	370	1.8%	3,504	1.1%	57,051	1.8%
Worked at home	3,161	15.1%	44,900	14.6%	454,814	14.7%

The Longitudinal Employer-Household Dynamics (LEHD) dataset from the Census Bureau is an additional data source that provides valuable insights into employee travel patterns. According to 2021 data, the top five employment destinations for residents of Annapolis were Annapolis and Parole (Census-Designated Place) in Anne Arundel County, as well as Washington, DC, Baltimore, MD, and Columbia, MD. (Table 4-4).[3] Interestingly, while 7.3% of Annapolis residents commute to Washington, DC, fewer than 1.6% of workers in Annapolis reside in Washington, DC (Table 4-5). This one-sided commuter flow stands in contrast to Baltimore, which is both a commuting destination and origin for 5.3% and 5.1% of Annapolis residents and workers, respectively.

Table 4-4: Top Ten Destinations of Work for Annapolis Residents

Destination	County	Percent
Annapolis, MD	**Anne Arundel**	18.1%
Parole, MD	**Anne Arundel**	9.8%
Washington, DC	DC	7.3%
Baltimore, MD	Baltimore	5.3%
Columbia, MD	Howard	2.4%
Annapolis Neck, MD	**Anne Arundel**	1.7%
Severna Park, MD	**Anne Arundel**	1.6%
Glen Burnie, MD	**Anne Arundel**	1.6%
Arnold, MD	**Anne Arundel**	1.3%
Linthicum, MD	**Anne Arundel**	1.1%

Table 4-5: Top Ten Places of Residence for Annapolis Workers

Destination	County	Percent
Annapolis, MD	**Anne Arundel**	11.2%
Baltimore, MD	Baltimore	5.1%
Arnold, MD	**Anne Arundel**	3.8%
Parole, MD	**Anne Arundel**	3.1%
Annapolis Neck, MD	**Anne Arundel**	3.0%
Glen Burnie, MD	**Anne Arundel**	2.8%
Severna Park, MD	**Anne Arundel**	2.8%
Severn, MD	**Anne Arundel**	1.7%
Crofton, MD	**Anne Arundel**	1.7%
Odenton, MD	**Anne Arundel**	1.6%

[3] Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics, 2021.

Chapter 5
Service and Organizational Alternatives

Introduction

This chapter presents service and organizational alternatives to improve and expand public transportation services in the City of Annapolis. These alternatives were initially developed based on a review of current services, the analysis of current and future demographics, and a needs assessment, then updated based on input from the Annapolis Department of Transportation and the TDP Public Advisory Committee for inclusion in the plan.

The alternatives discussed in this chapter include a summary of each proposal, and as appropriate the potential advantages, disadvantages, and estimates of costs and ridership. They focus on:

- Possible transition to a reimagined hybrid system that would involve streamlining current fixed routes, along with an increased use of on-demand microtransit services to fill gaps in service areas and provide first-mile/last-mile connections with current and future routes.
- Expanded morning, evening, and weekend services.
- Potential regional routes and connections.
- Consideration of fare-free services.
- Possible rebranding campaign for Annapolis Transit.
- Improved coordination with Anne Arundel County to better fill in gaps in service area or potential overlaps in service.

It should be noted that proposed alternatives will need further analysis and more detailed service planning in the future before implementation to respond to changing conditions in the City of Annapolis and with transit services in Maryland.

Potential Service Alternatives

Restructuring of the Fixed-Route Network

This alternative is a component of the transition to a hybrid system and focuses on streamlining the current Brown, Green, and Red Routes so that all routes provide more direct services across the Annapolis Transit service area. Currently these routes serve areas off of major thoroughfares that could be served by on-demand services instead (discussed in the next alternative). The goals of the restructuring of the fixed-route network are to:

1. Streamline route alignments to reduce travel times and improve on-time performance
2. Reduce transfers
3. Reduce overlapping alignments of routes
4. Expand access for more Annapolis residents to employment locations and other key destinations

Green-Brown Routes Alternative

Together, the Green and Brown routes form a route that connects most of the major trip generators in the Annapolis area. The primary downsides to their current alignments include:

- Riders must transfer from the Brown to the Green route, or vice versa, if they want to travel across the city (e.g., Safeway to Downtown, southern Annapolis to Annapolis Library).

- The Brown route's deviations off Forest Drive to serve specific high-density housing developments decrease the route's directness for any rider not benefiting from the deviation. Such deviations are best served by either deviated fixed-route service or on-demand microtransit. The expansion of Go! Time (discussed later in the technical memorandum) would render the current route deviations redundant.

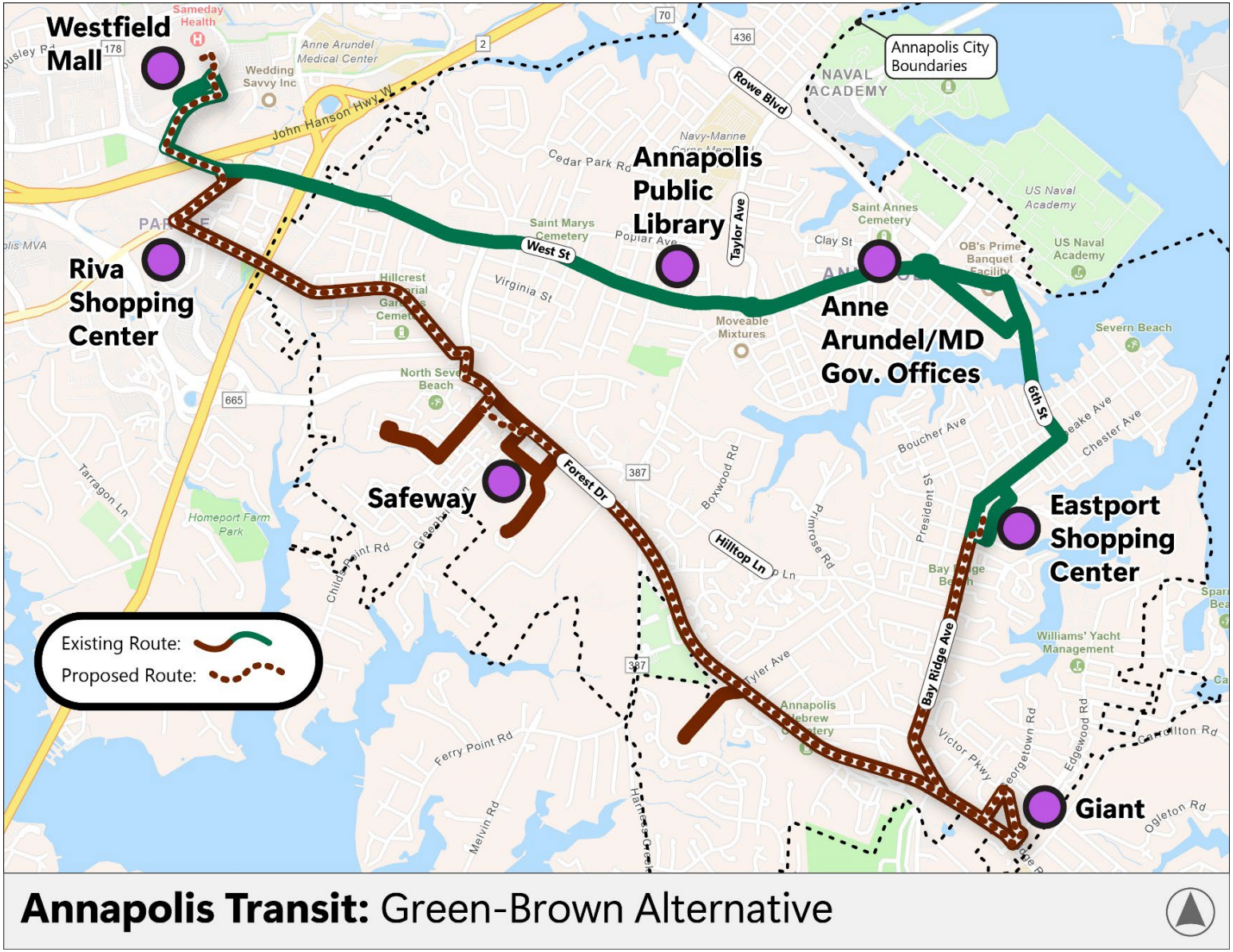
Figure 4-1 shows the proposed alternative alignment for the Green and Brown routes. The changes to the routes are:

- All three deviations on the Brown route off Forest Drive are eliminated.

- The Green and Brown routes would be interlined, through which they would meet at designated transfer points (Westfield Mall and Eastport Shopping Center) at the same time and then become the other route. This reduces the need for transfers. On-demand microtransit buses can also meet at the transfer point.

  The Green and Brown route names would be kept in order to maintain familiarity for riders, but in effect, a bidirectional loop would be created. For instance, a counterclockwise bus would be labeled "Brown" traveling from Westfield Mall to Eastport Shopping Center then switch to "Green" as it travels through downtown Annapolis to Westfield Mall. Riders could remain on the same bus with no need to transfer or pay a transfer fare. The major benefit of this through-running for riders would be to eliminate transfers for riders going from the Green to the Brown route or vice-versa. Transfers are friction points for riders, so eliminating them would likely increase ridership.

