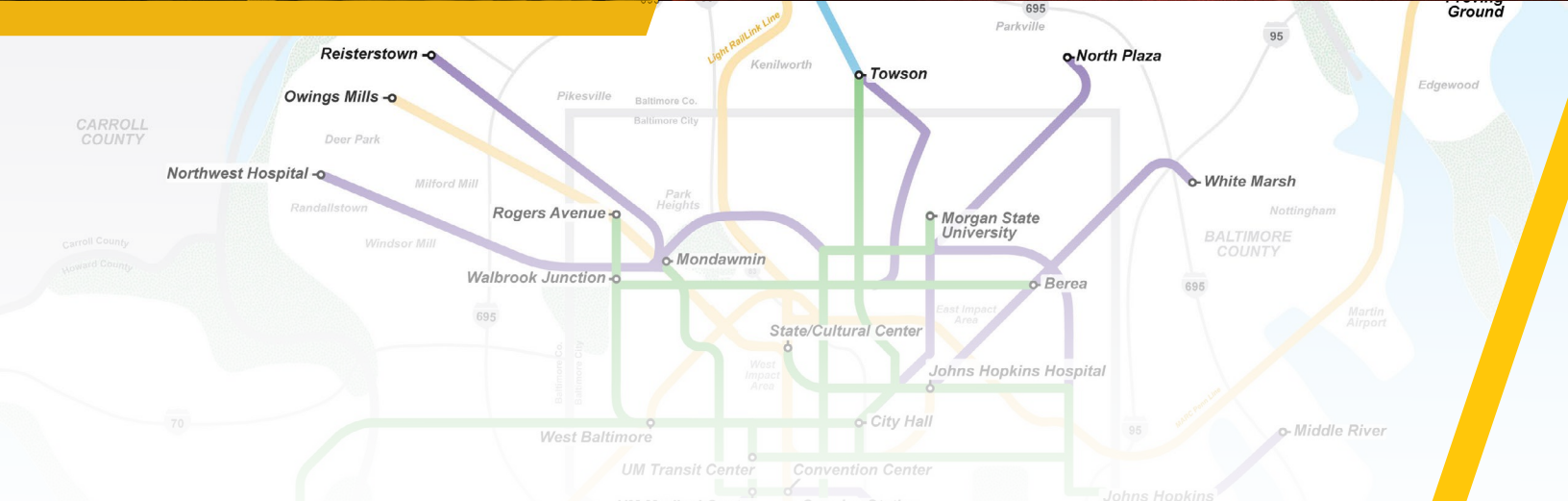




Connecting Our Future

A Regional Transit Plan for Central Maryland

October 2020



M&D MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND TRANSIT ADMINISTRATION



Statement from the Maryland Department of Transportation

The COVID-19 public health crisis has dramatically impacted all Marylanders and required that we all make difficult adjustments in our daily lives. We understand how challenging and disruptive this time has been; at MDOT, employees at all of our transportation business units are on the front lines of a statewide transportation system providing vital service to allow essential employees to get to work. As always, ensuring our employees' and customers' safety and the safety of all Marylanders is our top priority.

Many of our planning and project development staff have shifted to teleworking in accordance with State guidelines to do our part to stop the spread of this disease. However, MDOT remains committed to advancing our efforts associated with the Central Maryland Regional Transit Plan during the COVID-19 emergency, as we monitor and adapt to this evolving situation. We are proud that MDOT MTA and the Commission have completed this important project on schedule.

While the full economic impact of COVID-19 is yet to be realized, it is critical that MDOT continues to advance projects; together, we must look to the future, planning for a comprehensive and connected transportation network that is ready to deliver when Marylanders and our economy move to recovery. It is our collective responsibility to build a transportation network that will serve generations to come, while also ensuring the continued solvency of our intermodal network.

The Plan presents a vision of mobility that is ambitious yet achievable. It sets clear targets while also building in the flexibility that all plans demand, particularly under current circumstances. To that end, the Plan development process has been dynamic and adaptive. The Project Team continuously adjusted public involvement activities over the past 18 months to create meaningful, interactive experiences in both in-person and virtual settings. At each phase, the Project Team collected important feedback through surveys, comments, and conversations. This input has shaped and strengthened the Plan.

The Central Maryland Regional Transit Plan is the result of a collaborative effort between the region's transit providers, the Commission, local elected officials, subject matter experts, and – most importantly – members of the public. We thank you for your valuable input and we look forward to continuing to work with you as we begin implementation of the Plan.

Letter from the Administrator

Dear Maryland Residents,

Since its inception as the Metropolitan Transit Authority in 1969 the Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) has been providing transit services for the State for over 50 years. Today, MDOT MTA operates the 12th largest multimodal transit system in the country with over 250,000 daily riders, 6 transit modes, and paratransit service, while providing support to locally operated transit systems throughout Maryland. MDOT MTA is committed to continually improving our customers' transit experience. To this end, we have adopted the following vision statement: *To provide safe, efficient, and reliable transit across Maryland with world-class customer service.*

Over the past two years, MDOT MTA has worked collaboratively with the Central Maryland Regional Transit Plan Commission, the Baltimore Metropolitan Council, and the public to develop a comprehensive twenty-five-year vision for transit in the Central Maryland Region: Baltimore City and Anne Arundel, Baltimore, Harford, and Howard Counties.

The Central Maryland Regional Transit Plan presents goals, objectives, and initiatives to enhance transit service, support the economy, and reduce our environmental impact. Through coordinated planning and investment from the region's transit agencies and the local jurisdictions, we have an opportunity to create an interconnected transit network that is more reliable, convenient, and efficient.

Our region is growing and changing. This plan presents a broad array of methods and tools to help us move forward in a way that serves everyone – from specific, targeted local actions to long-term and large-scale projects that will meet the changing needs of the region. As the Plan is implemented, it will transform how people travel in Central Maryland.

This plan is a living document that will be updated every five years. We will continue our commitment to work collaboratively with our stakeholders to respond to changing conditions, technologies, policies, and priorities.

I am excited to share the Regional Transit Plan with you, and look forward to our continued collaboration with our partners and the public as we achieve this shared vision of mobility, vitality, and prosperity for the Central Maryland Region.

Sincerely,

Kevin Quinn
MDOT MTA Administrator

Acknowledgments

Regional Transit Plan Commission

Ramond Robinson <i>Director of Transportation, Anne Arundel County</i>	Kirby Fowler <i>President, Downtown Partnership Commission Member through January 2020</i>
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Jim Shea <i>Chairman Emeritus, Venable LLP</i>	Special thanks to the Baltimore Metropolitan Council and its Executive Director, Michael Kelly.

Partnerships with the Community

The development of *Connecting Our Future: A Regional Transit Plan for Central Maryland* would not have been possible without the committed participation of the community members of Anne Arundel County, Baltimore City, Baltimore County, Harford County, and Howard County. Our special thanks to all the residents, business owners, and members of the public who shared their thoughts and ideas with the Project Team and participated in the surveys and public engagement activities.



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Executive Summary

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

Public transportation supports residents and businesses in Central Maryland by connecting people to jobs, education, services, and their community; providing these connections contributes to our economy and helps our environment. Nearly 300,000 trips are made on public transit every day in our region. Approximately 170,000 workers in the region rely on transit as their only way to get to work and, nearly 9,000 paratransit trips are taken in the Central Maryland region daily.

Much like the development of schools, roads, and parks, public transportation assets and infrastructure are long-term investments that support daily life in our communities for decades. The region currently has over \$9.5 billion in public transportation assets that provide a foundation for future growth and enhancement. In

addition, the Central Maryland region benefits from its connection to the Northeast Corridor, which provides easy access to Washington D.C., Philadelphia, and New York City.

The Plan calls for leveraging these resources to their greatest potential by ensuring our existing transit routes, vehicles, and stations are reliable, accessible, and in good condition. The Plan focuses on using the existing routes as the building blocks for expanding transit connections to emerging and underserved areas.

A central focus of the Plan is increasing transit access for the region's residents, particularly those in historically underserved communities. Providing transit that connects residents to economic opportunities ensures the region's strength and vitality. Today, 40 percent of the region's 2.55 million residents and 50 percent of the region's 1.21 million jobs are accessible by bus or rail. By 2045, the region is forecast to grow by nearly 300,000 people and 440,000 jobs. The Plan recognizes that the majority of growth in Central Maryland is not planned in areas accessible to existing transit stops and stations and recommends long-term expansion and enhancement of transit service to serve growing job and population centers, as well as coordinating transportation and land-use goals and strategizing the fiscal sustainability of those decisions. Implementing this Plan would provide transit access to over 500,000 additional jobs.

The Plan provides a framework for an interconnected regional transit network that will achieve three goals and six objectives:






The Plan includes over 130 strategies relating to the objectives, Transit Network Improvements for each jurisdiction, and 30 Regional Transit Corridors that work together to achieve the Plan's goals and objectives. The Plan includes deliverables for customers, such as:




- Improving on-time performance
- Increasing service on the most congested bus routes
- Rail and Bus fleet replacement, including the advancement of a zero emissions bus program
- One fare platform for all transit providers in the region
- Full ADA accessibility of all bus stops and rail stations

Successfully achieving the Plan's goals will require holistic attention to all elements of the Plan and coordinated planning and investment by state, regional, and local governments, as well as private businesses and institution partners. An Implementation Team comprising MDOT MTA, representatives from

the local jurisdictions, advocates, and the business community will work together to enact the Plan. The Implementation Team will coordinate and monitor progress using identified performance measures and short- and long-term targets. The Plan has identified measures for each of the objectives, and identified 5-year and 25-year targets. The following table presents these targets. For further detail on the metrics please see the Technical Reports.

In coordination with local jurisdictions, MDOT MTA will maintain a Progress Dashboard on its website to track the progress of the Regional Transit Plan in achieving the six objectives. Starting with existing numbers as a baseline, the measures listed below will be tracked regularly, some annually, others as data becomes available.

Objective	Measure	Baseline	2025 Target	2045 Target
 Provide Faster, More Reliable Service	MDOT MTA's on-time performance for Core Bus	70%	85%	90%
	Establish on-time performance reporting for all agencies in the region	-	Achieved	Maintain
	Percent of transit vehicles accurately reporting real-time data	89%	100%	Achieved
	Average bus speed (mph) on the Frequent Transit Network during peak periods	12 mph	Baseline + 15%	Baseline + 50%
	On-time performance for MDOT MTA paratransit service	90%	95%	95%
	Number of miles of dedicated bus lanes	5.8 miles	18 miles	30 miles
	Numbers of intersections with Transit Signal Priority	66	100	150
 Grow Ridership	Systemwide fixed-route ridership in the region	94 million	Baseline + 10%	Baseline + 40%
	Percent of people commuting by transit in the region	7%	9%	15%
 Increase Access to Jobs & Opportunities	Percent of region's residents living within ¼-mile of a bus stop or ½-mile of a rail station	40%	45%	60%
	Percent of the region's jobs within ¼-mile of a bus stop or ½-mile of a rail station	50%	55%	70%

Objective	Measure	Baseline	2025 Target	2045 Target
 Improve the Customer Experience	Implement a common fare platform for all transit providers	-	Achieved	Maintain
	Increase MDOT MTA customer Satisfaction survey rating	3.33/5	Baseline + 10%	Baseline + 40%
	Establish customer satisfaction rating for LOTS	-	Achieved	Maintain
	Maintain MDOT MTA's standing as one of the safest transit systems out of the top 12 U.S. transit agencies	-	Maintain	Maintain
	 Be Equitable	Percent of low-income population that has access to frequent transit	34%	36%
Percent of minority communities with access to frequent transit		34%	36%	57%
Percent of households with no car that have access to frequent transit		52%	55%	72%
Number of bus shelters located in low-income areas		282	Baseline + 35%	Baseline + 100%
Percent of stops and stations that are ADA accessible		19%	30%	100%
 Prepare For the Future	Percent of fleet that are zero-emissions vehicles	0%	Initiate ZEV procurement	95%
	Implement a CAV project	-	Achieved	Achieved
	Percent of assets (by value) in state of good repair backlog	16%	10%	5%

The full breadth of the COVID-19 pandemic's effects have yet to be realized, including impacts to state and local revenue and funding sources. While in the short-term, this pandemic may impact the sequence and speed with which the RTP's proposals can be implemented, MDOT MTA remains committed to advancing the Plan's 25-year vision.

1



Introduction

What is the Central Maryland Regional Transit Plan?

The Central Maryland Regional Transit Plan is a plan for improving public transportation in the region over the next 25 years. The Plan approaches regional mobility comprehensively, recognizing that people travel throughout Central Maryland in their daily activities. The Central Maryland Region covered in this plan includes Anne Arundel County, Baltimore City, Baltimore County, Harford County, and Howard County.

The Regional Transit Plan is a guide for the Maryland Department of Transportation Maryland Transit Administration (MDOT MTA), local transit operators, local jurisdictions, and planning agencies to focus planning efforts and investment on addressing service coverage gaps and areas of need.



With a goal of connecting people to where they need to go, this plan looks at which areas can be served by transit, how to improve the existing transit services, and where new services could be appropriate.

The Plan incorporates both existing and expected future travel patterns and accommodates the planned growth of population and jobs anticipated in the next 25 years. The region is changing; consequently, the Plan will be updated every five years to remain responsive and relevant to these changes.

The global COVID-19 pandemic is an example of an unanticipated event that has wrought profound changes

on our society. The pandemic has presented extraordinary challenges to transit agencies around the world as they strive to maintain sanitized vehicles and protect their employees and customers, while playing a critical role by providing vital transportation to essential workers. Every crisis is unique, and it is important that transit agencies be nimble and prepared to respond quickly and confidently. MDOT MTA will use all the resources at its disposal to keep the public informed of service changes and requirements for customers and employees.

The Plan provides a framework for moving forward, a road map of where we want to go, and strategies for how to get there.

The Central Maryland region is large, covering over 2,100 square miles, and has 2.55 million residents and 1.21 million jobs. It includes dense urban centers, suburban residential development, newer town centers, rural communities, and farm land.

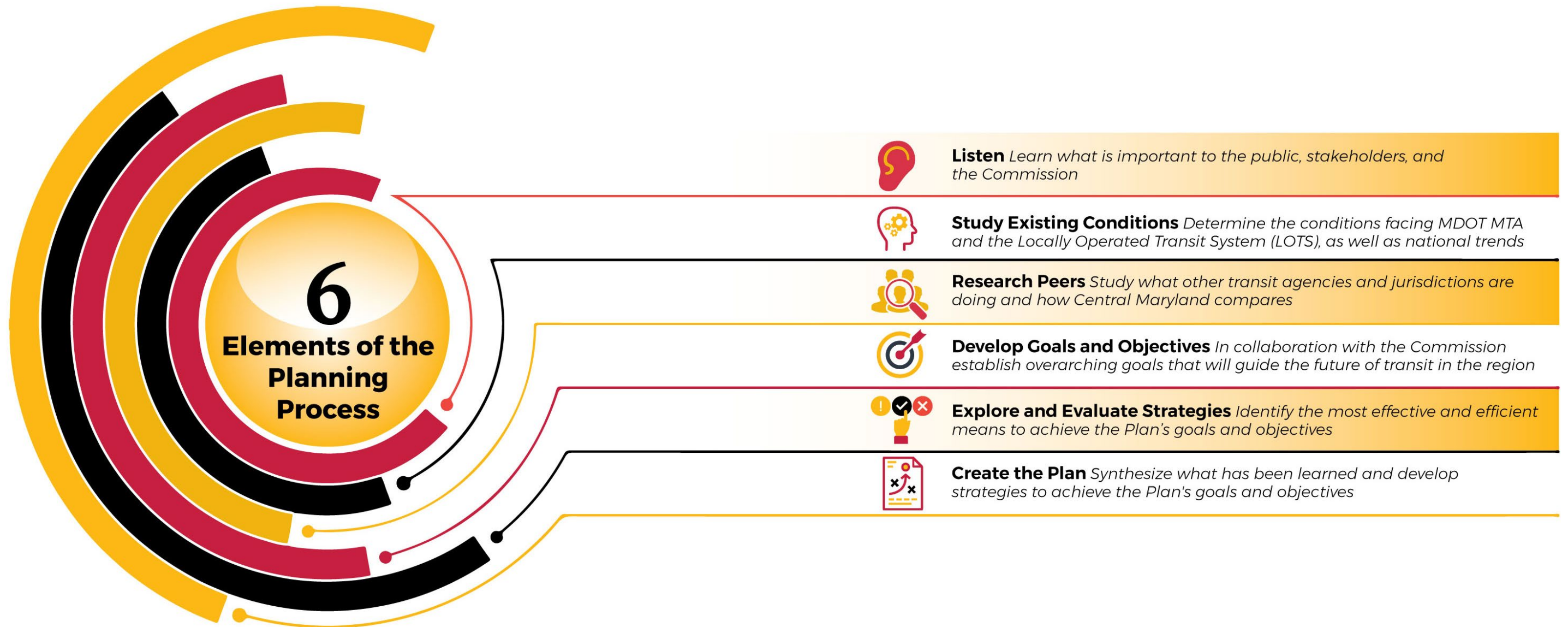
While the Plan identifies a broad array of strategies, many of these require additional research and analysis before they can be implemented, and will require coordination with local jurisdictions and other partners. To this end, this plan does not include:

- In-depth planning, design, or engineering
- Detailed cost estimates or the identification of funding options for any of the initiatives or strategies.