Figure 4-1: Green-Brown Routes – Alternative



Red Route Alternative

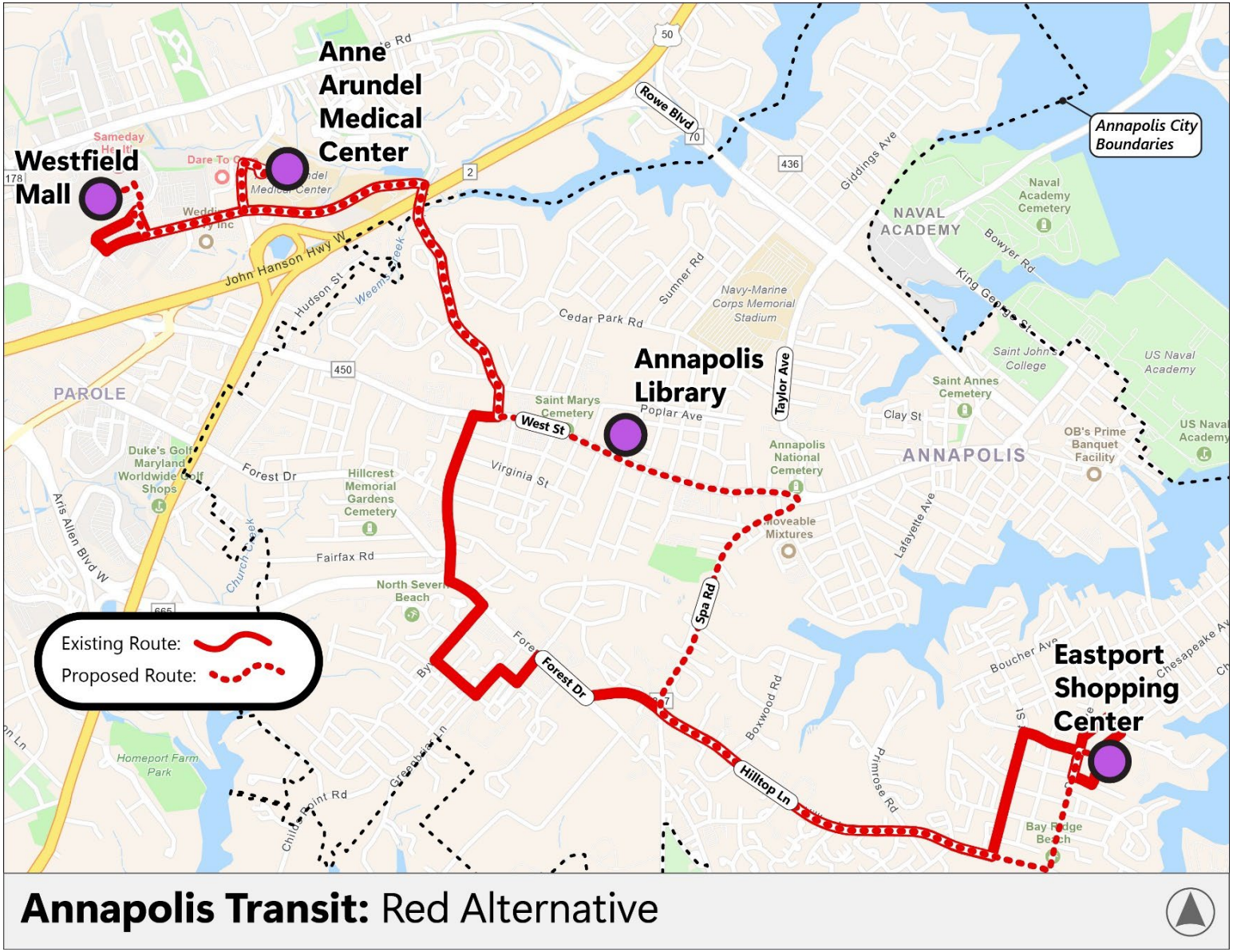
Of the three current fixed routes, the Red route is the lowest performing one—providing 4.73 passenger trips per hour and 0.39 passenger trips per mile based on FY2024 operating data. Two factors which could influence this poor performance include the high number of turns along the ride, which limit directness and speed, and the redundancy of the route compared to the Brown route. As was discussed in *Technical Memorandum #2B*, the highest boarding counts along the route are at Westfield Mall, Anne Arundel Medical Center, Safeway, along Hilltop Lane, and at the Eastport Shopping Center. Except for the Anne Arundel Medical Center and Hilltop Lane, all of these destinations can be reached via the Brown route.

The proposed updated alignment for the Red route is shown in **Figure 4-2**. Such alignment would address these factors by maintaining the current endpoints for connectivity with the other fixed routes and alignments along Hilltop Lane and Admiral Drive to serve the housing developments there, while redirecting the rest of the route to run along West Street and Spa Road. This new alignment would have two advantages:

- Provide north-south connectivity between West Street and Forest Drive, allowing for new connections with the State Shuttle at Navy-Marine Corps Memorial Stadium and the Green route and Downtown Circulator/Magenta Shuttle at Westgate Circle.

- Increase bus speeds and improve on-time performance by choosing an alignment with fewer turns.

Figure 4-2: Red Route Alternative



Proposed Blue Route Alternative

A proposed new Blue route takes into account strong support from the TDP Public Advisory Committee as one that would serve key destinations along Riva Road, and provide a connection between Eastport Shopping Center and Annapolis High School. The route would follow the alignment of the Red route from the shopping center along Hilltop Lane and then follow the alignment of the Brown route along Forest Drive, before turning left on Riva Road where multiple trip generators are clustered around the high school.

The exact alignment of the Blue route along Riva Road is undetermined, pending further analysis of the trade-off between saving time and serving all trip generators in the area. Currently, the only fixed-route service in this area is provided by Anne Arundel County Transit's "207 - Parole Route" (formerly, the Yellow Route). This proposal would improve connectivity to Annapolis in an area frequently noted during the community outreach process, and would help to fulfill Community Facilities Goal CF7 from the Annapolis 2040 Comprehensive Plan:

> *Expand Annapolis Transit service in coordination with Anne Arundel County Transit to provide access to Annapolis High School and adjacent public facilities along Riva Road including Arundel Olympic Swim Center, Anne Arundel County Offices, The Anne Arundel County Farmers Market, and the MTA Park & Ride.*

Ideally, the Blue and Red routes would be interlined similar to the Brown and Green routes, though additional service planning would be needed when implementing the proposed Blue route to ensure this arrangement would work.

The proposed Blue route is shown below in **Figure 4-3**.

Full Alternative Fixed-Route Network

The potential fixed-route network incorporating the proposed changes to the current routes and the addition of the Blue Route is presented in **Figure 4-4**. The modifications to the existing routes would improve bus speeds and allow for greater connectivity across Annapolis, and the introduction of the Blue Route would expand access to a currently underserved part of the Annapolis area, while also increasing frequency along Forest Drive and Hilltop Lane.

ure 4-3: Blue Route Alternative

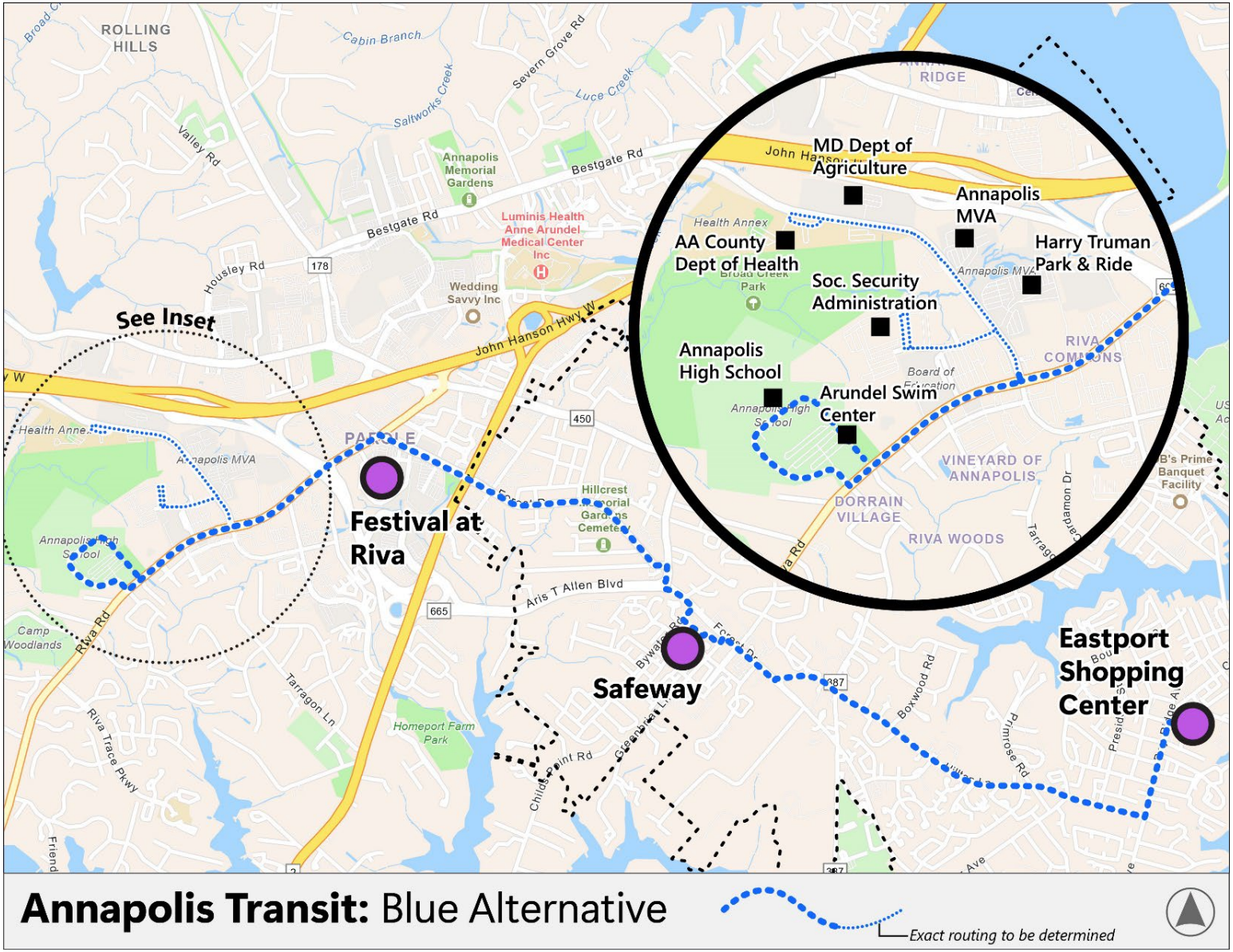


Figure 4-4: Full Alternative Fixed-Route System

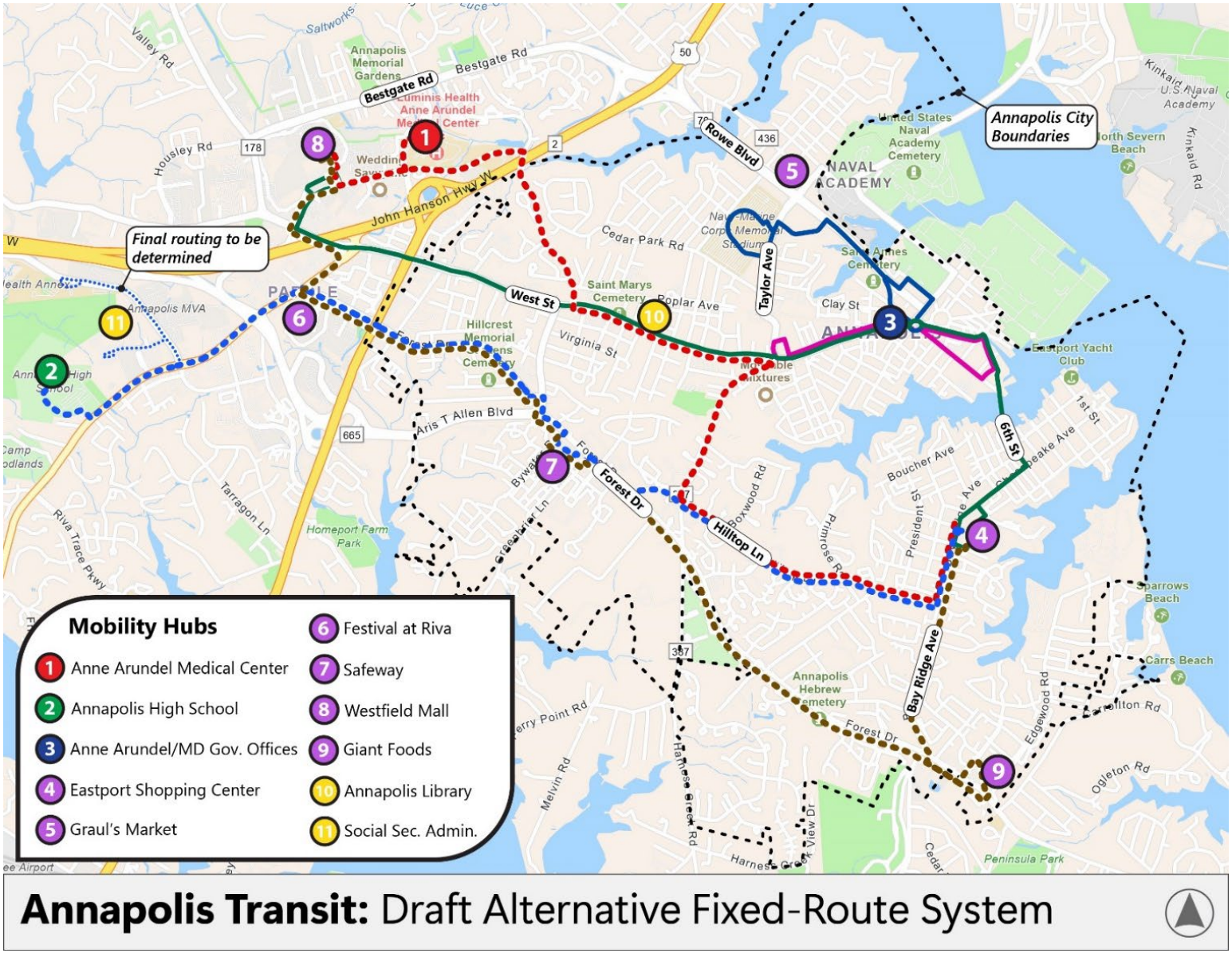


Table 4-1 shows the estimated one-way mileage and travel times of the proposed alternatives compared to that of the existing routes. The alternative route estimated times are calculated by dividing the length of the alternative route by the FY2024 Miles per Revenue Hour (MPH) of the existing route. These are likely to be overly conservative estimates because the current scheduled times are 5-10 minutes shorter than expected if one compares the route mileage to the route MPH, and because the alternative routes are designed to spend more time on arterial roads and make fewer turns. As shown, the Blue route as proposed will need additional service planning so that the headway is similar to the existing routes, and therefore the potential alignment will be discussed with Annapolis Transit and the TDP Public Advisory Committee before inclusion in the draft plan.

Table 4-1: Fixed-Route Alternatives Performance Estimates

	Green	Brown	Red	*Blue*
Existing Route Mileage	5.0	9.6	5.8	N/A
FY24 Revenue Miles per Revenue Hour (MPH)	10	13	12	N/A
Existing Route Est. Time (One-way Mileage/MPH)	30	44	29	N/A
Scheduled Time (Min.)	23	36	25	N/A
# of Vehicles Required for 30 Min. Headways	2	3	2	N/A
Alternative Route Mileage	**5.0**	**7.0**	**5.7**	**6-8**
Alternative Route Est. Time (Min.)	**30**	**32**	**29**	**25-45**

The potential impacts of the proposed restructuring of the current fixed-route network, including possible advantages and disadvantages, are discussed in **Table 4-2**.

Table 4-2: Potential Impacts of Restructuring Fixed-Route Network

Advantages	Disadvantages
• Provides more direct connections between several key destinations in the city. • Expands mobility options, particularly for employment, educational, and medical trips. • Provides more efficient network using similar resources. • Expands fixed-route network to an area not currently served by Annapolis Transit.	• Addition of the proposed Blue Route would increase annual operating expenses. • Addition of the Blue Route would also require additional vehicles and drivers to implement new service. • Would require a marketing campaign to explain updated network to current customers and the broader Annapolis community.
Cost Estimates	**Ridership Impacts**
• While the proposed restructuring of the Brown, Green, and Red Routes is designed to remain within current service hours, there would be costs related to the marketing campaign that would be needed to educate customers and the community on the proposed changes. • Based on FY2024 fixed-route data, implementing the proposed Blue Route would result in approximately 7,600 annual service hours. Based on the average of FY2024 hourly operating expenses for the Brown, Green, and Red Routes, estimated annual operating expenses would be $880,764.	• It is anticipated that the restructured system with more direct service would provide Annapolis residents with more direct cross-city service, and therefore increase ridership. However, the expansion of microtransit services (discussed in the next alternative) may reduce demand on the fixed routes.

Expanded Microtransit Services

As on-demand ride-hailing apps like Uber and Lyft have become a common mobility option over the past decade, demand has risen for public transit services that utilize mobile technology to provide on-demand transportation services. In the past few years, microtransit services have emerged across the country, and many transit systems have implemented these services or are exploring the potential for mobility on-demand options for the communities they serve.

Currently, Annapolis Transit has a microtransit pilot program with two zones, known as Go! Time. This alternative proposes an expansion of these services to encompass the entire Annapolis Transit service

area. Defined zones with expanded on-demand service would improve and expand mobility options for Annapolis residents, workers, and visitors.

Microtransit Implementation and Operational Considerations

While Annapolis Transit is gaining invaluable experience through the current microtransit pilot program, there are a variety of lessons learned from other communities that can be taken into account when considering expansion of the microtransit service. The four main factors considered for the proposed expansion of the current microtransit pilot project are discussed below.

- **Right sizing the service zone** - A microtransit service needs a clear, well-reasoned geographic area to operate within. If a service area is too large, on-time performance will suffer and the cost per trip will likely increase. Due to the variety of socioeconomic, infrastructural, and operational factors that influence microtransit service efficiency, there is no ideal size for a geo-fenced zone. Some service areas are less than a square mile while others are over 25 square miles. Establishing on-time performance standards and operating data from microtransit projects can be used to refine both service area size and vehicle deployment.

- **Assessing potential factors** – Factors that were taken into consideration when determining potential microtransit zones include population density, major destinations, intersection density, zero vehicle households, below poverty populations, teens and young adults, older adults, and individuals with disabilities.

- **Identifying Mobility Hubs** – Locations should be identified that can serve as both major trip destinations for riders and as dwell locations for the vehicles when they are waiting for their next trip. It is important to ensure that each microtransit zone contains multiple Mobility Hubs distributed throughout the zone to encourage efficient operation.

- **Discouraging competition between fixed routes and microtransit** – Microtransit service is more convenient for the rider but is more costly for a transit agency to provide on a per-rider basis than fixed-route service. Thus, it is in the interest of the transit provider to encourage riders to use fixed-route service in areas where both service types exist. Fixed-route and microtransit service coexist best when the former is used for longer trunk service across a region while the latter serves as a first-mile/last-mile connection and supports short, local trips. Microtransit zone design, service restrictions, and innovative fare policies can be utilized by transit agencies to prevent direct competition between fixed-route and microtransit service.

Proposed Expanded Go! Time Service

After factoring in the considerations discussed above and based on input from Annapolis Transit staff who are monitoring the microtransit pilot program and feedback from the TDP Public Advisory Committee, it is proposed that an expanded Go! Time service would utilize three microtransit zones that incorporate and go beyond the current Annapolis Transit service area. Riders would be able to schedule point-to-point trips within each zone, but would have to transfer to fixed-route service or schedule a new Go! Time trip in order to travel outside of the zone. An overview of the three zones and their demographic characteristics are presented in **Table 4-3** and **Figure 4-5**. More detailed maps of each zone can be found in **Appendix A**.

The proposed expanded service was designed intentionally so that microtransit zones are oriented from SW to NE. This orientation contrasts with the fixed-route network, which is primarily oriented from SE to NW, ensuring that most fixed-route services cannot be directly replicated by microtransit service.

Overview of Each Zone

- **Zone 1:** Covers southern Annapolis, including Eastport, Bay Ridge Avenue, Robinwood, and Hillsmoere, an area with high population density, but minimal jobs compared to the other zones. The main Mobility Hubs within this zone are Giant Foods and the Eastport Shopping Center. The latter is of particular importance because it serves as the current endpoint of all three major fixed routes, providing a convenient transfer location for first-mile/last-mile Go! Time trips.

- **Zone 2:** Encompasses West Annapolis, Downtown Annapolis, Bywater, and Spa Road, including the historic downtown, the state and county government offices, Annapolis public library, the Annapolis Marketplace shopping center, anchored by Safeway, and West Annapolis. Zone 2 has the greatest connectivity to other transit options, allowing riders to make direct connections to all other fixed routes. It is also the only zone with greater than 10,000 residents and jobs, which suggests it should generate the highest activity of any zone.