The Plan is supported by four technical reports:

- Existing and Future Conditions
- The Customer Journey
- Public Engagement
- Transit Network Improvements and Regional Transit Corridors

These reports provide further information and detail on the methodology and analyses on which the recommendations in the Plan are based. These reports are available on the MDOT MTA Regional Transit Plan website: www.rtp.mta.maryland.gov



Background

In 2018, Governor Hogan signed legislation from the Maryland General Assembly that directed MDOT MTA to prepare a regional transit plan for Central Maryland in consultation with an 11-member Commission and the executive staff of the Baltimore Metropolitan Council. Legislation required that the Plan identify goals for the region's transit over the next

25 years, as well as corridors for additional service or investment. This plan meets the transit needs of the core service area: Anne Arundel County, Baltimore City, Baltimore County, Harford County, and Howard County. It addresses traditional transit (buses and trains) and explores Shared Mobility options and new technology.

Planning Process

The creation of a successful plan depends on the involvement of a broad range of interested stakeholders. The Regional Transit Plan was developed with the participation of the public, the Regional Transit Plan Commission, the Baltimore Metropolitan Council, a working group of the Locally Operated Transit Systems (LOTS), the local jurisdictions, and technical experts.



How the Public and Stakeholders were Engaged in the Planning Process

The Regional Transit Plan was developed and shaped with valuable input from over 1,500 interactions with members of the public throughout the region, plus thousands of online surveys. The Project Team also met with a broad array of stakeholders, including student councils, large employers, economic development groups, transit operators, and advocacy groups. Additionally, transit providers in the region consistently provided a

rich source of insight and experience. Taken together, the input offered through this extensive engagement effort makes the Regional Transit Plan stronger and more reflective of the diverse perspectives in our region.

For more information on the public engagement process for the plan see the Public Engagement Technical Report, available on the MDOT MTA Regional Transit Plan website: www.rtp.mta.maryland.gov

Outreach Events

60+	Pop-Ups and Presentations		
10	Regional Open Houses		
8	Commission Meetings		
5	Inter-Agency Meetings		
3,426	Survey Responses		

What We Heard from the Public

Throughout these conversations across the Central Maryland Region, there were a number of themes that were mentioned frequently.



2



Transit Today

Why Transit Matters

Public transit benefits everyone — even those who do not ride. It supports communities and residents by spurring economic development, improving quality of life, providing access to opportunity, and promoting sustainable lifestyles. In 2018, Americans took 9.9 billion trips on public transportation.

- **Transit provides economic benefits:** Wages, employment, population and housing all grow faster in communities where public transportation options are available. Every \$1 invested in public transit generates \$4 in economic returns; every \$1 billion invested supports and creates over 50,000 jobs.
- **Transit reduces gasoline consumption and the carbon footprint:** Public transit saves the U.S. 4.2 billion gallons of gasoline annually. Communities that invest in transit reduce the nation's carbon emissions by 37 million metric tons annually.
- **Transit saves money:** A household can save nearly \$10,000 a year by taking transit and living with one less car.
- **Transit is a safer way to travel:** Traveling by public transportation is 10 times safer per mile than by car, reducing the chance of being in a crash by more than 90 percent

Why Transit Matters in Central Maryland

People - Public transit provides nearly 100 million trips in the region each year. Approximately 170,000 workers living in the region depend on transit to access their workplaces. Transit also provides significant value to riders and non-riders alike, including reducing congestion and improving quality of life: Less time spent traveling offers more time for family and leisure.

Jobs - Transit helps power our region's economy by moving people and connecting them to their jobs. Businesses rely on employees, customers, and service providers having easy and convenient travel options. This is especially true for populations with no or limited access to cars, for whom the availability of transit may determine their ability to participate in the workforce and the local economy, and will impact their quality of life.



What we heard: "I love transit because it makes my life EASIER!!"

Equity - Access to transportation is one of the most critical social determinants of health. For minority and low-income communities in Central Maryland, safe and affordable mobility options are essential for overcoming long-standing disparities in the distribution of resources and opportunities. Equitable transportation planning requires coordination between transit providers, local jurisdictions, and the public at large to ensure that all residents, especially the most vulnerable, have access to an integrated transit network.

In 2019, there were close to 100 million trips made on MDOT MTA and the LOTS.

Bus Network Redesign

Under the direction of Governor Hogan, MDOT MTA invested \$135 million to overhaul and rebrand the transit system as BaltimoreLink between 2015 and 2017. Prior to this network redesign, MDOT MTA's bus system had many antiquated routes that did not serve current job centers, and trips lengths were too long to deliver reliable service. MDOT MTA's bus system now delivers more efficient and reliable service as a result of the creation of a network of high-frequency routes with stronger connections between all MDOT MTA modes.



The Economy - Transit is a significant asset for our regional economy, as 57 percent of Core Bus, Metro Subway, and Light Rail trips are work trips and 96 percent of MARC Train and Commuter Bus trips are work trips.

The Environment - The transportation sector recently surpassed the electricity generation sector as the largest source of greenhouse gas emissions in the U.S. Our transportation system, including our transit system, will be critical to reducing Maryland's emissions in the future.

Access - Forty percent of the region's 2.55 million residents live within 1/2 mile of a train station or 1/4 mile of a bus stop, and 50 percent of the region's 1.21 million jobs are accessible by bus or rail. By 2045, the region is forecast to grow by nearly 300,000 people and 440,000 jobs. Much of the growth will be in areas not currently served by transit.

Transit is also critical for non-work trips, such as shopping, reaching medical appointments and educational facilities. Shopping and medical appointments make up 11 percent and 8 percent of midday trips on the bus network. Trips to education facilities account for 8 percent of morning trips on the bus network.

Paratransit - Paratransit provides vital mobility to people with disabilities in the region. Over three million paratransit trips were made on MDOT MTA in 2019.

Central Maryland Region Transit Overview

Central Maryland has seven transit providers, including MDOT MTA and LOTS. MDOT MTA is the largest operator, providing 94 percent of the transit trips in the region.

Listed below are the six modes of transit that MDOT MTA provides in the Central Maryland Region.



Core Bus includes three types of service: City Bus, Local Bus, and Express Bus.



Metro Subway has 15 miles of heavy-rail service from Owings Mills in Baltimore County to Johns Hopkins Hospital in Baltimore City.



Light Rail has 30 miles of service from Hunt Valley in Baltimore County to Glen Burnie in Anne Arundel County.



Mobility Paratransit and Call-a-Ride provide complementary paratransit service in the region.



MARC Commuter Rail Penn and Camden lines connect Central Maryland and Washington, D.C.



Commuter Bus has 22 routes with stops in Central Maryland.

The following are the Locally Operated Transit Systems (LOTS) in the region. They provide bus and/or paratransit services:



Annapolis Transit provides local bus service within the City of Annapolis.



Anne Arundel County Office of Transportation provides local bus service within Anne Arundel County.



Baltimore CountyRide provides paratransit service and services to rural residents within Baltimore County.



Charm City Circulator is local bus service operated by Baltimore City. The City also provides water taxi service.



Harford Transit LINK is local bus service in Harford County and southwestern Cecil County.



Regional Transportation Agency of Central Maryland (RTA) is local bus service in Howard, Anne Arundel, and northern Prince George's Counties.

In addition, many educational institutions and large employers in the region provide shuttles.



What we heard: “As the population ages, it will be critical to ensure that seniors can get around and be part of the economy.”



What we heard: “Developing around transit leads to broad economic benefits and promotes fiscal health of Maryland and its cities and counties.”

Some transit agencies are defying national trends and are growing fixed-route ridership. These agencies are

- Redesigning bus networks to minimize duplication
- Implementing new service and new investments, including:
 - Building new rail lines
 - Creating transit priority infrastructure
 - Expanding bus service
- Promoting transit through free-fare zones or periods

The Changing Transit Landscape

The world we live in is changing at an increasingly fast pace. Transit providers must be agile and ready to adapt to these changes.

Technology is providing new tools to manage how we get around with real-time information and smart phone apps to inform us of options on how to get where we are going, what it will cost, and when we will get there. Many transit systems have apps to pay fares, making transit easier to use. Mobility-as-a-Service (MaaS) provides customers with the freedom and flexibility in transportation by fully integrating payment for transit and Shared Mobility services.

Shared Mobility is an umbrella term encompassing bike and scooter share, carshare, transportation network companies (TNCs) such as Uber and Lyft, ridesharing, and ridesplitting. These new models and modes are being adopted rapidly and providing more options to the traveling public.

Cities are simultaneously attracting young people and older “empty nesters,” as both groups are drawn to urban living with jobs and entertainment nearby, and the potential to live without owning a car. Young people are waiting longer to get their driver’s licenses, preferring to bike, scoot, walk, car share, or take transit.

The population is aging, resulting in a larger group who no longer drives. There is an increased need for healthcare workers to access jobs that serve this population.

Concerns about the environment and climate change are strong and are shaping where and how people choose to live. Transit is a valuable tool in reducing emissions, as transportation is the source of 29 percent of greenhouse gas emissions in the U.S.

National Trends in Transit

Transit providers nationwide are seeing additional, related trends:

- Bus ridership is falling in 31 out of the top 35 major U.S. cities. Bus trips decreased from 5.4 billion in 2012 to 4.6 billion in 2018.
- Rail transit ridership is growing nationally, increasing from 4.7 billion trips in 2012 to 5.1 billion in 2018.
- The senior population is growing, which may increase transit needs, particularly paratransit.
- The demand for paratransit is increasing steadily, as are its costs.
- Gas prices have fallen from \$3.68 per gallon in 2012 to \$2.35 in 2019. Generally, transit ridership falls as gas prices decrease and car trips increase.
- Trips provided by TNCs have increased from approximately 100 million in 2012 to 4.2 billion in 2018. Although Uber and Lyft have not reported 2019 figures, TNC trips in 2019 likely surpassed both bus and rail, which provided 4.7 and 4.8 billion trips respectively.



**What we heard:**

"We need to make Maryland a desirable place to live: improving and expanding transit is the way to do that!"

**What we heard:**

"Access to educational institutions is very important since not everyone can afford to live on campus or have a personal car."

Opportunities for transit are out there. Our challenge is figuring out how to take advantage of them.

Trends in Central Maryland**Population Growth and Job Access**

- Population and job growth are projected to mainly occur outside the Baltimore Beltway, away from the areas which are best served by transit today.
- If today's transit system was the same in 2045, employment access to transit would decrease from 50 percent to 45 percent of jobs in proximity to fixed-route, despite a greater number of jobs being served by transit.
- The region has an opportunity to take advantage of existing transit investments by enabling and designing new development that is integrated with transit, making transit easier and more convenient.
- There are current transportation corridors where new or improved transit options could help ease congestion and provide access to jobs and opportunities.
- The 65-and-older group is one of the fastest growing segments of the population. For example, in 2020, one in four residents in Baltimore County will be a senior citizen.

Paratransit

- The rate of paratransit growth in the region is outpacing the national rate.
- Annual Mobility paratransit trips increased 91 percent between 2010 and 2018.
- Paratransit trips represent a large percentage of operating expenses of transit agencies due to the very high costs per trip compared to other transit modes.

State of Good Repair

- Like other legacy transit systems, MDOT MTA invests a substantial percent of its capital funds to maintain its existing assets in a state of good repair.
- The State of Maryland provides a dedicated funding source for transit in the region; however, expanding service increases the need to maintain assets in a state of good repair. The State looks at taking a balanced approach to addressing the transportation needs of citizens.
- MDOT MTA's 2019 Capital Needs Inventory outlined the system's needs from 2019-2028 to meet current and future service demands and system performance goals. With 10-year total needs reaching \$5.7 billion and a total funding forecast of \$3.7 billion, an estimated funding gap of just over \$2 billion remains to fund all state of good repair and identified enhancement needs.

Ridership

- MDOT MTA local bus ridership has been trending down since 2015, but has shown recent growth, particularly on weekends, after the implementation of the Core Bus system redesign and prior to the COVID-19 pandemic:
 - Average Saturday bus ridership is up 3 percent.
 - Average Sunday ridership is up 13 percent.
- MDOT MTA Commuter Bus ridership has slowly trended downward since 2012.
- Metro Subway and Light Rail ridership have fallen 42 percent and 16 percent, respectively, since 2012. The region needs to identify and address the causes of this to leverage the benefits of rail services.

For more information on transit in the Central Maryland region today, and anticipated future growth and land use, see the Existing and Future Conditions Technical Report, available on the MDOT MTA Regional Transit Plan website: www.rtp.mta.maryland.gov



3

Goals and Objectives

Goals

Three overarching goals for the Regional Transit Plan were developed in a collaborative process by the Regional Transit Plan Commission and MDOT MTA. Public input, collected through surveys, pop-up events, and open houses, informed the process. The goals are general guidelines that explain what this plan should achieve.