- **Zone 3:** Primarily extends beyond the boundaries of Annapolis to provide connectivity between Annapolis High School area and Bestgate Road, with notable destinations including the Westfield Mall, Anne Arundel Medical Center, and the Festival at Riva Shopping Center. This zone contains the highest concentration of jobs with over 18,000, but the lowest concentration of residents, suggesting that activity in the zone may be focused on first-mile/last-mile connections to fixed-route service rather than local trips originating at a rider's home.

Figure 4-5: Full Proposed On-Demand Microtransit System

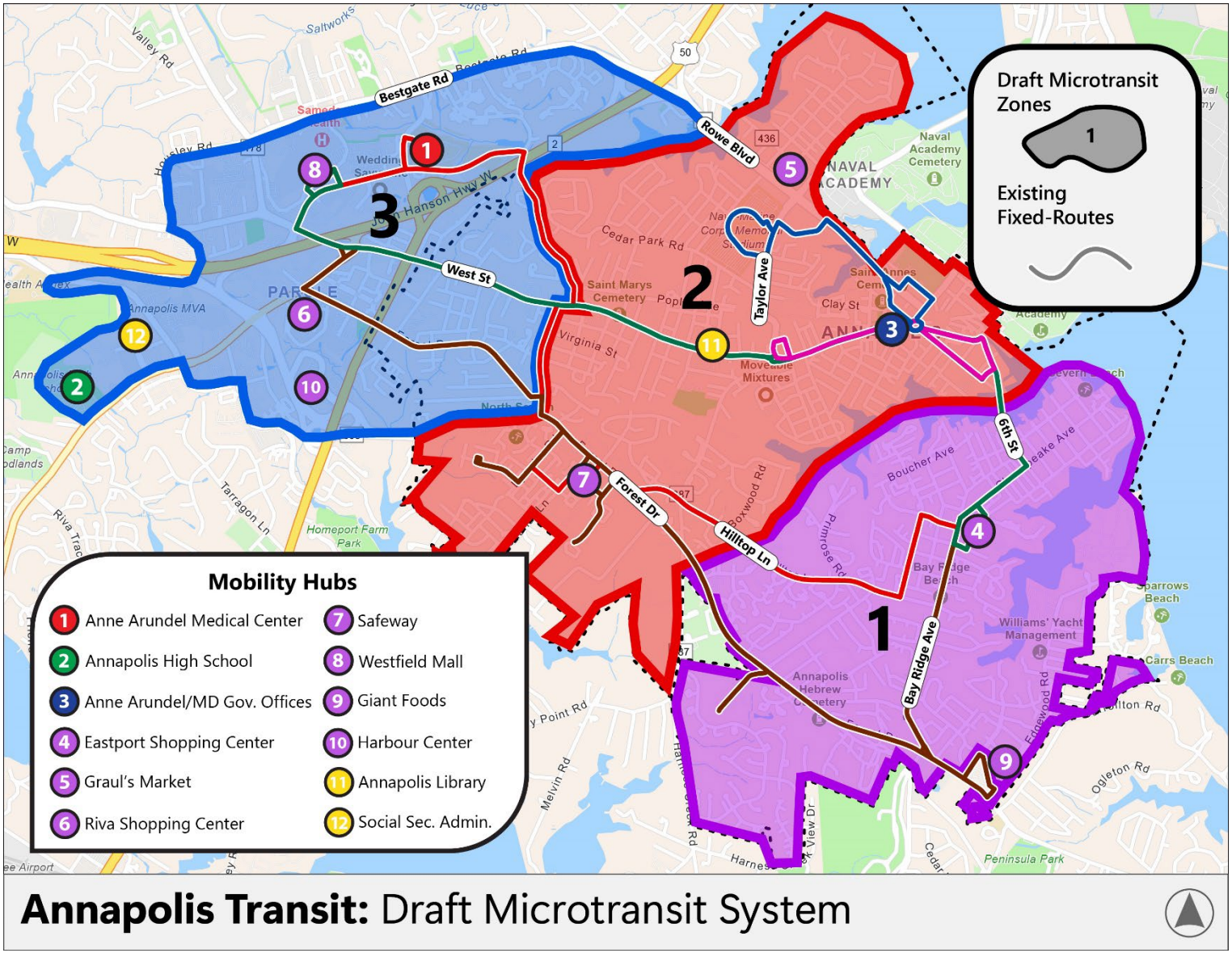


Table 4-3: Demographics and Characteristics of Each Proposed Microtransit Zone

Demographic Profile ● Within Each Microtransit Zone

	Zone 1		*Zone 2*		*Zone 3*	
Square Miles	3.2		3.9		3.1	
Total Population	17,300		16,700		8,400	
Total Jobs	4,400		18,100		18,500	
Below Poverty Population	2,200	13%	1,700	10%	400	4%
Minority Population	8,000	46%	6,500	39%	3,200	43%
Autoless Households	500	6%	600	9%	200	5%
Older Adult Population	3,800	22%	3,100	18%	1,400	17%

SOURCE: AMERICAN COMMUNITY SURVEY 2022 5-YEAR TABLES

Table 4-4 presents estimates for the performance of the proposed microtransit on-demand system. To calculate these estimates, it was assumed that the operating cost per revenue hour of the current Go! Time system would remain constant for the proposed microtransit system. Based on the size and characteristics of each zone, it is projected that Zone 1 will require two vehicles, Zone 2 will require three vehicles, and Zone 3 will require one vehicle to maintain an average wait time of around 15 minutes. This results in a net increase of two vehicles that Annapolis Transit would need to supply to cover all four zones.

While detailed analysis of existing Go! Time ride patterns would be required to make more accurate productivity projections, overall, productivity for the draft system is projected to be lower than that of the current Go! Time system. This decrease stems from the assumption that shrinking the size of the current microtransit zones and intentionally orienting them to limit competition with the fixed-route network will decrease demand for microtransit. It will likely take time for riders' habits to shift from viewing Go! Time as a curb-to-curb, one-seat ride service analogous to Uber or Lyft to a convenient first-mile/last-time service for local trips and connections to the fixed-route network. Thus, as riders gain familiarity with the system, productivity may increase over time. Finally, it should be noted that lower Go! Time productivity should not be perceived as a failure if fixed-route and overall productivity increases as a result of straightened route alignments and increased transit access provided by microtransit expansion.

Table 4-4: Projected Draft Microtransit Performance Estimates

	Existing Go! Time Zones	Alt. Zone 1	Alt. Zone 2	Alt. Zone 3	Total Proposed System
Productivity	3.2	2.5	3	2	2.7
Est. Annual Ridership	25,000	10,000	18,000	4,000	32,000
Est. Annual Service Hours	8,000	4,000	6,000	2,000	12,000
Est. Annual Operating Cost	$816,000	$408,000	$612,000	$204,000	$1,224,000
Cost per Rev. Hour	$102	$102	$102	$102	$102
Avg. Wait (Min)	15	15	15	15-30	15-30
# of Vehicles	4	2	3	1	6
Service Area (Sq Mi)	5.7	3.2	3.9	3.1	10.2

The potential impact of this alternative, including potential advantages and disadvantages, is presented in **Table 4-5**.

Table 4-5: Impacts of Expanded Microtransit Services

Advantages	Disadvantages
• Helps to expand the efficiency of transit services, and in conjunction with streamlined fixed routes, would help eliminate the need for long service routes. • Responds to a top improvement requested through the community survey, for service near the respondents' home. • Responds to need for first-mile/last-mile connections to existing routes. • Supports feedback from stakeholders who expressed interest in exploring the potential expanded use of microtransit services in Annapolis. • Increases visibility of Annapolis Transit within the city by attracting new riders – particularly tourists or young adults – who do not typically use transit but are familiar with ride hail apps. • Detailed microtransit origin-destination data can help assess where new or expanded fixed-route service is viable.	• May compete with fixed-route service, increasing Annapolis Transit's overall cost per rider. • Increases annual operating expenses to expand microtransit services. • Limits riders to destinations within a zone when fixed routes are not operating.
Cost Estimates	**Ridership Impacts**
• As shown in Table 4-4, it is anticipated that the expansion of microtransit service would increase estimated annual operating expenses by $408,000.	• As shown in Table 4-4, it is estimated that the implementation of the four zones would result in an additional 7,000 annual passenger trips.

Proposed Restructured Fixed-Route System / Expanded Microtransit Services: Consideration of Trade-Off Between Frequency and Coverage

When expanding transit service and adding vehicles to the system, it is important to consider the trade-off between improving service frequency and improving service area coverage. Focusing too much on the former will neglect potential riders who do not live in the vicinity of the high-frequency routes. Focusing too much on the latter will result in circuitous or redundant routes and reduce the productivity of the system.

In the case of Annapolis Transit, the introduction of expanded Go! Time microtransit service would provide exceptional service area coverage by giving every resident of the Annapolis Transit service area direct connection to local destinations and to Annapolis Transit, Anne Arundel Transit, and MTA fixed-route service. Adding the proposed Blue Route would primarily serve to further increase coverage within the service area by directly connecting high-density housing in Annapolis with the many trip generators around Annapolis High School. This route would serve an important purpose, but at the cost of three additional vehicles (assuming 30-minute headways are maintained) and some redundancy due to existing Anne Arundel County Transit service in the area.

Instead of the proposed Blue route expansion, an alternative use of those three vehicles would be to operate one on each of the Green, Brown, and Red routes to reduce headways from 30 minutes to 20 minutes. Doing so would reduce wait times and likely increase ridership. Furthermore, improving existing bus frequencies to attract choice riders to the system would be a worthwhile prerequisite. Demonstrating that transit demand exists for high-frequency bus service may help convince transit-skeptical residents that the city could support further transit expansions.

Expanded Morning/Evening/Weekend Services

Through the customer surveys, current riders expressed their top choices for possible service improvements. These included earlier morning, later evening, expanded Saturday service, and new Sunday service. The proposed expanded microtransit service could serve as the basis for efforts to meet this request by continuing to provide mobility throughout the service area, albeit at a more limited level compared to operation of the full fixed-route network. However, extending the fixed-route system to operate beyond current hours will allow for greater mobility for residents and riders. The potential impact of this alternative, including potential advantages and disadvantages, is presented in **Table 4-6.**

Table 4-6: Impacts of Expanded Morning, Evening, and Weekend Services

Advantages	Disadvantages
• Expands mobility options, particularly for employment, educational, and medical trips by expanding the service hours. • Responds to a top improvement requested through the customer survey, for expanded service hours in the morning, evening, and weekends. • Increased accessibility for riders with diverse schedules. • Improved convenience for late-night workers or students. • Utilizes vehicles in existing fleet.	• Addition of hours would increase annual operating expenses. • Addition of hours would also require expansion of driver hours and shifts. • Additional mileage on current buses would accelerate the vehicle replacement schedule.
Cost Estimates	**Ridership Impacts**
• The cost to implement expanded morning, evening, and weekend service would be dependent upon the type of service (fixed-route, on-demand, or combination of the two) and level of service hours. Based on input from Annapolis Transit and the TDP Public Advisory Committee, additional details will be included in the draft plan. • Vehicles in the current fleet will be used, so no immediate additional capital costs would be incurred. However, the vehicle replacement schedule would accelerate and would need to be considered when planning capital improvements.	• Similar to cost estimates, ridership projections will be dependent upon the type of service ultimately implemented.

Regional Routes / Connections

In addition to the proposed new and modified services for Annapolis Transit, the following potential regional services that impact the city were identified through the planning process, as well as through the recent TDP for Anne Arundel County. These potential services would involve routes that cross jurisdictional boundaries, potentially operated by another transit provider such as Anne Arundel County Transit, Regional Transportation Agency of Central Maryland (RTA), or MDOT MTA Commuter Bus. Based on input from Annapolis Transit and the TDP Public Advisory Committee, additional details will be included in the draft TDP.

Annapolis – Arundel Mills/BWI Airport

This route would provide a connection between key areas in Anne Arundel County and expand mobility options for access to major employment and shopping locations. The route could also provide a link between the different public transit providers operating services in the County, with potential stops that connect Annapolis Transit with Anne Arundel County Transit, MDOT MTA, and RTA routes.

I-97 Express Bus between Cromwell Light Rail Station and Parole Transit Center

Anne Arundel County's FY2023 list of priorities for the FY2023-28 Consolidated Transportation Program (CTP) included express bus service using I-97 from the Cromwell Light Rail Station to Parole Transit Center. The County noted that this service would close the transit gap between Annapolis and the end of the current light rail spur, and that the concept is supported by the Central Maryland Regional Transit Plan. The route would help to alleviate congestion along a corridor that is one of the most congested areas in Anne Arundel County. Information on this potential service will be updated based upon any additional MDOT MTA Commuter Bus analysis on this option.

MD 32 Express Bus between Columbia and Annapolis/Parole

The MD 32 Enhanced Bus Feasibility Study completed in October 2021 discusses several alignment alternatives for express bus service between Columbia and Annapolis/Parole, broken out into the following four segments:

- Segment 1: Columbia to US 1
- Segment 2: US 1 to Odenton
- Segment 3: Odenton to MD 3
- Segment 4: MD 3 to Annapolis/Parole

Parole – New Carrollton Express

One of the regional corridors identified in the Central Maryland Regional Transit Plan was between Annapolis and the New Carrollton Metro Station in Prince George's County. This corridor was previously served by an MTA Commuter Bus service, and then by a private operator (Young's Transportation) without any public transit funding. MTA provides service in this corridor that connects Parole with downtown Washington without stopping at New Carrollton Metro, but there has been continuing rider demand for the connection to New Carrollton. Loss of ridership during the COVID pandemic made it impossible for the private firm to continue service, and it has not restarted. It is anticipated that any new service would originate at the Parole Transit Center, with a stop at the Harry S. Truman Park & Ride lot as well.

Potential Organizational Alternatives

Consideration of Fare-Free Services

As a result of COVID-19, some transit systems in Maryland and across the country went fare-free and decided to continue this policy after the pandemic. For instance, transit services in Anne Arundel, Charles, and Frederick Counties that previously charged a fare are now fare-free.

In December 2021, the Annapolis Transportation Board (ATB), which is an advisory body to the City of Annapolis, authored a white paper that examined transit services operated by the Annapolis Department of Transportation to examine a fare-free transit option in Annapolis. The paper recommended that the City create and implement a plan for a fare-free transit model. However, a variety of questions remained on how fare-free services would be implemented and how farebox revenues would be replaced to maintain current services. While an in-depth fare analysis is beyond the scope of the TDP, the following section summarizes the considerations related to the transition to a fare-free system.

Advantages to Fare-Free System

Overall, there are benefits to moving to a fare-free system, such as increasing potential efficiency on a route due to lack of collecting fares. Utilizing a fare-free system has the ability to decrease dwell times because it removes the need for riders to produce exact change and the need for drivers to handle cash fares. Decreasing the dwell time can lead to higher efficiency, as it allows buses to move more quickly and with more reliability.

Although Annapolis Transit does not have high costs associated with collecting fares, the removal of fares can also eliminate those costs that would be associated with collecting and handling fares. Along with removing that cost, moving towards a fare-free system would decrease the need for maintenance on the fareboxes, since they would not be used and would not need to be replaced in the future.

Currently, Anne Arundel County Transit's system is fare-free. Therefore, removing the fares from Annapolis Transit would allow for less confusion when transferring between the two transit systems. Currently, a passenger transferring from an Anne Arundel bus route to an Annapolis Transit bus route would need to pay a fare. However, when transferring from Annapolis Transit to Anne Arundel County Transit, no fare would need to be paid.

Finally, removal of a fare would potentially increase ridership as it could entice more riders who did not want or could not pay the previous fare price. According to research, it is believed that much of the new ridership comes from those who were already using the system or those who would have walked[1]. Therefore, it is hard to tell if removing a fare would entice choice riders to utilize the system, especially if the fare was not already a barrier to use for them.

[1] New York Times. "Should Public Transit Be Free?" 2020.

Disadvantages to Fare-Free System

Although moving to a fare-free system has potential benefits, there are multiple factors that could negatively affect Annapolis Transit. One of the major negative factors would be the financial repercussions for the City of Annapolis having to cover the loss of all fare revenues. Although fare revenues do not account for a large percentage of the overall revenue stream, the loss would need to be replaced by other sources of revenue. In 2024, the percentage of fare revenues only accounted for eight percent. With the loss of fares, the system would also lose all organization-paid fares such as fare revenue from state employees through an agreement with the Department of General Services (DGS), another loss that would need to be replaced with other funding sources. The fares paid for the state employees through the agreement with DGS are not paid through a grant, meaning the loss of fares would remove the monetary compensation and hence no need for an agreement.

Fare-free services have the ability to create a more equitable system since it removes a potential monetary barrier. However, removing that barrier does not move a system closer to those who live far from bus stops or the system itself. Therefore, removing the fare does not fully allow for an increase in ridership with new riders not previously able to reach the system.

Although removing fares from a transit system has many benefits, it also can cause an equity issue because it does not alter the accessibility of the services for those who do not live within walking distance of the bus stops. Removing the fares does not move the system closer to those who live far from the current fixed-route system and are unable to use the service even if it is free.

Fixed-Route vs. Microtransit Fare Policy

If full fare-free transit is not a consideration due to the downsides presented above, Annapolis Transit could also consider expanding the microtransit system. An alternative to fare-free transit system is to use creative fare policies to increase ridership while not fully abandoning farebox revenue. The primary recommendation is to **set higher fares for Go! Time than for the fixed-route system**. This could mean making the fixed routes fare free, while maintaining the current fare of Go! Time or adjusting the fares of each service to create an incentive towards fixed routes (e.g., $1 fixed-route fare / $3 Go! Time fare). The goal of this policy would be to encourage riders to use fixed-route service whenever possible, reflecting the reality that microtransit service is significantly more expensive to provide on a per-rider basis.

Consideration of a Rebranding Campaign

The most valuable form of advertising and building awareness of public transit services for any system is its vehicles. Annapolis Transit buses are all over the service area and are seen by residents of the city on a regular basis. Annapolis Transit is similar to many transit systems, in that they use plain white buses that have an institutional look to them and are rarely noticed by the public.

Through the community survey conducted, 30 percent of respondents, when asked about the awareness and impression of Annapolis Transit, stated that they were unaware of the system.

Through a rebranding campaign, Annapolis Transit has the opportunity to develop a new image—one that reinforces the system as a critical part of the community infrastructure and builds upon marketing of the new Go Time! Services. This branding and marketing effort should be treated as a business decision, designed to help promote the system and ultimately encourage and increase ridership and service. It can involve applying a new brand to the system, with a new name and paint scheme. In addition, there can be branding for different types of services, e.g., a different paint scheme for fixed-route buses and those used for on-demand services.

The following are several steps that can be considered in the branding campaign:

- **System name and nickname** – This is the starting point, and all branding and marketing efforts will start with the name that people will use. For example, District Three Public Transportation in rural southwest Virginia recently began operating as Mountain Lynx Transit. As noted in the pictures below, this system went through a full rebranding, going from plain a white bus to a dynamic paint scheme and logo that is much more recognizable in the community.

  - North Central Regional Transit District in New Mexico is known by residents as "The Blue Bus," based on a more appealing paint scheme that was part of a rebranding campaign.
  - Hill Country Transit in Texas is called "The Hop," and York County Transportation Authority in Pennsylvania goes by Rabbit Transit.
  - Overall, the system name/nickname should:
    - Be recognizable
    - Identify with the area if possible
    - Be catchy
    - Avoid acronyms in most cases

- **Vehicle colors and paint scheme** – This requires something eye catching that will be noticed and can instill pride. Is there a local color that symbolizes the area? The color of the bus matters, and as noted earlier it is best to avoid the institutional white paint scheme. The Country Bus operated by a transit system in Texas is pictured to the right and depicts a bus that is easily recognizable and fits within the region's landscape.

- **Logo** – The system should have a logo that conveys the image expressed in the branding effort. It should be professionally designed, yet relatively simple for the system to reproduce and put on vehicles.

Marketing

Previously, Annapolis Transit had a Marketing Specialist who was in charge of creating marketing material and overall marketing to the general public. As there was a small percentage of the general public in the survey process who stated that they are unaware of current public transportation services, it would be beneficial to hire a Marketing Specialist. In order to do so, there needs to be a separate budget for marketing, both for the position and for marketing campaigns and materials. This will allow for more targeted marketing strategies moving forward.