Goal: Improve connectivity and integration of existing and future transit services

- Reduce or eliminate gaps in current transit service
- Prioritize connections to economic opportunities
- Evaluate existing and emerging markets, corridors, and nodes for the need for additional or enhanced service
- Increase regional collaboration

Goal: Optimize existing transit services

- Advance equitable access to jobs, education, and services
- Promote travel choice and affordability, reduce delay and reduce emissions
- Improve service quality, customer experience, and safety on existing services
- Ensure the region meaningfully integrates new transit innovations and technology

Goal: Enhance fiscal sustainability

- Identify transit needs
- Identify funding and financing opportunities and innovations to deliver this plan
- Improve cost efficiency of transit services
- Maintain assets at defined condition targets

Objectives

The three goals of the Regional Transit Plan are long-term global visions. To attain these goals, the Plan has six fundamental objectives:

- Provide Faster, More Reliable Service
- Grow Ridership
- Increase Access to Jobs and Opportunities
- Improve the Customer Experience
- Be Equitable
- Prepare for the Future

Initiatives

Successfully achieving each objective relies on multiple actions and elements of the Plan. The Plan proposes three types of initiatives:

- Strategies
- Transit Network Improvements
- Regional Transit Corridors

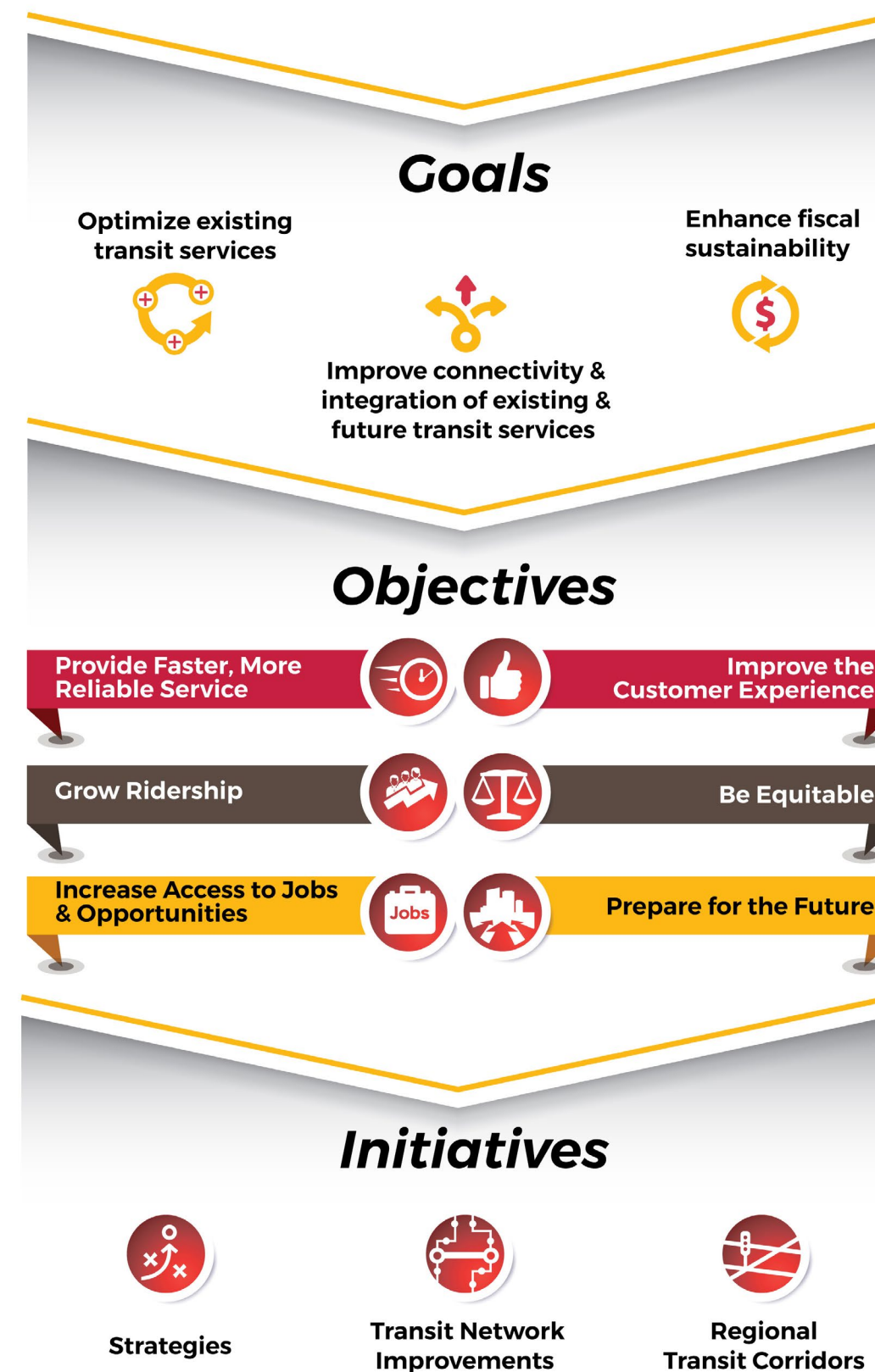
These initiatives work together to achieve the Plan's objectives. This will move the Central Maryland Region forward to accomplish the three overarching goals.

The **Strategies** are specific actions that MDOT MTA and the LOTS can take in order to achieve the six objectives. Some strategies are specific, targeted improvements to improve the speed and reliability of existing transit. Others are long-

term endeavors to coordinate transit improvements with other regional policy priorities, such as land use and environmental goals. The strategies are aligned under the six objectives.

There are areas in the region that have transit today but demonstrate a need for additional **Transit Network Improvements**. These are smaller improvements to local or express transit service already operating in the region.

The Regional Transit Plan has identified a collection of potential new **Regional Transit Corridors**. These corridors will be key areas to focus on in the next 25 years. Some corridors are ready for new transit improvements or service in the near future; others may not be ready for quite some time.



4



Strategies

Based on feedback from customers, elected officials, transit advocates, and other external stakeholders, more than 130 specific strategic initiatives have been laid out for MDOT MTA to achieve and implement between now and 2045. These strategies will require coordination and collaboration across stakeholders, including MDOT MTA and the LOTS. Depending upon the specific strategy, a single stakeholder may be able to make substantive progress; however, in many cases, an integrated or collaborative approach will achieve greater results.

Partnerships across the public and private sectors; as well as at the local, state, and regional level; will offer the greatest opportunity for meaningful progress in the Central Maryland Region.

These strategies are organized by the objective they support most directly.

Objectives





Objective: Provide Faster, More Reliable Service

Provide faster and more reliable service both to serve existing customers and to attract new riders. Transit riders will see new infrastructure to speed up bus and rail travel, and modern, well-maintained transit vehicles and stations.



What We Found

Investments in infrastructure can help speed up transit. Traffic congestion and traffic signals cause delay on many bus routes in the region. Building dedicated bus lanes and programming traffic signals to prioritize moving transit vehicles has reduced bus travel times and improved reliability. Rebuilding bus stops to meet the edge of the travel lane or the height of the bus floor reduces delays related to pulling in and out of traffic and boarding passengers.

Allowing customers to pay in advance and board using all doors reduces the amount of time at stops. Installing ticket vending machines at more transit stops, fitting more fare card readers to transit vehicles, and adopting mobile payment apps are important components of off-board fare collection.

Technology is transforming transit operations. GPS equipment on vehicles enables operators and transit agencies to efficiently communicate issues or problems and develop solutions when there are delays. This information can also quickly be shared with riders through real-time transit information at stops or through smart phone apps.



What We Heard

"I would use public transportation more if it was more reliable and took less time."

"What we need more than anything is reliable transit."

"To rely on public transit for work, it must be reliable."

"Faster ways of travel would be great!"

"We need more dedicated bus lanes."



Targets: Measuring Success

- Increase MDOT MTA's **on-time performance for Core Bus** to **85%** by **2025** and **90%** by **2045**
- Establish **on-time performance reporting for all agencies** in the region by **2025**
- By **2025**, all transit vehicles accurately reporting **real-time data**
- Average **bus speed on the Frequent Transit Network** during peak periods will increase by **15%** by **2025** and **50%** by **2045**
- Reach and maintain **on-time performance for MDOT MTA paratransit** service to **95%** across the region by **2025**



Improve Speed and Reliability of All Transit Services

Provide real-time passenger information online, at major transit hubs, rail stations, and on transit vehicles

Prioritize maintaining all transit vehicles and facilities in a state of good repair



Improve Bus Speed and Reliability

Implement targeted investments, such as:

- Dedicated bus lanes
- Transit signal prioritization
- Traffic signal replacement and retiming
- Curb management
- Level-boarding
- All-door boarding
- Off-board fare collection

Introduce limited-stop service where appropriate

Ensure consistent enforcement of bus lane and bus stop violations

Coordinate with local jurisdictions to minimize the impact of construction projects on bus services

When existing buses are retired, replace with low-floor vehicles



4. Strategies

Improve Light Rail Speed and Reliability

Improve travel time on Howard Street with transit signal priority

Realign tracks on Howard Street

When existing rail vehicles are retired, replace with low-floor vehicles and retrofit stations for level-boarding

Minimize service disruptions through erosion control, flood mitigation, and tree trimming

Improve Metro Subway Speed and Reliability

Manage service disruptions to minimize impact to customers, including flood mitigation and resiliency plans

Improve MARC Speed and Reliability

Support Amtrak construction of a new Baltimore and Potomac (B&P) Tunnel on the MARC Penn Line

Construct a fourth track between Odenton and Halethorpe on the MARC Penn Line

Replace West Baltimore Station in coordination with Baltimore and Potomac (B&P) Tunnel realignment

Improve Commuter Bus Speed and Reliability

Implement targeted investments, such as:

- Dedicated bus lanes or bus-on-shoulder
- Transit signal priority
- Curb management
- Off-board fare collection





Objective: Grow Ridership

Grow ridership by providing transit services that people want to use and that take them where and when they want to go. Transit riders will experience easier transfer connections, more frequent service, and more jobs, housing, and shopping available at transit stations throughout the region.



What We Found

Trends in ridership vary by mode.

Prior to the COVID-19 public health emergency an increasing number of people were traveling by MARC Train and Mobility/paratransit while Metro Subway and Light Rail ridership has decreased.

Some regions are growing transit ridership. Metropolitan areas experiencing rapid population growth are increasing transit service to expand housing options and reduce costs of living. Ridership in other regions is also being driven upward by investments focused on increasing speed and capacity in densely populated, well-traveled corridors.

Opportunities to leverage existing rail lines. Improved pedestrian and bicycle access and new infill stations would improve access to existing rail lines in places where many people already live and work. Transit-oriented development could focus regional growth near existing transit assets. MARC Train service extensions to the north and south could better connect workers to growing job centers outside the region.



What We Heard

“MARC hours also need to be extended to provide service to more than normal work day hours, especially weekends. Being able to use rail to attend Ravens and Orioles games would be excellent.”

“Expand existing rail connections and propose new ones.”

“Commit to Transit-Oriented Development around Metro and Light Rail stations.”

“Invest in maintaining and improving bus and train service.”



Targets: Measuring Success

- Increase **system-wide fixed-route ridership** in the region by **10%** by **2025** and **40%** in **2045**
- Increase **percent of people commuting by transit** in the Central Maryland region to **9%** in **2025** and **15%** by **2045**



Grow Ridership for all Transit Services

Expand education and outreach to employers, universities about the Maryland Commuter Tax Credit for businesses offering transit benefits

Encourage employers to subsidize transit at the same level as parking

Review all MARC, Metro Subway, and Light Rail stations for transit-oriented development (TOD) opportunities and establish TOD plans for those identified as feasible, with prioritization according to their near- and long-term potential. (See map on p. 28)

Use social media to share information, services, events, and news with citizens and businesses

Collaborate with Baltimore Regional Transportation Board to monitor and react to changing travel patterns and mode choices during emergencies

Prioritize transit services for essential workers

Form a task force of MDOT MTA, state agencies, city and county agencies, business representatives, community representatives, and riders to evaluate and implement tools to grow transit ridership



Grow Bus Ridership

Partner with employers and large-scale development to connect residents to job centers

Plan and construct transit hubs and inter-modal transfer facilities

Expand the Frequent Transit Network



Grow Light Rail Ridership

Identify needed investments to complete and open the Light Rail station at Texas in the Cockeysville area

Connect Light Rail to Metro Subway at Lexington Market and State Center through better signage and wayfinding, and other physical infrastructure investments

Expand Light Rail service hours and frequency, including Sunday service

Ridership Task Force

The task force will be charged with collaborating and coordinating with a broad array of stakeholders (public, private, and community) to address existing barriers or challenges. It will explore strategies to make transit a more attractive option (e.g., express trains, fare-free “Try Transit” days, and other operations or capital improvements responsive to public input/concern). It will also address the impacts of COVID-19 on ridership and identify a communication strategy to grow the public’s confidence to return to transit.

4. Strategies

Grow Metro Subway Ridership

Improve signage and wayfinding in and around stations

Connect Metro Subway to Light Rail at Lexington Market and State Center through better signage and wayfinding, and other physical infrastructure investments

Grow Commuter Bus Ridership

Develop a park-and-ride lot plan to grow the capacity and access to Commuter Bus service

Partner with employers and large-scale development to connect residents to job centers

Grow MARC Ridership

Work with host railroads to accommodate growing ridership

Study extending MARC service to L'Enfant Plaza in Washington, D.C., and Northern Virginia

Identify bus structure and service improvements at MARC stations

Study closing the commuter rail gap to the north and providing connectivity to SEPTA in Delaware and Pennsylvania

Explore opening additional stations where indicated by demand

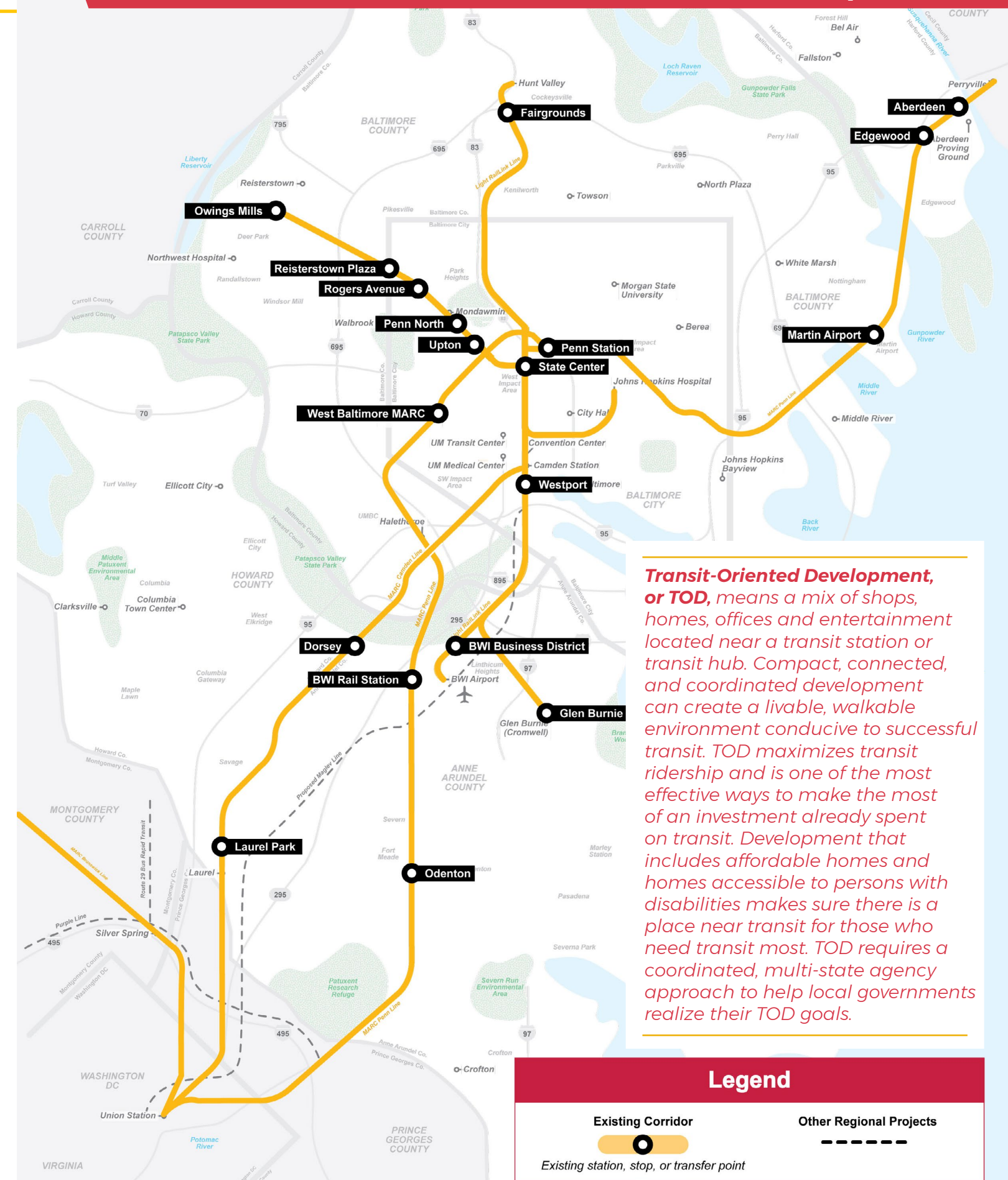
How we identified TOD opportunities

The potential locations for TOD included in this map are not exhaustive, but rather responsive to opportunities identified by local jurisdictions, as well as input from the public and subject-matter experts. As the region grows and changes and additional opportunities arise, the list of potential locations may evolve over time.

MDOT MTA will actively pursue TOD in coordination with other state agencies and local jurisdictions to help increase transit ridership and opportunities accessible by transit.