Improved Coordination with Anne Arundel County

As noted in the review of existing services documented in *Technical Memorandum #2B*, the Annapolis Transit service area goes beyond the city boundaries and extends into Anne Arundel County. Through outreach efforts and the needs assessment, stakeholders expressed the need for City of Annapolis residents to access locations in Anne Arundel County, outside of the city, using public transportation.

Currently, there is a Transit Consolidation Study, which will be added to this technical memorandum once the final document becomes available.

The Anne Arundel County Transportation TDP was completed prior to the Annapolis Transit TDP, which did have recommendations that would affect the Annapolis area. One recommendation included a proposed fixed-route from Annapolis, at the Annapolis Mall, to BWI Airport, which would allow greater connectivity between the systems. The first proposed route would also create a connection with Cromwell Light Rail Station and Arundel Mills.

The Anne Arundel TDP also proposed some regional routes that would affect the Annapolis area. Another recommendation that was included on the TDP originally came from the list of priorities for the FY2023-28 Consolidated Transportation Program (CTP). This recommendation included an express bus that uses I-97 from the Cromwell Light Rail Station to the Parole Transit Center, which was intended to close a transit gap between Annapolis and the current end of the light rail spur. The second regional route that was proposed was the MD 32 Enhanced Bus Feasibility Study completed in October 2021, which discussed several alignment alternatives, including one from New Carrollton Metro Station and the Annapolis/Parole area. It is anticipated that any new service would originate at the Parole Transit Center with a stop at the Harry S. Truman Park & Ride lot. The Anne Arundel TDP also suggested expanded microtransit/on-demand services, with a microtransit zone that would encompass the City of Annapolis and the Parole area.

While Annapolis Transit and the Anne Arundel County Office of Transportation have a working relationship, they do not have a regular or ongoing forum for meeting to discuss coordination efforts and possible opportunities to improve and expand connections between the two transit systems. Therefore, it would be beneficial to both systems to have a regular meeting to enhance the connectivity of the two transit systems.

Chapter 6
Transit Plan

Introduction

This chapter is the culmination of the TDP process, providing a plan to guide transit services for the residents of the City of Annapolis over the next five years. This plan was derived through an evaluation of existing services (Chapter 2), a needs assessment that included an analysis of rider and community input (Chapter 3), a comprehensive demographic review (Chapter 4), and input on the variety of alternatives (Chapter 5).

The costs shown in this chapter are based on projected operating and capital costs provided by Annapolis Transit. Depending on the timing and implementation choices, costs may differ due to inflation or variable market costs. All proposed services are conceptual and will require additional operational planning and community outreach before implementation. It should also be noted that actual implementation will vary based on the availability of funding and other changing conditions:

The conceptual plan is divided into the following sections:

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

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

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

Service Plan

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

The proposed service plan will be updated based on input from City of Annapolis staff on the potential phasing of the service improvements. Proposed operating hours, annual operating costs, and capital implications for each potential service improvement will also be updated based on their input.

Short-Term Improvements (Years 1-2)

Restructure the Fixed-Route Network

As discussed in Chapter 5, the transition to a hybrid system would involve streamlining the current Brown, Green, and Red Routes so that all routes provide more direct services across the Annapolis Transit service area. The restructuring of these routes would involve:

- Through-running the Green and Brown routes so when these routes meet at designated transfer points, they would then become the other route, reducing the need for transfers.
- Realign the Red Route to provide north-south connectivity between West Street and Forest Drive, and to allow for new connections with other routes and shuttles.
- Eliminating Brown Route deviations off Forest Drive.

Expand Microtransit Services

As discussed in Chapter 5, based on input from Annapolis Transit staff who are monitoring the microtransit pilot program and feedback from the TDP Public Advisory Committee, the current Go! Time on-demand service would be expanded through three proposed zones:

- **Zone 1** would cover southern Annapolis, with Mobility Hubs at Giant Foods and the Eastport Shopping Center, providing convenient connections to all three current fixed routes.
- **Zone 2** would encompass the center of Annapolis, including the historic downtown area and state and county government offices, providing connections to all other fixed routes.
- **Zone 3** would extend beyond the boundaries of Annapolis to provide connectivity between Annapolis High School area and Bestgate Road, serving an area with high employment density.

Mid-Term Improvements (Years 3-4)

Proposed Blue Route Alternative

The new Blue Route is proposed as a mid-term improvement that would be implemented after the restructuring of the current routes and the expansion of the microtransit services. As discussed in the preceding chapter, this route would serve key destinations along Riva Road and provide a connection between Eastport Shopping Center and Annapolis High School. The final alignment would be determined through further analysis of the trade-off between saving time and serving all trip generators in the area. Coordination with Anne Arundel County would also be needed, as the only fixed-route service in this area is currently provided by Anne Arundel County Transit's "207 - Parole Route" (formerly, the Yellow Route). In addition—as noted in Chapter 5—the Blue and Red Routes would be interlined, though additional service planning would be needed when implementing the proposed Blue Route to ensure this arrangement would work.

Expanded Morning/Evening/Weekend Services

Through the current planning process, as well as previous TDPs, customers have expressed a need for earlier morning and later evening service, expanded Saturday service, and new Sunday service. The introduction of microtransit service provides greater flexibility in meeting these needs. However, since the service is still in its infancy, it is difficult to assess the potential use of these services or the expansion of the current fixed-route network. It is proposed that after the Go! Time service has been in operation for several years, the use of on-demand services in conjunction with the current fixed routes can be more fully assessed.

Long-Term Improvements (Year 5 and Beyond)

Chapter 5 discussed potential regional services that impact the City of Annapolis, though they are part of other regional or statewide planning efforts. Therefore, it is uncertain when these efforts will move forward, as these potential services would involve routes that cross jurisdictional boundaries and may be operated by another transit providers. The City of Annapolis will need to coordinate with MDOT MTA, Anne Arundel County, and other stakeholders in the coming years, and as a result it is anticipated that the following alternatives will be long-term improvements:

- Annapolis – Arundel Mills/BWI Airport
- I-97 Express Bus between Cromwell Light Rail Station and Parole Transit Center
- MD 32 Express Bus between Columbia and Annapolis/Parole
- Parole – New Carrollton Express

Conceptual Financial Plan for Operating

The City of Annapolis submits an annual grant application to MDOT MTA that includes operating and capital grant programs. Maryland's transit program combines available federal and state funds to provide local assistance, and the allocation to the different localities is not strictly formula driven. Therefore, any estimate for the amount of grant funding available to the City of Annapolis is somewhat speculative.

However, the TDP serves an important role in MDOT MTA's annual process of reviewing grant applications. Typically, the projects proposed in the City's annual grant application must have been identified in the TDP in order to be considered for funding.

Table 6-1 presents the conceptual financial plan for transit operations covering the TDP's five-year period. The estimated total budget for each year assumes that all service improvements occur in the year planned and the current level of service remains unchanged. As noted previously, the actual implementation will be based on several factors, primarily community input, detailed service planning, and funding availability. The projected costs reflected in Table 6-1 are conceptual, and ultimately will be determined by a multitude of factors.

In addition, a variety of assumptions were used in developing the operating cost estimates:

- For the initial year the operating costs are based on the City's FY25 budget submitted to MDOT MTA through the ATP.

- Operating costs to maintain the current level of service and to implement service expansions from year-to-year assume a five percent annual inflation rate.

- Regarding the potential funding to support the proposed services, there are a variety of unknown factors and issues. The projected funding sources are based on a similar percentage from the FY25 ATP budget. However, projected funding sources are not guaranteed and will need to be developed through consultation with MDOT MTA and local officials.

- The City of Annapolis is encouraged to continue to work with MDOT MTA annually through the ATP process to explore opportunities through current federal and state funding programs, as well as any new ones that become available over the next five years. For instance, the Federal Transit Administration (FTA) has recently developed new funding programs that support innovative mobility projects such as microtransit services. The City of Annapolis should take maximum advantage of FTA discretionary funding opportunities to compete for funds to address appropriate elements of this plan.

Table 6-1: Conceptual Financial Plan for Operating

Proposed Operating Requests	Projected Year				
	1	2	3	4	5
Proposed Future Projects					
Baseline Operating Cost with Inflation[1]	$5,179,717	$5,438,703	$5,710,638	$5,996,170	$6,295,979
Year 1					
Restructured Route Network[2]	Cost Neutral (No Additional Costs)	$0	$0	$0	$0
Year 2					
Zone 1 Microtransit		$408,000	$428,400	$449,820	$472,311
Zone 2 Microtransit		$612,000	$642,600	$674,730	$708,467
Zone 3 Microtransit		$204,000	$214,200	$224,910	$236,156
Year 3					
Blue Fixed-Route			$880,764	$924,802	$971,042
Year 4					
Expanded Service Hours [3]			To be determined based on service delivery		
Year 5					
Parole - New Carrollton Express (Possible MDOT MTA Service) [4]					$627,165
I-97 Express Bus					$632,142
Annapolis - Arundel Mills/BWI Airport					$1,651,435
MD 32 Express Bus between Columbia and Annapolis/Parole[5]			To be determined based on service delivery		
Total Proposed Operating Expenses	**$5,179,717**	**$6,662,703**	**$7,876,602**	**$8,270,432**	**$11,594,696**
Anticipated Funding Sources for Operating					
Federal/State	$2,863,825	$3,683,756	$4,354,912	$4,572,657	$6,410,617
Local	$2,315,892	$2,978,947	$3,521,691	$3,697,775	$5,184,079
Total Proposed Operating Revenues	**$5,179,717**	**$6,662,703**	**$7,876,602**	**$8,270,432**	**$11,594,696**

[1] Determined from ATP 2025 Total Expenses multiplied by inflation.
[2] Restructured current routes – cost already accounted for in the baseline cost
[3] Price will be determined on service delivery.
[4] Also in the Anne Arundel TDP; costs will be determined by service provider.
[5] Will be determined based on service delivery.

Title VI Considerations

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin. Public transportation agencies have the ability and responsibility to enhance the social and economic quality of life for people in their communities. As such, public transportation agencies must ensure that changes in services do not have a disproportionately high negative impact on those below poverty or minority populations. As a result, when implementing potential service improvements, the City of Annapolis will need to conduct a Title VI analysis to assess the impacts on the distribution of minority and below poverty populations in the proposed service area.

ADA Paratransit Considerations

The Americans with Disabilities Act (ADA) requires public transit agencies that provide fixed-route service to provide "complementary paratransit" service to people with disabilities who cannot use the fixed-route bus service because of a disability. Annapolis Transit currently provides complementary ADA paratransit service for individuals who are unable to use fixed routes, and several of the proposed new services would also fall into this category and require ADA paratransit services. There may be some geographic overlap with current routes and ADA service areas, and therefore the operating costs for expanded ADA paratransit service to meet the requirement will need to be determined though final service planning and implementation of any new routes.

Conceptual Financial Plan for Capital

The annual capital plan that the City of Annapolis submits to MDOT MTA through the ATP serves as the basis for maintaining, replacing, and expanding the capital infrastructure needed to maintain current services and to implement the operating plan of this TDP. For purposes of the TDP the focus of the capital plan is on expansion vehicles that would be needed to implement proposed future projects discussed in the previous operating plan section.

Financial Plan for Capital

Table 6-2 provides a conceptual financial plan for capital. The following assumptions were considered in developing the capital plan, and as noted there will be additional future considerations related to the vehicle replacement and expansion plans:

- The capital plan includes additional vehicles to accommodate for the potential implementation of new services discussed in the conceptual operating plan.
- The projected vehicle costs are an estimate and may be different based on the final type of vehicle procured for any service expansion.
- The projected vehicle costs for an electric vehicle would potentially require additional funding for an electric charger.
- The funding sources for vehicle capital are projected to be 80 percent federal, 10 percent state, and 10 percent local.

Table 6-2: Conceptual Financial Plan for Capital

Projected Vehicle Requests	Fiscal Year				
	1	2	3	4	5
Expansion Vehicles					
Vehicles	0	2	2	2	0
Total Projected Costs	$0	$248,000	$248,000	$248,000	$0
Projected Funding Sources					
Federal	$0	$198,400	$198,400	$198,400	$0
State	$0	$24,800	$24,800	$24,800	$0
Local	$0	$24,800	$24,800	$24,800	$0
Total Capital Project Funding	**$0**	**$248,000**	**$248,000**	**$248,000**	**$0**

Additional Capital Considerations

Vehicle Replacement

Useful life standards are developed by MDOT MTA based on the vehicle manufacturer's designated life cycle and the results of independent FTA testing. If vehicles are allowed to exceed their useful life, they may become much more susceptible to breakdowns which may result in increased operating costs and a decrease in service reliability. MDOT MTA vehicle useful life policy, shown below in Table 6-3 and is also provided in the Locally Operated Transit System Program Manual.

Table 6-3: MDOT MTA's Vehicle Useful Life Policy

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

SOURCE: MDOT MTA, LOCALLY OPERATED TRANSIT SYSTEM (LOTS) PROGRAM MANUAL, APRIL 2017, REV. 3 01.2019

Table 6-4 provides an inventory of the City's current fleet. This inventory will serve as the basis for the capital plan submitted by the City of Annapolis to MDOT MTA through the ATP in regard to future vehicle replacement needs.

Table 6-4: Inventory of Annapolis Transit's Current Fleet

Agency Asset ID	Model Year	Make	Model	MTA Vehicle Type	Seating Capacity		Standing Capacity	Fuel Type	Current Physical Condition	Current Mileage (1/29/25)	Minimum Useful Life		Earliest Possible Replacement Year
					Capacity	ADA Accessible					Miles	Years	
5311	2011	Gillig	LowFloor	Heavy Duty - Medium	25	Yes	9	Diesel	1	568,627	350,000	10	2021
4311	2011	Gillig	Trolley Replica Hybrid	Heavy Duty - Medium	25	Yes	9	Hybrid	1	359,525	350,000	10	2021
1800	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	227,589	150,000	5	2023
1801	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	180,367	150,000	5	2023
1802	2018	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	260,890	150,000	5	2023
1803	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	251,878	150,000	5	2024
1804	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	201,239	150,000	5	2024
1805	2019	CEQ	Phoenix	Light Duty	18	Yes	0	Gasoline	3	249,860	150,000	5	2024
1806	2021	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	116,539	350,000	10	2032
1807	2021	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	103,665	350,000	10	2032
1809	2022	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	67,724	350,000	10	2033
1810	2023	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	37,176	350,000	10	2034
1808	2023	ENC	EZRider	Heavy Duty - Medium	28	Yes	9	Diesel	5	25,944	350,000	10	2034
1811	2024	BYD	K7M	Heavy Duty - Medium	22	Yes	6	Electric	5	348	350,000	10	2034
1812	2024	BYD	K7M	Heavy Duty - Medium	22	Yes	6	Electric	5	310	350,000	10	2034

Summary

This TDP provides recommendations for the expansion of existing and new public transportation services in the City of Annapolis, Anne Arundel County, and the broader Central Maryland region. The TDP specifically focuses on addressing community desires and local initiatives, with a particular focus on:

- Streamlining current fixed routes, along with increased use of on-demand microtransit services to fill gaps in service areas and provide first-mile/last-mile connections with current and future routes.
- Expanding morning, evening, and weekend services.
- Considering potential regional routes and connections.
- Exploring a possible rebranding campaign for Annapolis Transit.
- Improved coordination with Anne Arundel County to better fill in gaps in service area or potential overlaps in service.

Proposed new services and improvements will require additional funding, were developed to address issues identified during the review of needs and are dependent on the future availability of new or additional funding. With uncertain budgets and non-guaranteed financial resources, it is important to remember that public transportation can contribute to the local and regional economy by providing a way for residents to get to work and school, access necessary medical services, and support local businesses and economic development.

Appendix A:
Trip Generators

Educational Facilities

Trip Generator	Address
United States Naval Academy	550 Taylor Ave, Annapolis, MD 21401
St. John's College	60 College Ave, Annapolis, MD 21401
United States Naval Academy – Navy Marine Corps Memorial Stadium	121 Blake Rd, Annapolis, MD 21402

Human Service Agencies

Trip Generator	Address
Complete Care at Annapolis	900 Van Buren St, Annapolis, MD 21403
Baywoods of Annapolis	7101 Bay Front Dr, Annapolis, MD 21403
Autumn Lake Healthcare at Spa Creek	35 Milkshake Ln, Annapolis, MD 21403
IntegraCare - Bay Village	979 Bay Village Dr, Annapolis, MD 21403
Genesis Healthcare	35 Milkshake Ln, Annapolis, MD 21403
Gardens Of Annapolis	931 Edgewood Rd, Annapolis, MD 21403
Morris H. Blum Senior Apartments	701 Glenwood St, Annapolis, MD 21401
Annapolis Senior Center	119 S Villa Ave, Annapolis, MD 21401
DaVita Annapolis Dialysis Center	1127 West St STE 100, Annapolis, MD 21401
Stanton Community Center	92 W Washington St, Annapolis, MD 21401
Pip Moyer Recreation Center (Annapolis Recreation and Parks)	273 Hilltop Ln, Annapolis, MD 21403
Annapolis Walk Community Center	1701 Belle Dr, Annapolis, MD 21401
Mariners Point Community Center	Georgetown Rd, Annapolis, MD 21403
Eastport Community Center	1014 President St, Annapolis, MD 21403
Annapolis Senior Center	119 S Villa Ave, Annapolis, MD 21401
Michael E. Busch Annapolis Library	1410 West St, Annapolis, MD 21401
Annapolis Vet Center	100 Annapolis St, Annapolis, MD 21401
Maryland Department of Veterans Affairs	16 Francis St #4, Annapolis, MD 21401
Microenterprise Council of Maryland - Food Distribution Center	Annapolis, MD 21401
Connector Corps - Food Distribution Center	45 Calvert St, Annapolis, MD 21401
United Youth Corps of Maryland: Maryland Conservation Corps - Food Distribution Center	Department of Natural Resources, Annapolis, MD 21401
Pantry 1 Food Mart	1090 Spa Rd, Annapolis, MD 21403
Microenterprise Council of Maryland - Food Distribution Center	236 Main St, Annapolis, MD 21401

Medical Facilities

Trip Generator	Address
Annapolis Pediatrics	200 Forbes St STE 200, Annapolis, MD 21401
Evolve Direct Primary Care & Urgent Care	509 S Cherry Grove Ave, Annapolis, MD 21401
Anne Arundel Medical Center*	2001 Medical Pkwy, Annapolis, MD 21401

*ALSO A MAJOR EMPLOYER

High-Density Housing

Trip Generator	Address
152 Main Street Annapolis	152 Main St, Annapolis, MD 21401
Admiral Farragut	230-A Hilltop Ln, Annapolis, MD 21403
Admiral Oaks	445 Captains Cir C, Annapolis, MD 21401
Allen Apartments	205 Center St, Annapolis, MD 21401
Annapolis Bay	721 S Cherry Grove Ave, Annapolis, MD 21401
Annapolis Gardens	250 Croll Dr, Annapolis, MD 21401
Annapolis Roads	1 Eaglewood Rd, Annapolis, MD 21403
Bayshore Landing Apartments	988 Spa Rd, Annapolis, MD 21403
Bell Annapolis on West Apartments	1901 West St, Annapolis, MD 21401
Nautilus Point	655 Americana Dr, Annapolis, MD 21403
Obery Court / College Creek Apartments	199 Bertina A Nick Way, Annapolis, MD 21401
Quiet Waters Landing	1293 Thom Ct #2a, Annapolis, MD 21403
Spa Cove Apartments	1012 Primrose Rd, Annapolis, MD 21403
Westwinds Apartments	1029 Spa Rd, Annapolis, MD 21403