MDOT MTA has created TOD Guidelines and has created station area concepts for several of their stations. These are available online at www.mta.maryland.gov/transit-oriented-development

Potential Locations for Transit-Oriented Development



Transit-Oriented Development, or TOD, means a mix of shops, homes, offices and entertainment located near a transit station or transit hub. Compact, connected, and coordinated development can create a livable, walkable environment conducive to successful transit. TOD maximizes transit ridership and is one of the most effective ways to make the most of an investment already spent on transit. Development that includes affordable homes and homes accessible to persons with disabilities makes sure there is a place near transit for those who need transit most. TOD requires a coordinated, multi-state agency approach to help local governments realize their TOD goals.

Legend

-  Existing Corridor
-  Existing station, stop, or transfer point
-  Other Regional Projects



Objective: Increase Access to Jobs and Opportunities

Increase access to jobs, services, and opportunities by identifying and addressing existing service and infrastructure gaps. Transit riders will have better sidewalks, biking and shared mobility connections to transit, easier transfers between different transit systems, and find jobs and services within closer walking distance of transit routes.



What We Found

Growth is projected in areas not served by transit.

In the next 25 years, the Central Maryland Region is expected to grow by 300,000 people and 440,000 jobs. Around half of the growth is projected to be in areas not currently served by transit and likely not at a density to support transit. Plans for growth could be better aligned with existing or planned transit.

Pedestrian access to transit varies significantly throughout region.

Most transit trips begin and end with a pedestrian or bicycle trip. Access to our region's transit stations varies significantly, with residents and workplaces located outside of the urban core lacking good pedestrian and bicycle connectivity, limiting access to transit.

The transit experience is door to door. Rider experience beyond the vehicle and the service matters, and as such, partnerships with local jurisdictions, businesses, Departments of Transportation and Public Works are critical to making transit successful.

The region's transit is fragmented.

People are discouraged from traveling across the region by transit stops, schedules, and fares that are not coordinated between the region's transit providers.



What We Heard

"All students should have reliable, safe, and inexpensive public transportation to school."

"I find myself stuck in a bind as I look for a new job: can a bus take me there?"

"Let Marylanders be productive on the job, and not arrive at work exhausted after stressful car-dependent commutes."

"We should avoid building sprawled parking lots and ensure all new development has safe sidewalks and bike access."



Targets: Measuring Success

- Increase the percentage of the **region's jobs within 1/4-mile of a bus stop or 1/2-mile of a rail station** to **55%** by **2025** and **70%** by **2045**
- Increase the percentage of region's **residents living within 1/4-mile of a bus stop or 1/2-mile of a rail station** to **45%** by **2025** and **60%** by **2045**



Improve First Mile/Last Mile Access

Improve conditions to create safer, more comfortable pedestrian and bicycle experiences, including wider and ADA-compliant sidewalks with greater physical separation from motor vehicle traffic and protected or separated bicycle facilities

Provide bike racks on all transit vehicles in the region

Integrate Shared Mobility options (e.g., microtransit, scootershare, bikeshare, carshare, and TNCs) to complement existing services

At key transfer locations, coordinate signal timing to provide longer pedestrian crossing times

Facilitate Transfers

Co-locate transit stations and stops of different routes and modes, creating transit hubs to minimize walking between transfers

Coordinate schedules of regional transit providers

Improve wayfinding and signage

Implement consistent transfer fare policies across transit providers

Establish a connection between the MARC Penn and Camden Lines

Support and integrate with the Penn Station improvements being undertaken by Amtrak and private development to provide better transit connectivity across modes

Coordinate with Amtrak to facilitate transfer improvements at BWI Marshall Airport

Strengthen Transit-Served Areas

Leverage transit investments by promoting TOD and appropriate growth and revitalization in transit-served areas

Improve coordination between transportation planning, land-use decisions, housing availability, and employment opportunities

Coordinate transportation investment decisions by partnering with the Departments of Commerce, Economic Development, Planning, and other organizations; referencing state, local, and community-driven growth and development plans

Ensure that new development is transit-supportive

Concentrate transit investments in locally and state-designated growth areas to sustain and revitalize existing communities

Implement policies that support transit, such as incenting businesses to choose locations that are accessible by transit and allowing higher-density infill development

Implement Complete Streets policies to enable safe access for all users, regardless of age, ability, or mode



Objective: Improve the Customer Experience

Improve the customer experience by providing transportation services that are safe, easy to use, and comfortable. Transit riders can expect the basic benefits of safety, security, comfort, and timely and accurate information. Fares will be simplified and integrated for all providers in the region.



What We Found

Customers want a safe journey and clean facilities.

Security cameras with visible video monitors and other noticeable security improvements are popular with transit customers. Cleanliness could be improved on transit vehicles and at stations and stops to improve the experience of using transit and its public image.

Information is power. The expansion of real-time information has empowered customers to choose the best transportation option at any given moment. Transit providers are increasingly able to provide targeted, helpful information about service changes and disruptions using mobile apps, text messages, and electronic signage so customers can change plans as needed to make the most efficient trip.



What We Heard

“Improve the rider experience with shelters, benches, clean bus stops.”

“Make the service safer at all hours.”

“Subways, light rail, train and bus must be integrated and have easy transfers where they cross.”

“We need to find ways to simplify fares around the region, especially for those of us that change modes or services”



Targets: Measuring Success

- Implement a **common fare platform** for all transit providers in the region by **2025**
- Increase MDOT MTA **customer survey satisfaction** rating by **10%** in **2025** and **40%** in **2045**
- Establish **customer satisfaction rating** for **LOTS** by **2025**
- Maintain MDOT MTA’s standing as **one of the safest transit systems** out of the **top 12** U.S. transit agencies

Streamline Trip Planning and Fare Payment

Implement an integrated payment system for all transit providers

Establish fare structures that are easy to understand

Expand fare payment options for all transit providers, including paratransit

Include information on first-last mile options in trip planning tools and on signage and wayfinding

Integrate transit and Shared Mobility trip planning, including Transportation Network Companies, micromobility, ridematching, and demand-response transit



Implement Family-Friendly Policies to Facilitate the Use of Transit By Customers Traveling With Children

Implement family-friendly fare policies that provide discounted or free fares for children, depending on age

Accommodate strollers on transit vehicles, as feasible

Transition to low-floor vehicles to eliminate the need to climb and descend stairs to board and exit transit vehicles



Enhance the Station/ Stop Environment and the User Experience

Work with partners to reduce and eliminate trash along routes and to maintain cleanliness of stations, stops, and rights-of-way

Update training for all transit personnel with increased focus on customer service

Identify locations near transit that would benefit from improvements to lighting, sidewalks, ADA treatments, crosswalks, and other pedestrian access improvements

Provide underground cellular service on Metro Subway

+ Promote Safety and Security on Transit Vehicles and at Stops and Stations

Complete installation of closed-circuit television (CCTV) at all rail stations and transit hubs and on all transit vehicles

Apply Crime Prevention Through Environmental Design principles into the design of stations and stops

Maintain MDOT MTA's standing as one of the safest transit systems out of the top 12 U.S. transit agencies and ensure that customers feel safe throughout their transit trip

Improve interactions between operators and customers and identify actions to reduce assaults on operators

Incorporate transit's role in responding to and recovering from emergencies (security threats, disasters, and public health emergencies) in plans and emergency protocols

Eliminate all at-grade pedestrian crossings on MARC service

Install new flashing light signals at all rail-highway crossings



Objective: Be Equitable

Provide equitable transit access to jobs, services, and other destinations in a just and fair manner, ensuring all users' needs are met. Transit riders can expect transit service and policies to help reduce barriers to opportunity, and to be involved in decision-making.



What We Found

Safe and affordable mobility options are essential for overcoming long-standing racial disparities in the distribution of resources and opportunities. Equitable transportation planning requires coordination between transit providers, local jurisdictions, and the public to ensure all residents, especially the most vulnerable, have access to a robust transit network.

An equitable approach removes barriers and acknowledges that transportation policies and investments must be adapted to local contexts, consider the needs of all, and ensure that transit planning extends to consider housing, healthcare, food access, and environmental justice.

The population is aging. The 65-and-older group is one of the fastest growing segments of the U.S. populations, and that is no different in the Central Maryland region. The senior population is expected to increase by 33 percent over the next 25 years, which may increase transit demand in certain areas.

Access for all. Most transit stops in the region are currently not accessible for people with disabilities because sidewalks and ramps do not meet American with Disabilities Act (ADA) standards.

Transit is critical for low-income and zero-car households. Access to transit is particularly important for low-income households and households without a car. Currently, approximately 59 percent of the region's low-income population has access to transit, while 74 percent of households without a car have access to transit.



What We Heard

“Having transit connections could be the defining difference between having a job or not being able to support your family.”

“Intentionally focusing on increasing equity in funding transportation is essential.”

“There are not enough bike trails and sidewalks connecting public transit to housing.”

“Improving disabled access to transit is important. Improving the reliability of paratransit service and turning it into an on-demand service is paramount.”

“Transit gives seniors and people with disabilities more freedom.”

“As the population ages, it will be critical to ensure that seniors can get around and be part of the economy.”



Targets: Measuring Success

- Increase the percent of **low-income population that has access to frequent transit** to **36%** by **2025** and **57%** by **2045**
- Increase percent of **minority communities** with **access to frequent transit** to **36%** by **2025** and **57%** by **2045**
- Increase the percent of **households with no car that have access to frequent transit** to **55%** by **2025** and **72%** by **2045**
- Increase number of **bus shelters** located in **low-income areas** by **35%** by **2025** and **100%** by **2045**
- Increase the percent of **stops and stations that are ADA accessible** to **30%** by **2025** and **100%** by **2045**



Adapt Transportation Policies & Investments to Local Contexts

Ensure that transit projects seek to reduce, current or historic disparities in terms of access to opportunities for low-income and minority communities

Create an Equity Manager position at MDOT MTA to proactively integrate an equity perspective into transit planning, service provision, and communication

Review agency marketing and communications to ensure access for all people including those with vision, hearing, or speech disabilities or limited English language proficiency

Review transit service plans through an equity lens, considering income, age, disability, English language proficiency, and vehicle access

Continue to challenge biases in transit policing by developing relationships between community members and MDOT MTA transit police and continued focus on sensitivity training and education



Integrate Access to Opportunity in Transportation Planning and Decision-Making

Include more opportunities for community member participation in transit projects, including involvement in project planning

Integrate public health perspective as part of transit planning and operations decisions

Ensure Environmental Justice issues are a key factor in consideration for all alignment and mode decisions for the proposed Regional Transit Corridors

Support policies and programs that improve transit access to economic and social opportunities such as affordable housing, jobs, education, grocery stores, recreation, and healthcare, particularly in underserved communities.



Improve the Paratransit Trip

Maintain vehicles and facilities in a state of good repair

Implement electronic fare collection

Increase subscription trips

Synchronize paratransit span of service with local bus service

Improve trip scheduling

Improve coordination with non-emergency medical transportation providers

Incorporate disability sensitivity training for front-line transit employees

Incorporate travel training programs for customers



Remove Barriers to Accessing Transportation Resources

Implement measures to ensure that low-income neighborhoods have access to Shared Mobility options such as bikeshare and e-scooters

Partner with jurisdictions to make stations and stops ADA-accessible

Support operating policies that enable year-round, obstacle-free (e.g., snow, construction, scooters) access to transit facilities

Replace all high-floor/lift-equipped bus and light rail transit vehicles with low-floor vehicles

Work with state and local Departments of Aging to identify the transit needs of older adults

Identify opportunities for funding and partnerships to meet the transit needs of older adults and people with disabilities

Coordinate with human services organizations, Centers for Independent Living, and organizations that work with persons with disabilities to expand access to transit

Educate social service providers on available transit options, including non-emergency medical transportation

Pilot potential Shared Mobility alternatives to provide cost-effective options

Implement solutions to improve access to transit for low-income households and households without access to a private vehicle

Invest in technology that allows more fare payment options (including fare capping)

Actively pursue partnerships with non-profit, philanthropic, and workforce development organizations to ensure access to transit for their constituents

Explore options and implement measures to facilitate fare payment for riders without access to a credit or debit card



Objective: Prepare for the Future

Prepare for the future by mitigating and adapting to climate change, enhancing the financial stability of transit services, developing a workforce for tomorrow's transit, and embracing emerging technologies. Customers will see zero-emission buses, testing of automated vehicles, and convenient integration of scooters and other shared mobility with traditional transit modes and payment options.



What We Found

Workforce needs are changing.

New tools to improve transit planning and operations require enhanced skills in information technology. Federal requirements are placing increased importance on asset management. Transit providers also face challenges with recruiting and retaining operators as the existing workforce ages.

Transit is an essential tool in environmental sustainability.

Maryland has set a goal to reduce greenhouse gas emissions by 40 percent by 2030. Increased availability of zero-emission transit vehicles offers opportunities to increase trips using more energy-efficient vehicles

Transit in the region needs ongoing reinvestment.

State of good repair reinvestment maintains the quality and safety needed for good customer service. Transit systems across the country and in the region are experiencing operating and capital costs that are growing faster than inflation. Strengthening and forging public-private partnerships can enable the region to fund and provide quality transit to its residents.

***Prioritizing investments** to keep existing transit routes and vehicles reliable, safe, and comfortable is essential. Deferred maintenance degrades the customer experience and is not fiscally sustainable.*

***Shared Mobility services offer unprecedented choice.** Many residents use multiple modes of transportation. Access to these services can be combined with transit through unified fares and subscription services such as Mobility-as-a-Service. Many regions are developing Shared Mobility hubs where Shared Mobility services are available to make first mile/last mile connections at transit stations.*



What We Heard

"Bus and rail are the heart of any urban ecosystem."

"Transit lets us create more sustainable communities."

"Transit produces less pollution and cleaner air and is a great way to combat climate change."

"We need to create accessible roadways that accommodate other forms of transportation (buses, bikes, scooters, etc.) so we can all more effectively travel."



**Targets:
Measuring Success**

- Initiate procurement of **zero-emission vehicles** by **2025**, and achieve a **95%** zero-emission fleet by **2045**.
- Implement a **CAV pilot project** by **2025**
- Decrease percent of **assets** (by value) **in state of good repair** backlog to **10%** by **2025** and **5%** by **2045**.



Include Environmental Sustainability in Transit Planning and Provision

Starting with the procurement of zero-emission vehicles in the next 5 years, achieve 95 percent zero-emission vehicles by 2045

Use sustainable and resilient design and construction practices to reduce the risk from extreme weather events

Maximize the use of green infrastructure to meet stormwater requirements

Implement waste minimization strategies for the public and within maintenance facilities (e.g., recycling)

Ensure that facilities have been adapted for zero-emissions readiness

Install Electric Vehicle (EV) charging devices at parking lots along the Metro Subway, Light Rail, MARC, and Commuter Bus system

Continue to implement and update MDOT MTA's Sustainability Plan regularly, integrating sustainability into the agency's business processes per the Sustainability Program



Prepare the Transit Workforce for the Future

Conduct a skills and software needs assessment for all transit providers

Create training programs to equip the transit workforce with needed skills

Create a workforce pipeline for transit vehicle operators and mechanics

Partner with local colleges and educational institutions for internships and apprenticeships

Deploy new technologies, tools, and software to help transit workers plan and deliver better quality, safe transit service

Improve fleet planning, facilities planning, service planning, spatial analysis, and scheduling capabilities for the LOTS



Enhance Fiscal Sustainability

Work with businesses, military installations, colleges/schools, and medical campuses to coordinate transit services

Partner with employers to make transit more affordable and convenient to employees

Expand commuter transportation options through the Commuter Choice Maryland program

Identify opportunities to partner with employers on infrastructure improvements

Prioritize the rehabilitation and replacement of safety and service critical assets on schedule to maintain a State of Good Repair

Incorporate asset lifecycle costs into programming, planning, and design decisions, ensuring State of Good Repair prioritization

Develop regional policies to incorporate transit provisions into development review

Explore potential jurisdictional and regional funding opportunities

Maximize federal transportation funds by encouraging matching contributions from local jurisdictions and private sector entities that stand to benefit from transit projects

Explore new cost-efficient and value capture practices, including public-private partnerships, alternative delivery methods, and Transit Tax Increment Financing

Identify other discretionary grant opportunities

Participate in the Baltimore Regional Transportation Board study of governance for MDOT MTA



Prepare for Emerging and Future Technology

Monitor and evaluate new and emerging technologies for opportunities to enhance transit mobility

Implement a connected and automated vehicle (CAV) pilot project, collaborating with the CAV workgroup

Prepare all transit providers for Mobility-as-a-Service (MaaS)

Assess curbside management practices and policies

Identify and develop Shared Mobility hubs (where walking, biking, transit, and Shared Mobility come together to better connect transit to origins/destinations)

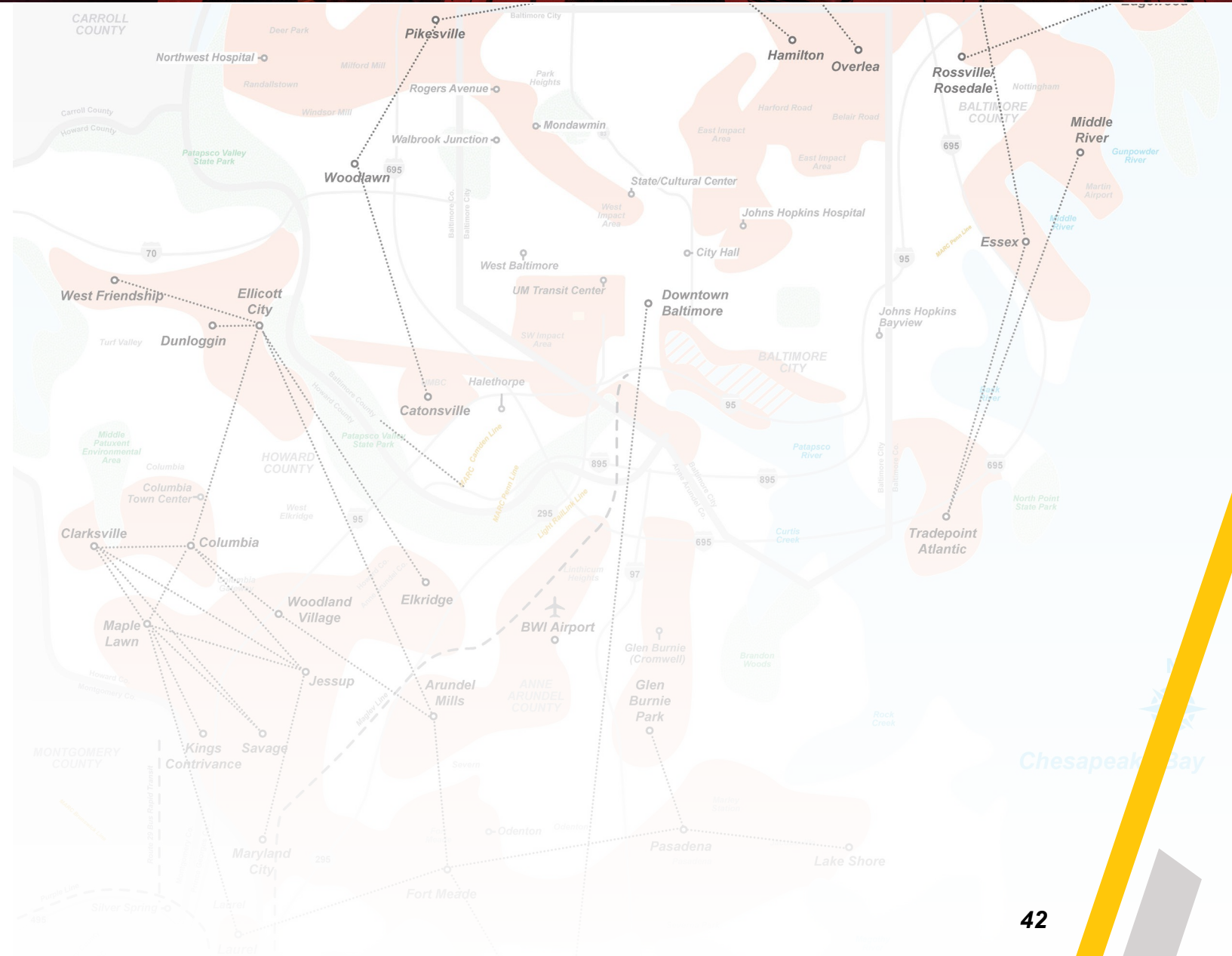
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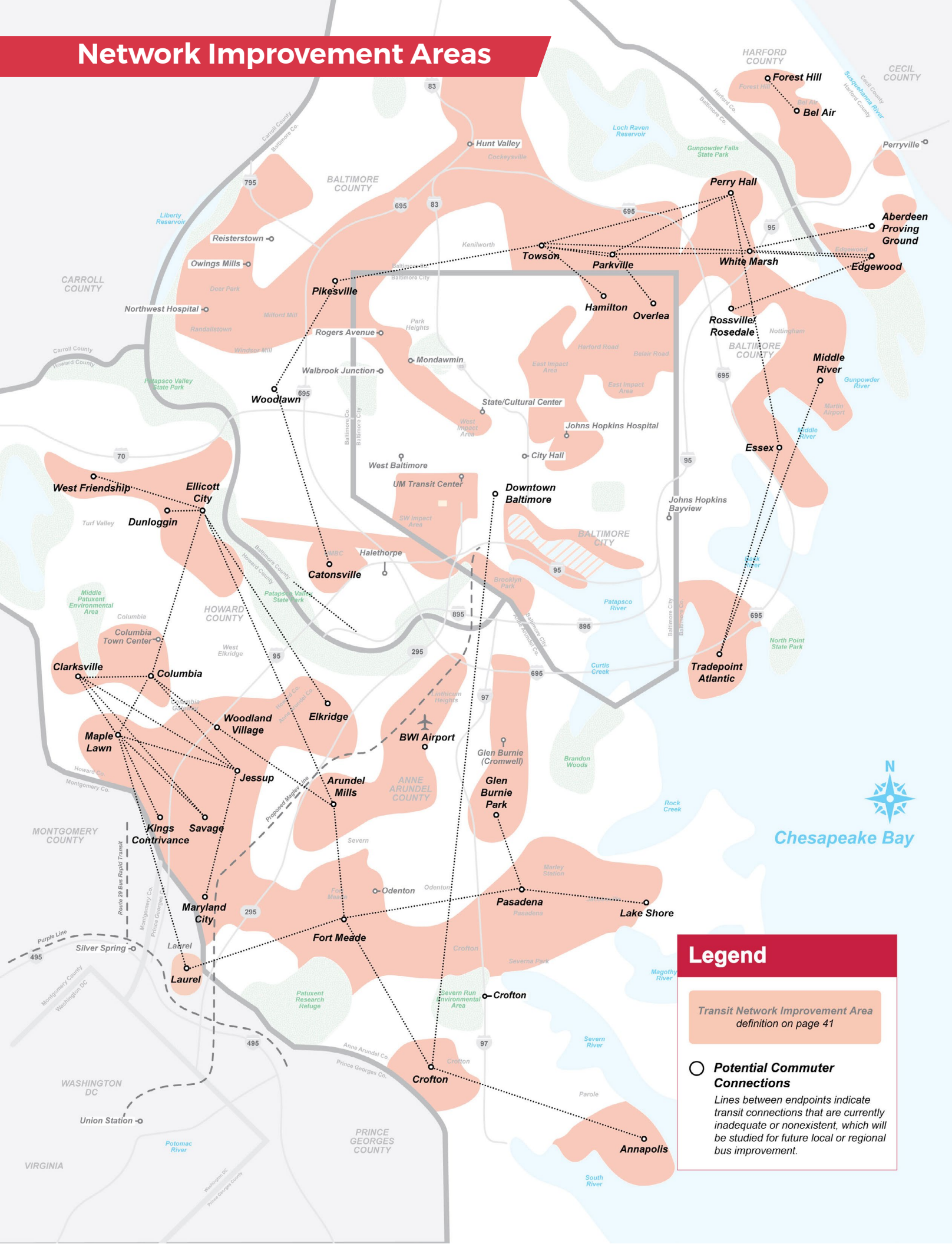
Transit Network Improvements

Transit Network Improvement areas are specific areas in the Central Maryland Region that have a demonstrated need for improvements to existing or new localized or express transit service. The accomplishment of the Plan's objectives depends on these improvements as well as the other Initiatives.

To identify the geographic areas that will need improved transit, MDOT MTA asked the following questions:

- Where are jobs, medical centers, schools, and shops located?
- Where are people traveling today?
- Which of the existing routes carry the most passengers?
- Where will jobs be in the future?
- Where do transit riders live?
- Where will people live in 25 years?
- What are the priority investments for local governments?
- How and when should those investments occur?





The Transit Network Improvements in this chapter were developed based on analyses of the existing conditions and future needs, public and stakeholder input, and suggestions from the Commission. Transit Network Improvements such as hubs were developed based upon current and projected jobs, residential growth, and access to services and amenities.

The four types of Transit Network Improvements are described below.

The locations identified for these improvements are discussed in detail in the Transit Network Improvements and Regional Transit Corridors Technical Report, available on the Regional Transit Plan website, www.rtp.mta.maryland.gov.

Expand Existing or New Fixed-Route Transit Service

In some areas, there is a demand for additional service that does not meet the criteria of a Regional Transit Corridor. The service could be some or all of the following:

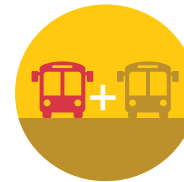
- Additional service on existing transit routes, such as:
 - Longer hours of operation
 - More frequent service
 - Expanded days of service, such as weekend service
- New local or express transit routes

Many of the areas have been already identified in existing transit plans.

Develop Small Area Transit Plans or Investigate Shared Mobility or Microtransit Solutions

Some areas need a more detailed local transit study and the development of a plan specific to that area. A Small Area Transit Plan would include an evaluation of:

- Existing transit route alignments and levels of service
- New transit route needs
- Campus/community circulation
- Pedestrian/bike connectivity to transit
- Opportunities for employer or major stakeholder funding for non-traditional fixed-route service



Expansion of Existing or New Fixed-Route Service



Development of Small Area Plans, or Studies of Shared Mobility



Improvements to Existing Rail Corridors



Creation and Enhancement of Transit Hubs

5. Transit Network Improvements

Some areas in the region demonstrate a need for transit but might not be able to support traditional fixed-route transit, typically because commercial/residential areas are too spread out.

These areas are recommended to have Shared Mobility solutions studied and/or piloted.

Improve Existing Rail Corridors

This Plan also proposes targeted improvements to existing rail corridors. Rail corridors require substantial investment to build, operate, and maintain, so leveraging these corridors to maximize ridership is both cost-effective and prudent. These recommended improvements are also listed in the Strategies.

Create or Enhance Transit Hubs

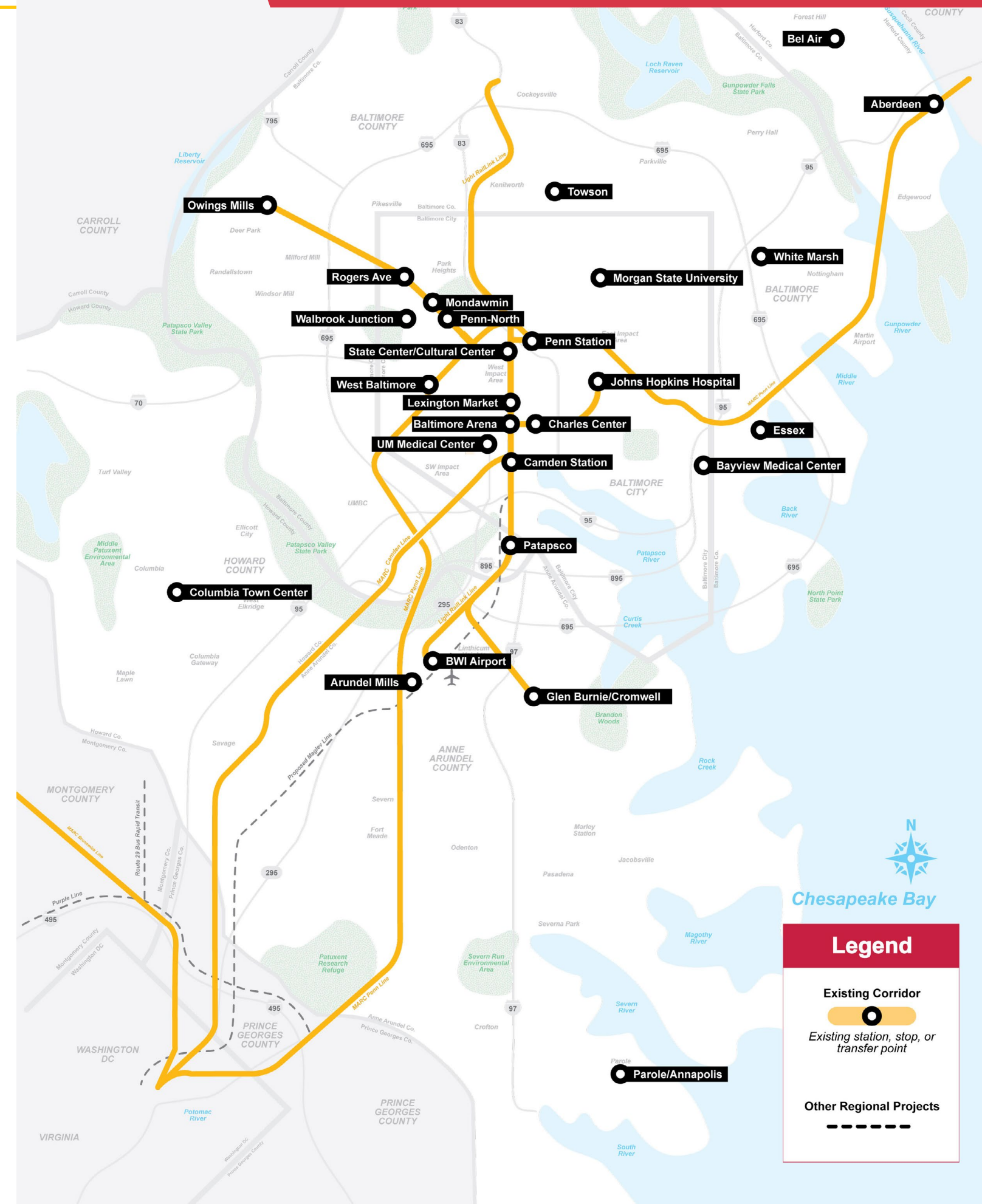
Transit is most effective when it works as a robust network, allowing riders to transfer between lines to take full advantage of the system. Transit hubs are important for both transit passengers and transit operators. Well-situated and well-designed transit hubs can significantly improve transferring from one system, mode or vehicle to another. At minimum, a transit hub should include amenities like shelters, benches, real-time information, and CCTV for security. Coordinated signage and wayfinding enables customers to make their transfer quickly and easily. Bicycle parking and shared mobility options, and in some cases park-and-ride, help with first mile/last mile access at hubs. Transit-oriented development (TOD) is often centered around a transit hub, though not all transit hubs are appropriate for TOD.

Potential transit hubs in the region have been identified based upon existing and projected travel demand in locations in which multiple modes, routes, or transit providers intersect as well as terminal stops and stations. These locations are identified on the following page. Implementation of these transit hubs will ease transfers and improve first mile/last mile access throughout the region. Some already have the amenities listed above and others will be built as part of any future development.

The analysis that identified the Transit Network Improvements is discussed in detail in the Transit Network Improvements and Regional Transit Corridors Technical Report, available on the Regional Transit Plan website, www.rtp.mta.maryland.gov.



Existing and Potential Regional Transit Hubs



Transit Network Improvements by Jurisdiction

The following pages present targeted strategies to improve transit in each of the five Central Maryland jurisdictions.