Shopping Centers

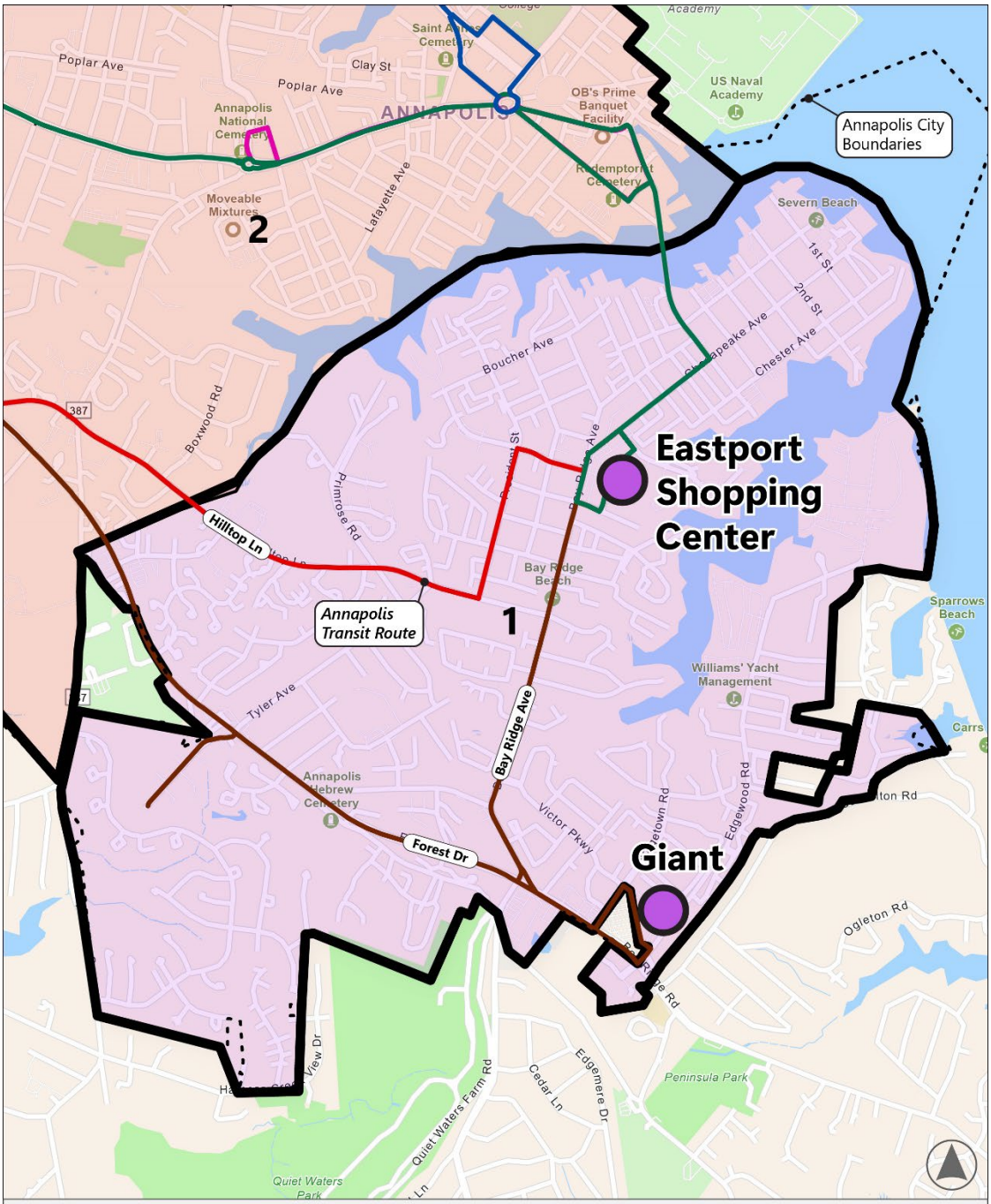
Trip Generator	Address
Annapolis Historic Main St	206 Main St, Annapolis, MD 21401
Arundel Plaza Shopping Center	108 Old Solomons Island Rd Ste U1, Annapolis, MD 21401
Bay Ridge Market Place Shopping Center	107 Hillsmere Dr, Annapolis, MD 21403
Eastport Shopping Center	1023 Bay Ridge Ave, Annapolis, MD 21403
Westfield Mall	2002 Annapolis Mall Rd, Annapolis, MD 21401
Gateway Village Shopping Center	2639 Housley Rd, Annapolis, MD 21401
Sams Club	2100 Generals Hwy, Annapolis, MD 21401
Annapolis Plaza Shopping Center	150-L Jennifer Rd, Annapolis, MD 21401
Festival at Riva Town Center	2323 Forest Dr, Annapolis, MD 21401
Forest Plaza Shopping Center	55 Forest Plaza, Annapolis, MD 21401
Annapolis Harbour Shopping Center	2512 A Solomons Island Rd, Annapolis, MD 21401

Major Employers

Trip Generator	Address	No. of Employees
State of Maryland	100 State Cir, Annapolis, MD 21401	12,132
Anne Arundel County Government	44 Calvert St, Annapolis, MD 21401	5,190
U.S. Naval Academy	290 Buchanan Rd, Annapolis, MD 21402	2,500
City of Annapolis Government	160 Duke of Gloucester St, Annapolis, MD 21401	550
Annapolis Waterfront Hotel	80 Compromise St, Annapolis, MD 21401	215
St. John's College	60 College Ave, Annapolis, MD 21401	200
Annapolis Yacht Club	2 Compromise St, Annapolis, MD 21401	200
Comtech Telecommunications Corp	275 West St, Annapolis, MD 21401	200
Main & Market	914 Bay Ridge Rd, Annapolis, MD 21403	180
Spa Creek Center Genesis Healthcare	35 Milkshake Ln, Annapolis, MD 21403	160
Chick-fil-A	2025 Somerville Rd, Annapolis, MD 21401	150
Hotel Annapolis	25 State Cir, Annapolis, MD 21401	150
Coldwell Banker Residential	4 Church Cir, Annapolis, MD 21401	140
Community Action Agency of Anne Arundel County	251 West St, Annapolis, MD 21401	140
Rams Head Tavern	33 West St, Annapolis, MD 21401	140
Koons Toyota	1107 West St, Annapolis, MD 21401	120
Safeway	1781 Forest Dr, Annapolis, MD 21401	120
Severn Bancorp Inc.	200 Westgate Cir, Annapolis, MD 21401	120
Kohl's	260 Solomons Island Rd, Annapolis, MD 21401	110

Appendix B:
Proposed Microtransit Zones

Figure B-1: Draft Microtransit Zone 1



Annapolis Transit: Draft Microtransit Zone #1

Figure B-2: Draft Microtransit Zone 2

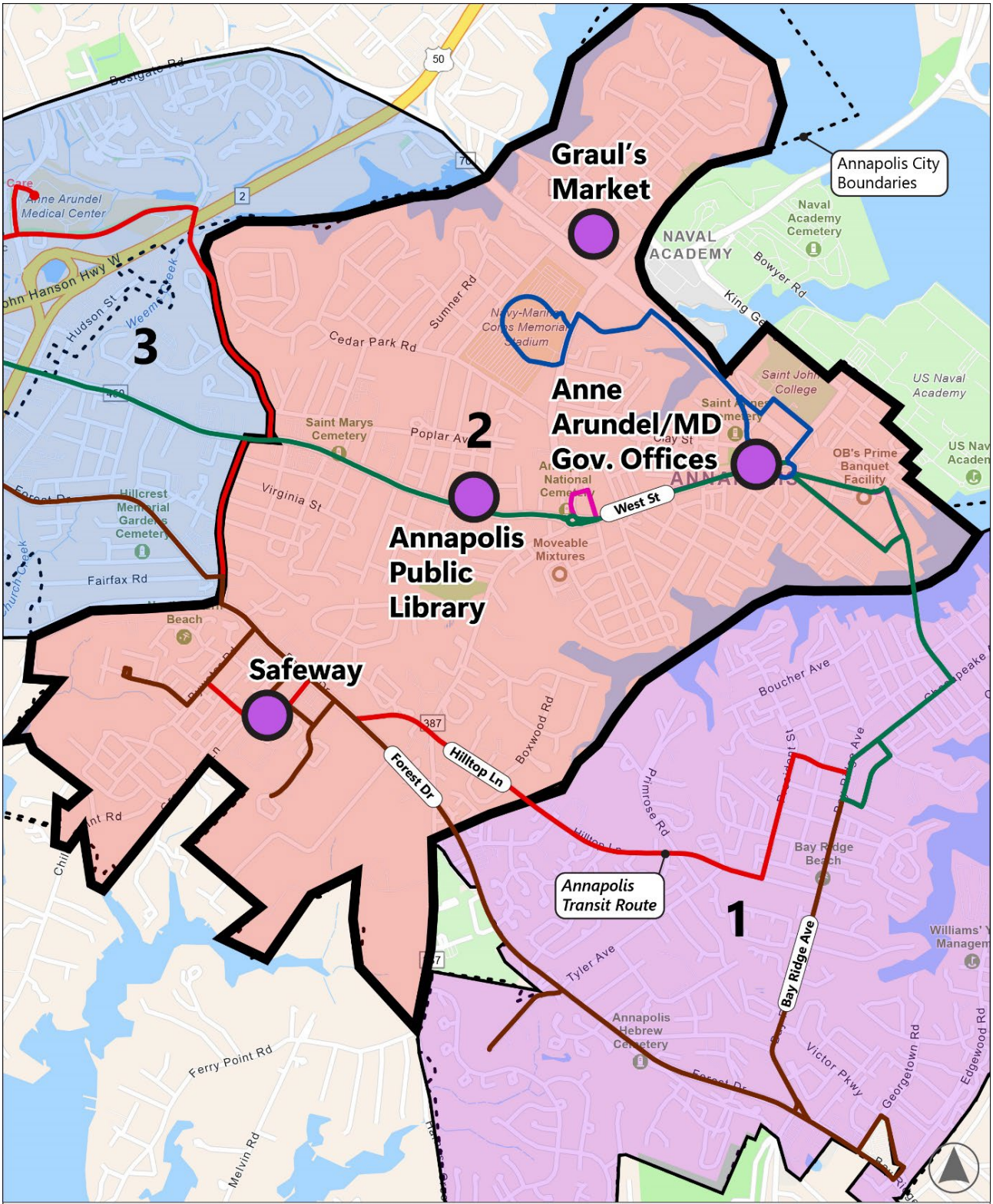


Figure B-3: Draft Microtransit Zone 3