ANNE ARUNDEL COUNTY

Improvements to Fixed-Route Services

Area Name	Peak	Off Peak	Weekend
Arundel Mills	✓	✓	✓
Brooklyn Park	✓	✓	✓
Crofton	✓	✓	✓
Fort Meade/Odenton	✓	✓	
Glen Burnie	✓	✓	✓
Maryland City	✓	✓	✓
Parole (Annapolis Mall)	✓	✓	✓
Severn	✓	✓	✓

New Local and Express Transit Routes

Area Name	Type of Service	Destination / Need
Arundel Mills	Local or Express Bus	Fort Meade, Ellicott City
Crofton	Local or Express Bus	Points north to Glen Burnie and Baltimore; Annapolis
Fort Meade/Odenton	Local Bus	Laurel, Crofton, Arundel Mills; Internal campus circulation needs
Glen Burnie/Cromwell	Local Bus	Community circulation needs

Small Area Plans and Shared Mobility

Area Name	Small Area Plan	Shared Mobility Solutions
Fort Meade/Odenton	✓	✓
Glen Burnie/Cromwell		✓
Parole (Annapolis Mall)		✓
Pasadena		✓

Improvements to Existing Rail Corridors

- Construct a fourth track between Odenton and Halethorpe on the MARC Penn Line
- Remove at-grade crossings on the MARC Camden Line

Transit Hubs

- Arundel Mills
- BWI Airport
- Glen Burnie/Cromwell
- Parole (Annapolis Mall)

Transit-Oriented Development

- BWI Business District
- BWI Rail Station
- Glen Burnie/Cromwell
- Odenton





BALTIMORE CITY

Improvements to Fixed-Route Services

Area Name	Peak	Off Peak	Weekend
Brooklyn	✓	✓	✓
Cherry Hill	✓	✓	✓
East Impact Area	✓	✓	✓
Inner Harbor		✓	✓
Park Heights Impact Area	✓	✓	✓
Southwest Impact Area	✓	✓	✓
West Impact Area	✓	✓	✓

Impact Areas are defined by Baltimore City Department of Housing and Community Development.

New Local and Express Transit Routes

Area Name	Type of Service	Destination / Need
Inner Harbor	Ferry	Possible additional ferry connections from South Baltimore to Inner Harbor, Harbor East, Fells Point, and Canton
Belair Road (Overlea, Putty Hill, Perry Hall)	Local Bus	Crosstown service to connect east and west neighborhoods (Hamilton, Parkville, Towson, Rosedale) and arterial transit routes
Harford Road (Hamilton, Parkville)	Local Bus	Crosstown service to connect east and west neighborhoods (Perry Hall, Putty Hill, Towson, Rosedale) and arterial transit routes

Small Area Plans and Shared Mobility

Area Name	Small Area Plan	Shared Mobility Solutions
Inner Harbor	✓	✓

Improvements to Existing Rail Corridors

- Upgrade Light Rail signal priority on Howard Street
- Realign Light Rail tracks on Howard Street
- Support Amtrak in the construction of a new Baltimore and Potomac (B&P) Tunnel on the MARC Penn Line
- Remove at-grade crossings on the MARC Camden Line
- Replace West Baltimore MARC Station in coordination with the B&P Tunnel realignment
- Establish a connection between the MARC Penn and Camden Lines

Transit Hubs

- Baltimore Arena
- Bayview Medical Center
- Camden Station
- Charles Center
- Johns Hopkins Hospital
- Lexington Market
- Mondawmin
- Morgan State University
- Penn North Metro
- Penn Station
- Rogers Avenue
- State Center/Cultural Center
- UM Medical Center
- Walbrook Junction
- West Baltimore

Transit-Oriented Development

- Reisterstown Plaza
- Rogers Avenue
- Penn Station
- State Center
- Westport
- West Baltimore MARC
- Penn North
- Upton





BALTIMORE COUNTY

Improvements to Fixed-Route Services

Area Name	Peak	Off Peak	Weekend
Cockeysville			✓
Dundalk (Wise Avenue)			✓
Essex		✓	✓
MD 43 (Crossroads)	✓	✓	
Middle River		✓	✓
Perry Hall		✓	✓
Randallstown			✓
Reisterstown/ Glyndon			✓
Towson	✓	✓	✓
Tradepoint Atlantic	✓	✓	✓
White Marsh		✓	✓

Small Area Plans and Shared Mobility

Area Name	Small Area Plan	Shared Mobility Solutions
Dundalk	✓	✓
Hunt Valley		✓
Owings Mills		✓
Towson	✓	
Tradepoint Atlantic	✓	

New Local and Express Transit Routes

Area Name	Type of Service	Destination / Need
Belair Road (Overlea, Putty Hill, Perry Hall)	Local Bus	Crosstown service to connect east and west neighborhoods (Hamilton, Parkville, Towson, Rosedale) and arterial transit routes
Harford Road (Hamilton, Parkville)	Local Bus	Crosstown service to connect east and west neighborhoods (Hamilton, Parkville, Towson, Rosedale) and arterial transit routes
MD 43 (Crossroads)	Local or Express Bus	Future or growing job center needing new local or express transit routes
Essex	Local Bus	Tradepoint Atlantic
Middle River	Local Bus	Tradepoint Atlantic
Owings Mills	Local or Express Bus	Owings Mills local circulator
Perry Hall	Local or Express Bus	White Marsh, Towson, Essex
Pikesville	Local or Express Bus	Towson
Towson	Local or Express Bus	White Marsh, Perry Hall, Parkville, Pikesville; Community circulation needs
Tradepoint Atlantic	Local or Express Bus	White Marsh, Middle River; future or growing job center
White Marsh	Local or Express Bus	Perry Hall

Improvements to Existing Rail Corridors

- Make necessary investments to complete and open the Light Rail station at Texas in the Cockeysville area
- Enhance the Martin State Airport MARC station by eliminating at-grade passenger boarding
- Construct a fourth track between Odenton and Halethorpe on the MARC Penn Line

Transit Hubs

- Essex
- Owings Mills
- Patapsco
- Towson
- White Marsh

Transit-Oriented Development

- Timonium Fairgrounds
- Martin State Airport
- Owings Mills



HARFORD COUNTY

Improvements to Fixed-Route Services

Area Name	Peak	Off Peak	Weekend
Aberdeen and Aberdeen Proving Ground	✓	✓	✓
Bel Air	✓	✓	✓
Edgewood	✓	✓	✓
Havre de Grace	✓	✓	✓

New Local and Express Transit Routes

Area Name	Type of Service	Destination / Need
Aberdeen and Aberdeen Proving Ground	Local or Express Bus	Belair, White Marsh, Perry Hall, Edgewood; Internal campus circulation needs
Edgewood	Local or Express Bus	Towson, White Marsh/Rossville

Small Area Plans and Shared Mobility

Area Name	Small Area Plan	Shared Mobility Solutions
Aberdeen and Aberdeen Proving Ground	✓	✓
Northwest Bel Air/ Forest Hill	✓	✓

Transit Hubs

- Aberdeen
- Bel Air

Transit-Oriented Development

- Aberdeen
- Edgewood

Improvements to Existing Rail

- Explore closing the gap in regional rail service between MARC Train and SEPTA service through Newark, Delaware





Improvements to Fixed-Route Services

Area Name	Peak	Off Peak	Weekend
Columbia		✓	✓
Columbia Gateway	✓		
Elkridge			✓
Ellicott City	✓		✓
Hickory Ridge			✓
Jessup	✓		✓
Laurel	✓	✓	✓
Montgomery Woods	✓		
North Laurel	✓		
Route 1 Corridor	✓	✓	✓
West Elkridge (Waterloo, Woodland Village)	✓		

Small Area Plans and Shared Mobility

Area Name	Small Area Plan	Shared Mobility Solutions
Dunloggin		✓
Hickory Ridge		✓
Maple Lawn		✓
Route 1 Corridor	✓	
Savage	✓	
Turf Valley (West Friendship)		✓

New Local and Express Transit Routes

Area Name	Type of Service	Destination / Need
Clarksville	Express Bus	Laurel, Savage, Jessup, Kings Contrivance
Columbia	Local or Express Bus	Ellicott City, MD 175 Corridor
Elkridge	Express Bus	Ellicott City
Ellicott City	Local or Express Bus	Elkridge, West Friendship, Columbia, Arundel Mills
Jessup	Local or Express Bus	Clarksville, Maple Lawn
Kings Contrivance	Local or Express Bus	Clarksville, Maple Lawn
Laurel	Local or Express Bus	Clarksville, Maple Lawn
Maple Lawn	Local or Express Bus	Laurel, Savage, Jessup, Kings Contrivance
Route 1 Corridor	Local or Express Bus	Future or growing job center needing new local or express transit routes; Community circulation needs
Savage	Local or Express Bus	Clarksville, Maple Lawn
West Elkridge (Waterloo, Woodland Village)	Local or Express Bus	Ellicott City

Improvements to Existing Rail Corridors

- Remove at-grade crossing on MARC lines

Transit Hubs

- Columbia Town Center

Transit-Oriented Development

- Dorsey
- Laurel Park



Improve Existing Rail Corridors

Existing Light Rail, Metro Subway, and MARC rail systems represent over \$7.5 billion of assets for our region. These historic investments are a major building block for our future. Leveraging these assets by attracting greater ridership and development and continuing to maintain and modernize the systems is a critical component of this plan.

The Plan includes many strategies and improvements for the existing rail lines in the region. Some strategies, such as provide real-time passenger information online, at major transit hubs rail stations, and on transit vehicles, apply to all modes while others are specific to a single mode. Listed below are the strategies and recommended improvements that apply to the rail transit services in the region – Light Rail, Metro Subway, and MARC Train. These recommended improvements are also listed in the Strategies.

Strategies

All Rail Modes

- Provide real-time passenger information online, at major transit hubs, rail stations, and on transit vehicles
- Maintain transit vehicles and facilities in a state of good repair
- Complete installation of closed-circuit television (CCTV) at all rail stations and transit hubs and on all transit vehicles
- Install Electric Vehicle (EV) charging devices at station parking lots along the Metro Subway, Light Rail, and MARC Train system
- Enhance the cleanliness of stations and vehicles using appropriate sanitization protocols
- Form a Task Force of MDOT MTA, state agencies, city and county agencies, business representatives, community representatives, and riders to evaluate and implement tools to grow ridership

Light Rail

- Improve travel time on Howard Street with transit signal priority
- Realign tracks on Howard Street
- When existing rail vehicles are retired, replace with low-floor vehicles and retrofit stations for level-boarding
- Minimize service disruptions to Light Rail through erosion control, flood mitigation, and tree trimming
- Make the needed investments to complete and open the Light Rail station at Texas in the Cockeysville area
- Connect Light Rail to Metro Subway at Lexington Market and State Center through better signage and wayfinding, and other physical infrastructure investments
- Expand Light Rail service hours and frequency, including Sunday service

Metro Subway

- Manage service disruptions to minimize impact to Metro Subway customers, including flood mitigation and resiliency plans
- Connect Metro Subway to Light Rail at Lexington Market and State Center through better signage and wayfinding, and other physical infrastructure investments
- Provide underground cellular service on Metro Subway



5. Transit Network Improvements

MARC Train

- Support Amtrak construction of a new Baltimore and Potomac (B&P) Tunnel on the MARC Penn Line
- Construct a fourth track between Odenton and Halethorpe on the MARC Penn Line
- Work with host railroads to accommodate growing ridership
- Replace West Baltimore MARC Station in coordination with Baltimore and Potomac (B&P) Tunnel realignment
- Study extending MARC service to L'Enfant Plaza in Washington, D.C., and Northern Virginia
- Identify bus structure and service improvements at MARC stations
- Study closing the commuter rail gap to the north and providing connectivity to SEPTA in Delaware and Pennsylvania
- Explore opening additional stations where indicated by demand
- Establish a connection between the MARC Penn and Camden Lines
- Coordinate with Amtrak to facilitate transfer improvements at Penn Station and BWI Marshall Airport
- Eliminate all at-grade pedestrian crossings on MARC service
- Install new flashing light signals at all rail-highway crossings

Transit-Oriented Development (TOD)

TOD maximizes transit ridership and is one of the most effective ways to make the most of an investment already spent on transit. The Plan recommends evaluating transit-oriented development at all Light Rail, Metro Subway, and MARC Train stations.



6



Regional Transit Corridors

What is a Regional Transit Corridor?



Available Modes

Limited Stop or Express Bus
 Bus Rapid Transit (BRT)
 Light Rail
 Heavy Rail
 Commuter Rail



Transit Priority

Varying use of dedicated roadway/ right-of-way space and/or coordinated traffic signals



Frequency

At least every 15 minutes peak
 At least every 20 to 60 minutes off-peak



Operating Hours

14 to 24 hours per day 7 days a week



Stops

Limited suburban stops
 More frequent urban stops



Other Characteristics

On-board and off-board fare payment
 Stops with shelters, wayfinding, and lighting

Identifying the Regional Transit Corridors is an important step in achieving the Plan's objectives and creating a better transit network. The creation of a better network will increase ridership by providing better, more convenient access to more destinations.

These corridors have been selected with input from the Commission and the public because they:

- Demonstrate transit demand that justifies infrastructure, service, and technology improvements
- Have regional significance and often provide connectivity between different jurisdictions

The corridors defined in this plan are meant to remain flexible to accommodate the results of future feasibility studies. These corridors have been presented to the Commission and public for comment.

Corridor identification and prioritization is the first step in the process. This plan does not:

- Identify what mode of transit would be used
- Define specific routes or alignment
- Develop specific levels of service
- Identify where stations would be located

These decisions will be made as the corridors are studied over the next 25 years with the participation of the public and corridor stakeholders.

The proposed Regional Transit Corridors share several common features that distinguish them from other proposals in the Plan. Each has or is projected to have sufficient ridership demand to support all-day, frequent transit. Further, these corridors also require additional infrastructure investment to fully support successful transit. These investments may include dedicated right-of-way, signal priority, shelters or stations, and other customer amenities.

Corridor Prioritization

The corridors were evaluated using 16 measures selected to gauge a corridors' readiness for transit improvements and its potential to improve access to jobs and other opportunities for vulnerable populations. These measures determined each corridor's suitability for investment in high-capacity rapid transit.

Evaluation Measures Used in Corridor Prioritization Process

Evaluation Measure	Issue Addressed	How Results Are Reported
Gap	Does this corridor address a current or future transit gap?	Yes/no*
Existing Plans	Is the corridor in existing plans?	Yes/no*
Improve Service	Does the corridor improve existing service?	Count of routes which could be improved
Transfer Potential	How many transit routes can you transfer to?	Count of intersecting transit routes
Supportive Land Use	Is the surrounding land use transit supportive?	% of corridor with transit supportive land use
Existing Jobs	How many existing jobs are accessible to the corridor?	Total jobs per mile within ½ mile of corridor
Population Access	Number of residents accessible to the corridor?	Total population per mile within ½ mile of corridor
Long Work Commutes	Does corridor serve workers with long commutes?	% of workers with access to the corridor that have commutes longer than 45 minutes
Minority Access	Percentage of minority population within the corridor?	% of population with access to corridor that is non-white and/or Hispanic
Low-Income Access	Percentage of low-income population within the corridor?	% of households with access to the corridor with incomes less than twice the federal poverty line
Zero-Car Household Access	Percentage of zero-car ownership within the corridor?	% of households with access to corridor that have no cars
Senior Access	Percentage of seniors within the corridor?	% of population with access to corridor that are seniors
Disabled Access	Percentage of people with disabilities within the corridor?	% of population with access to corridor that has a disability
Future Jobs	How many future jobs are accessible to the corridor?	Total projected jobs per mile within ½ mile of corridor
Supportive Zoning	Is the surrounding zoning transit supportive?	% of corridor with transit supportive zoning
Growth Area	Is the corridor within a growth area?	% of corridor in State Incentive Program Area

*Corridor must receive a "yes" to proceed in prioritization process.

Each corridor was determined with the Commission to be either an early, mid-term, or long-term opportunity. The corridors have not been ranked within the groups. In addition, these groupings are not binding; changes in existing conditions or priorities may result in a corridor moving from one group to another.

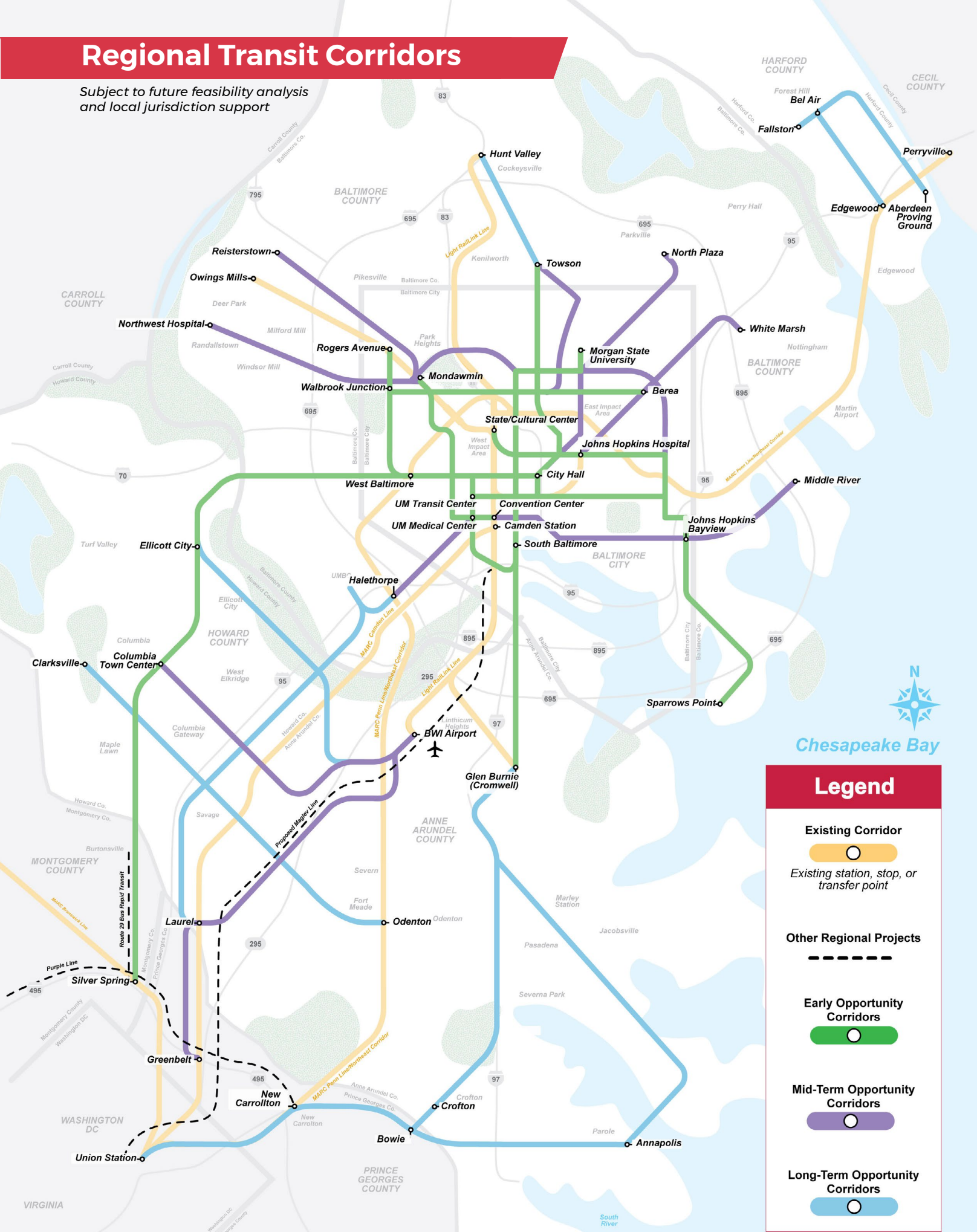
The map of proposed corridors on the following page indicates the early opportunity corridors in green, the mid-term opportunity corridors in purple, and the long-term opportunity corridors in light blue.

The analysis that identified and prioritized the 30 regional transit corridors in the plan is discussed in detail in the Transit Network Improvements and Regional Transit Corridors Technical Report, available on the Regional Transit Plan website, www.rtp.mta.maryland.gov.

Early Opportunity		Mid-Term Opportunity		Long-Term Opportunity	
1	Morgan State Univ. to South Baltimore	5	Convention Center to Middle River	3	Glen Burnie to Annapolis
2	Glen Burnie to South Baltimore	8	Towson to South Baltimore	4	Glen Burnie to Bowie
6	Towson to UM Transit Center	9	North Plaza to UM Transit Center	7	Towson to Hunt Valley
12	Mondawmin to South Baltimore	10	White Marsh to Johns Hopkins Hospital	11	Fallston to Aberdeen Proving Ground
13	Rogers Avenue to City Hall	14	Mondawmin to Reisterstown	21	Laurel to Halethorpe
16	Ellicott City to Convention Center	15	Mondawmin to Northwest Hospital	26	Odenton to Clarksville
17	West Baltimore to Hopkins Bayview	22	Mondawmin to Hopkins Bayview	28	Annapolis to Union Station
18	Sparrows Point to Hopkins Bayview	23	Halethorpe to UM Transit Center	29	Bel Air to Edgewood
19	State Center to Hopkins Bayview	24	BWI Airport to Greenbelt	30	Ellicott City to BWI Airport
20	Walbrook Junction to Berea	25	BWI Airport to Columbia Town Center		
27	Ellicott City to Silver Spring				

Regional Transit Corridors

Subject to future feasibility analysis and local jurisdiction support



6. Regional Transit Corridors

Next Steps for Early Opportunity Corridors

The early opportunity corridors have a strong transit demand today and they are often important links in building a regional network. They would benefit the most people, jobs, and households in the region.

In the short term, jurisdictions, MDOT MTA, the Baltimore Regional Transportation Board, and/or the local transit provider should:

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





Integrative Corridor Investments in Action: North Avenue Rising

North Avenue Rising is a collaborative project between MDOT MTA, Baltimore City, the Federal Transit Administration (FTA), and community partners to support economic revitalization along North Avenue through increased mobility and access to economic opportunity. The project includes many of the strategies and infrastructure investments proposed in this plan, including dedicated bus lanes, transit signal priority, bus shelters, pedestrian and bicycle infrastructure, and mobility hubs.



Next Steps for Mid-Term and Long-Term Opportunity Corridors

The mid-term opportunity corridors have a moderate existing transit demand, while long-term opportunity corridors are selected for their potential to benefit areas where transit demand is expected to increase over the next 25 years.

To prepare these corridors for successful transit investments, jurisdictions, MDOT MTA, Baltimore Regional Transportation Board, and/or local transit providers should:

- Build transit ridership by implementing new service or improving existing service
- Implement incremental transit priority infrastructure so that existing transit is faster and more reliable
- Review and change land use and zoning ordinances to be more transit supportive
- Facilitate better pedestrian, bicycle, and microtransit access for first mile/ last mile travel to the existing and potential future transit corridors

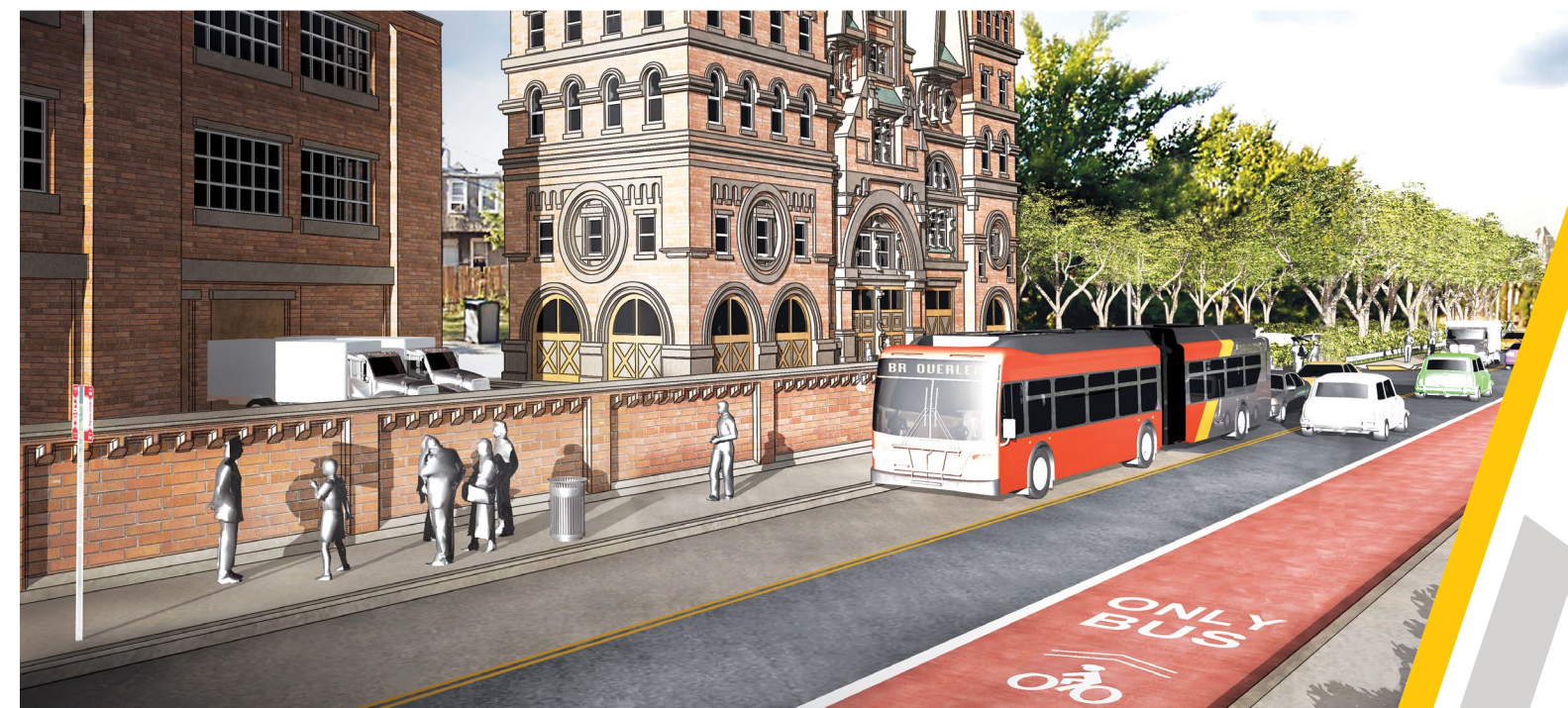
Benefits of the Regional Transit Corridors

Fully implementing all of the Regional Transit Corridors will result in a significantly more connected region with better access to jobs and other opportunities. Today, half the region's jobs are accessible by transit; however, without these corridor investments, the percentage will drop to 45 percent as the region grows outside of areas currently served by transit. Comparatively, if the top 11 corridors are implemented, 49 percent of the region's jobs will be accessible transit. If all 30 corridors are implemented, 62 percent of the region's jobs would be accessible by transit.

How the Initiatives Work Together to Connect the Region

The three types of initiatives in the Plan - Strategies, Transit Network Improvements, and Regional Transit Corridors - are mutually supportive. They offer a comprehensive, coordinated blueprint to advance and connect the region as it grows, and investments in one should complement the others.

The successful implementation of these strategies will require jurisdictions, transit providers, and stakeholders to work together to coordinate infrastructure investments, planning, and development across the region.



7



Funding and Financing The Plan

Funding and Financing the Implementation of The Plan

The Plan includes a wide range of transit improvements and investments in the region without consideration of cost; funding will be needed to implement the recommended initiatives. Some of the initiatives are funded in existing budgets, but much of the existing funding is committed to operating and maintaining the current transit system, the costs of which is increasing more quickly than the rate of revenue growth. New initiatives, expanded services, and capital projects require either new funding sources or the reallocation of existing funds.

Currently, nearly all transit funding in Central Maryland comes from either federal, State, or county government sources. To implement improvements,

all three levels of government will need to participate, and new stakeholders such as businesses, medical institutions and universities may need to provide funding as well. Funding for implementation of the Plan is likely to come from the following sources.

State Funding – The State of Maryland, through the Maryland Department of Transportation, is currently the single largest source of funding for transit in Central Maryland. The Transportation Trust Fund (TTF) is funded through several dedicated taxes, fees, operating revenues such as transit fares, and bond sales which are assigned to the Transportation Trust Fund. The motor fuel tax and vehicle titling tax are two of the largest sources of TTF revenue. Revenues are not earmarked for any specific purpose and are allocated to capital improvements and operations through the State’s annual budget process.

The COVID-19 pandemic’s impacts continue to challenge all aspects of life – from public health to individuals’ employment status, the full breadth of this disease’s effects have yet to be realized. Many of the TTF revenue sources have been severely disrupted by the pandemic. With dramatic decreases to the levels of traveling, driving, purchasing, and earning, the TTF is experiencing substantial losses to projected funding levels. Funding transportation projects around the state will require strategic consideration and a conservative approach to ensure the state can sustainably fund the critical infrastructure investments needed to safely operate the transportation system. While in the short-term, this devastating pandemic may impact the sequence and speed with which the proposed investments and projects can be advanced, MDOT MTA remains committed to advancing toward the 25-year vision the Plan proposes.

Federal Funding - The Federal Transit Administration (FTA) funds public transit systems through “formula” and “discretionary” grants. All federal grants must be matched with State and local funds. The State match amount depends on the program, but usually ranges from 20 to 60 percent of the project cost.

Formula Grants are determined by allocation formulas established in federal law that include factors such as population and the size of the transit system. There are several formula grant programs, each of which can only be used in certain areas of the region or for certain transit services. Formula grants are generally used for larger system preservation projects that are programmed to support maintaining the existing transportation infrastructure.

Discretionary Grants are competitively awarded for specific projects. Well known discretionary grant programs

for transit projects include Better Utilizing Investments to Leverage Development (BUILD) and Capital Investment Grants (CIG). BUILD grants are generally appropriate for smaller projects (up to \$30 million) and CIGs are for larger fixed guideway rail and bus rail projects. Examples of current discretionary grant-funded projects include North Avenue Rising in Baltimore City.

Capital Investment Grants are available for larger fixed guideway bus and rail projects that expand the existing system. There are three categories within the CIG program:

- New Starts,
- Small Starts
- Core Capacity

Small Starts are for projects with a total cost of \$300 million or less, while New Starts projects are larger. There are few projects in Central Maryland that would qualify for the Core Capacity program.

To be considered for CIG funds, applicants follow a multi-step process with FTA approval at each step. FTA evaluates each project in terms of 1) project justification and 2) local financial commitment. Project justification includes factors such as mobility improvement, environmental benefits, congestion relief, cost-effectiveness, economic development, and transit-supportive land use. The local financial commitment rating includes the funds that will not be coming from the CIG program, the strength of the capital funding plan, and the strength of the transit agency's operating funding.

Historically, CIG funding is very competitive, with many more projects seeking funds than funds available. Although the maximum CIG share of the funding is 80 percent the average federal share is 55 percent and FTA rewards projects that seek less than 40 percent with a higher rating.

Local Funding – In Central Maryland, every county and Baltimore City support transit for the LOTS systems with funding for operations and to match federal and state (TTF) funds for capital projects. Compared to other regions of the U.S., local funding is a small share of total transit funding. Generally, counties in Maryland use General Funds which are comprised of income and property taxes. Because General Funds are fully used for a range of public services, counties have relatively little opportunity to redirect funds to expand transit. Counties have the authority to implement tax surcharges in specific areas for specific purposes which could be a mechanism to provide additional funding for transit. This method of tax surcharges, often sales tax surcharges, are used extensively in other areas of the United States.

Non-Traditional Funding and Financing – “Non-Traditional” funding refers to funding sources that are either rarely used or not used at all in Central Maryland but are common in other regions. This includes special tax districts and contributions from large businesses and institutions such as hospitals and universities, some of which operate shuttle services for their employees and students. It may

be possible to pool these funds and use them for “open door” services that could be used by the public. Additionally, institutions or large employment centers could contribute directly to support the cost of the enhanced service they directly benefit from.

When considering how to fund transit, it is important to recognize the differences between funding and financing. “Funding” refers to what is directly available from revenue sources, whereas “financing” refers to the methods used to leverage future revenue. Traditional financing includes public sector debt such as MDOT's Consolidated Transportation Bonds. Alternative financing includes public-private partnerships (P3s) that involve private debt. Either way, a source of revenue to re-pay the debt must be identified. Alternative financing and partnerships can help reduce the overall cost burden, but they are project-specific and do not typically solve region-wide funding challenges.

Funding Implementation of the Plan

For transit corridors the next step involves identifying corridors for future study by the Implementation Team. This study will examine current and future travel demand and ways to meet the demand in more detail. A range of alternative alignments and modes will be analyzed, and an environmental analysis will identify potential adverse impacts to both the natural and human environment. Public input will inform both the identification of the need to be addressed as well as the recommended solutions. MDOT MTA or the local jurisdiction will develop capital and operating cost estimates for the recommended solutions and consider the potential availability of both traditional and non-traditional sources of funding and financing. The financial “feasibility” of the project will be considered along with the project's transportation benefits, and the project parties will make a determination whether the project will proceed to the engineering and construction phases.





Next Steps

This ambitious plan will support the region's growth, sustain the environment, transform communities, and connect residents to jobs and services. It will improve the way we move through our daily lives. To continue the momentum sparked through the development of the Plan, an initial implementation plan outlines actions for the first five years.

An Implementation Team comprising MDOT MTA, representatives from the local jurisdictions, advocates, and the business community will work together to enact the Plan. An Implementation Coordinator at MDOT MTA will provide staff support to the Implementation Team. The Implementation Coordinator and the support staff will be responsible for:

- working with the Team to prioritize the initiatives in the Five-Year Implementation Plan
- assigning workgroups and delineating roles and responsibilities for advancing the plan
- tracking progress annually using identified performance measures
- selecting which corridors, hubs, and TNI improvements are studied and implemented first

Five-Year Implementation Plan



Provide Faster, More Reliable Service

- Install real-time information displays at key transit hubs
- Design and construct improvements at three transit hubs
- Reintroduce MDOT MTA limited-stop service where appropriate
- Investigate and implement targeted investments for Local Bus and Commuter Bus:
 - An additional five corridors of Transit Signal Prioritization
 - An additional 10 miles of dedicated bus lanes
 - Traffic signal retiming on Howard Street



Grow Ridership

- Institute a curb management committee with the local jurisdictions
- Explore level boarding, all-door boarding and off-board fare collection
- Actively pursue transit-oriented development opportunities around rail stations
- Develop a park-and-ride lot plan to grow the capacity and access to Commuter Bus
- Study extending MARC Train service to L'Enfant Plaza in Washington, D.C., and northern Virginia and closing the commuter rail gap to the north and providing connectivity to SEPTA in Delaware and Pennsylvania

- Convene a Task Force of MDOT MTA, state agencies, city and county agencies, business representatives, community representatives, and riders to focus on growing ridership



Increase Access to Jobs and Opportunities

- Initiate planning studies for two to three "Early Opportunity" Corridors
- Initiate and implement five Small Area Transit Plans
- Identify and actively develop Shared Mobility hubs throughout the region
- Identify ways to improve coordination of private shuttles and the expansion of the use of Commuter Choice Maryland



Improve the Customer Experience

- Identify ways to simplify fare structures and integrate payment systems throughout the region
- Enhance the cleanliness of stations, stops and vehicles using appropriate sanitization protocols
- Identify actions to reduce assaults on operators



Be Equitable

- Improve the efficiency of paratransit services with a focus on increasing subscription trips, synchronizing paratransit span of service with local bus service, and improving trip scheduling
- Conduct ADA accessibility surveys, and passenger amenity reviews and begin implementation of improvements at all Light Rail and Metro Subway stations
- Increase number of bus shelters located in low-income areas
- Investigate and implement ways for further collaboration and coordination of transit service including the use of Shared Mobility options to improve transit access
- Create an Equity Manager position at MDOT MTA to proactively integrate an equity perspective into transit planning, service provision, and communication
- Review agency marketing and communications to ensure access for all people including those with vision, hearing, or speech disabilities or limited English language proficiency
- Include more opportunities for community member participation in transit projects, including involvement in project planning

- Support policies and programs that improve transit access to economic and social opportunities such as affordable housing, jobs, education, grocery stores, recreation, and healthcare, particularly in underserved communities






Prepare for the Future

- Prioritize the rehabilitation and replacement of safety and service critical assets on schedule to maintain a state of good repair
- Procure zero-emission vehicles and infrastructure for the MDOT MTA bus fleet
- Identify and implement ways to reduce energy use, water use, and GHG emissions
- Conduct a skills and software needs assessment across all providers
- Improve coordination and collaboration ensuring transit investments are in line with state and local plans, that new development is transit supportive, and that efforts are made to concentrate investments in designated growth areas
- Participate in the Baltimore Regional Transportation Board study of transit governance and funding






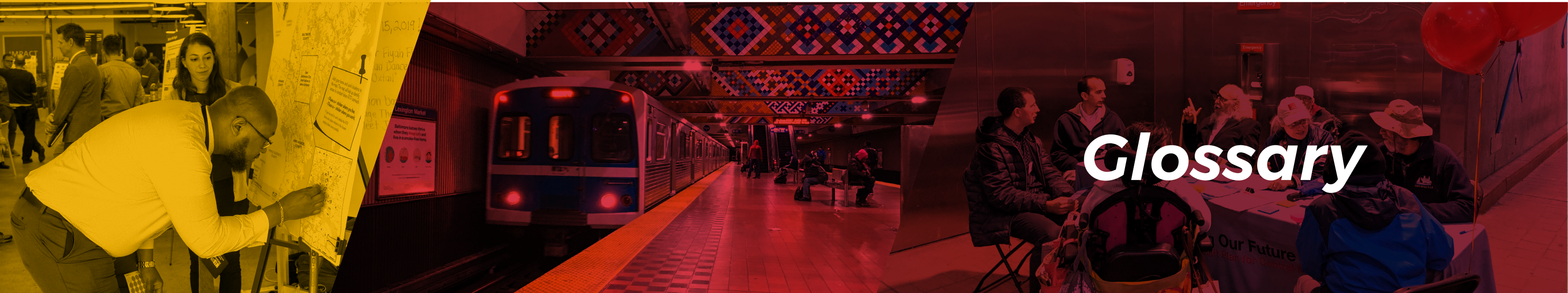
Tracking Our Progress

The Implementation Team will coordinate and monitor progress using identified performance measures and short and long-term targets. The Plan has identified measures for each of the objectives, and identified 5-year and 25-year targets. The following table presents these targets. For further detail on the metrics please see the Technical Reports.

Objective	Measure	Baseline	2025 Target	2045 Target
 Provide Faster, More Reliable Service	MDOT MTA's on-time performance for Core Bus	70%	85%	90%
	Establish on-time performance reporting for all agencies in the region	-	Achieved	Maintain
	Percent of transit vehicles accurately reporting real-time data	89%	100%	Achieved
	Average bus speed (mph) on the Frequent Transit Network during peak periods	12 mph	Baseline + 15%	Baseline + 50%
	On-time performance for MDOT MTA paratransit service	90%	95%	95%
	Number of miles of dedicated bus lanes	5.8 miles	18 miles	30 miles
	Numbers of intersections with Transit Signal Priority	66	100	150
	 Grow Ridership	Systemwide fixed-route ridership in the region	94 million	Baseline + 10%
Percent of people commuting by transit in the region		7%	9%	15%
 Increase Access to Jobs & Opportunities	Percent of region's residents living within ¼-mile of a bus stop or ½-mile of a rail station	40%	45%	60%
	Percent of the region's jobs within ¼-mile of a bus stop or ½-mile of a rail station	50%	55%	70%

In coordination with local jurisdictions, MDOT MTA will maintain a Progress Dashboard on its website to track the progress of the Regional Transit Plan in achieving the six objectives. Starting with existing numbers as a baseline, the following measures will be tracked regularly, some annually, others as the data becomes available.

Objective	Measure	Baseline	2025 Target	2045 Target
 Improve the Customer Experience	Implement a common fare platform for all transit providers	-	Achieved	Maintain
	Increase MDOT MTA customer Satisfaction survey rating	3.33/5	Baseline + 10%	Baseline + 40%
	Establish customer satisfaction rating for LOTS	-	Achieved	Maintain
	Maintain MDOT MTA's standing as one of the safest transit systems out of the top 12 U.S. transit agencies	-	Maintain	Maintain
	 Be Equitable	Percent of low-income population that has access to frequent transit	34%	36%
Percent of minority communities with access to frequent transit		34%	36%	57%
Percent of households with no car that have access to frequent transit		52%	55%	72%
Number of bus shelters located in low-income areas		282	Baseline + 35%	Baseline + 100%
 Prepare For the Future	Percent of stops and stations that are ADA accessible	19%	30%	100%
	Percent of fleet that are zero-emissions vehicles	0%	Initiate ZEV procurement	95%
	Implement a CAV project	-	Achieved	Achieved
	Percent of assets (by value) in state of good repair backlog	16%	10%	5%



Glossary

ADA-Accessible Transit Stops and Stations: Transit stops and stations that comply with the minimum design requirements of the Americans with Disabilities Act of 1990 and the ADA Accessibility Guidelines (ADAAG) published by the United States Access Board are called “accessible” or “ADA-compliant.” These design requirements are intended to ensure that people with disabilities, including people who use mobility devices such as wheelchairs, scooters, or walkers and people with visual impairments, among others, can board and exit transit vehicles at stops and stations.

Americans with Disabilities Act (ADA): The Americans with Disabilities Act gives civil rights protections to individuals with disabilities. It guarantees equal opportunity for individuals with disabilities in employment, public accommodations, transportation, State and local government services, and telecommunications.

Asset management: A model that prioritizes funding based on the condition and maintenance of transit assets, such as vehicles, equipment and/or facilities.

Connected and Automated Vehicles (CAVs): A vehicle that can drive itself from a starting point to a predetermined destination in “autopilot” mode using various in-vehicle technologies and sensors, including adaptive cruise control, active steering, anti-lock braking systems, GPS navigation technology, lasers and radar.

Curb Management: Curb Management seeks to inventory, optimize, allocate, and manage curbspaces to maximize mobility and access for the wide variety of curb demands, including parking, deliveries, taxis, TNCs, bikes, transit.

Bus Rapid Transit (BRT): An enhanced bus system that operates in exclusive bus lanes in order to combine the flexibility of buses with the efficiency of rail. BRT typically utilizes a combination of advanced technologies, infrastructure and operational investments that provide significantly better service than traditional bus service.

Demand response transit: Demand-response transit is a non-fixed route, flexible transit service, often referred to as dial-a-ride. DRT provides curb-to-curb or door-to-door pickups and drop-offs upon customers’ request and usually requires advanced scheduling by the customer

Farecapping: Fare capping limits how much you pay for all your trip in a day, week or month. Once your pass purchases and activations in a day, week or month add up to the value of a higher value pass you will automatically be provided the higher

value pass to use for the remaining period of time. With fare capping, social equity is achieved by removing upfront cost barriers associated with the recurrent passes.

Fixed Guideway: Fixed guideway means any public transportation facility which utilizes a separate right-of-way or rails. This includes, but is not limited to light rail, commuter rail, metro subway, and exclusive facilities for buses

Frequent Transit: In this plan Frequent Transit is defined as operating at least every 15 minutes during peak periods, and at least every 20 to 60 minutes off-peak.

Locally Operated Transit Systems (LOTS): Maryland transit systems that provide primarily bus service and demand response service within the local areas in which they operate.

Green Infrastructure: Green infrastructure is an approach to water management that protects, restores, or mimics the natural water cycle. Green infrastructure is effective, economical, and enhances community safety and quality of life.

Integrated fare payment system: an integrated payment system will permit passengers to use different public transit services with the same electronic ticket, either a contactless card or a card with a magnetic stripe.

Low-Income: People with an annual household income at or below 150% of the federal poverty line.

Low Income Areas: Low-income areas are Census tracts where the percentage of residents at or below the poverty line is greater than the regionwide percentage of population that earns a household income at or below 100% of the federal poverty line.

MDOT MTA Customer Satisfaction Survey: MDOT MTA conducts an annual survey of its riders to monitor the travel habits, needs, and levels of satisfaction of its customers and, through comparisons via regularly scheduled and repeated iterations, cultivate a valid and reliable method for ongoing examination and analysis.

Microtransit: This is a form of demand-responsive transit. This technology-enabled transit service offers flexible routing or flexible scheduling of minibuses. Conceptually, microtransit fits somewhere between private individual transportation (cars or taxicabs) and public mass transit (bus).

Minority Community: Minority community block groups are defined as Census block groups with a higher percentage of minority residents than the regional average of 44% minority residents. Minority residents are defined as all non-white or Hispanic residents.

Mobility as a Service (MaaS): MaaS is the integration of various forms of transportation services into a single mobile app. The app offers riders the most efficient, seamless connection from point A to point B by combining and coordinating various modes of transportation services. These modes

include, but are not limited to fixed route transit, on-demand ride-hailing and ride-sharing, taxis, bicycles and scooters, and many others. Ideally, a rider would use a mobile app to book and pay for their whole trip. Passengers would have the option of paying per trip or subscribing to a plan that would allow them a specific number of trips per month contingent on the plan's terms. Once a trip is booked, the platform would work automatically to route the best modes of transportation, within accordance of the rider's preferences, to arrive at the final destination.

Mode: A term used to distinguish between different ways of transportation or transporting people (e.g., bus, light rail, Metro, bike, walk, car, etc)

On-Time Performance: MDOT MTA uses the measure of two minutes early to seven minutes late when determining whether a local bus is on-time. Paratransit has a 30 minute window.

Paratransit Service: A transportation service that supplements larger public transit systems by providing individualized rides without fixed routes or timetables. Paratransit includes ADA complementary paratransit, demand-response transportation services, subscription service, shared-ride taxis, carpools, and vanpools. Additional services may be provided to serve older adults, rural residents, or other populations.

Peak Period: The hours of highest demand for service, usually in the early morning and late afternoon

Real time information: Information available to transit providers or customers about the current status of vehicles, including approximate locations and predictive arrival times.

Ridematching: Programs to help travelers find travel partners for carpooling and ridersharing.

Regional Transit Corridors: Regional Transit Corridors have regional significance and often provide connectivity between different jurisdictions. These corridors demonstrate sufficient transit demand to justify infrastructure, service, and technology improvements. Appropriate modes for regional corridors are higher capacity and higher speed modes including limited stop or express bus, bus rapid transit (BRT), light rail, heavy rail, or commuter rail. Methods to improve travel speeds include transit priority, dedicated right of way, offboard fare payment. The frequency of service should be at least every 15 minutes during peak periods and 20-60 minutes off-peak; while the service operates at least 14 hours a day.

Shared Mobility: Shared mobility is the shared use of a vehicle, motorcycle, scooter, bicycle, or other travel mode. Shared mobility provides users with short-term access to one of these modes of travel as they are needed.

Signal priority: see Transit Signal Priority

Transit Hub: Transfer points for multiple transit routes or modes. Typically, a transit hub includes enhanced amenities (shelters, benches, information). A transit hub is often a good place for transit-oriented development.

Transit-Oriented Development (TOD): A development approach that encourages intensifying and inter-mixing land uses (residential, office, retail, and entertainment) around transit stations or transit hubs, integrating public amenities (open spaces and landscaping), and improving the quality of walking and bicycling as alternatives to automobile travel.

Transit Signal Priority: Transit signal priority is simply the idea of giving special treatment to transit vehicles at signalized intersections. Since transit vehicles can hold many people, giving priority to transit can potentially increase the person throughput of an intersection.

Transportation Network Company (TNC): A company that connects paying passengers with drivers who provide the transportation on their own non-commercial vehicles via website and mobile applications. Also known as mobility service providers (MSP) or on-demand transportation, such as Uber or Lyft.

Zero-emission vehicles: A vehicle that emits no exhaust gas from the onboard source of power.

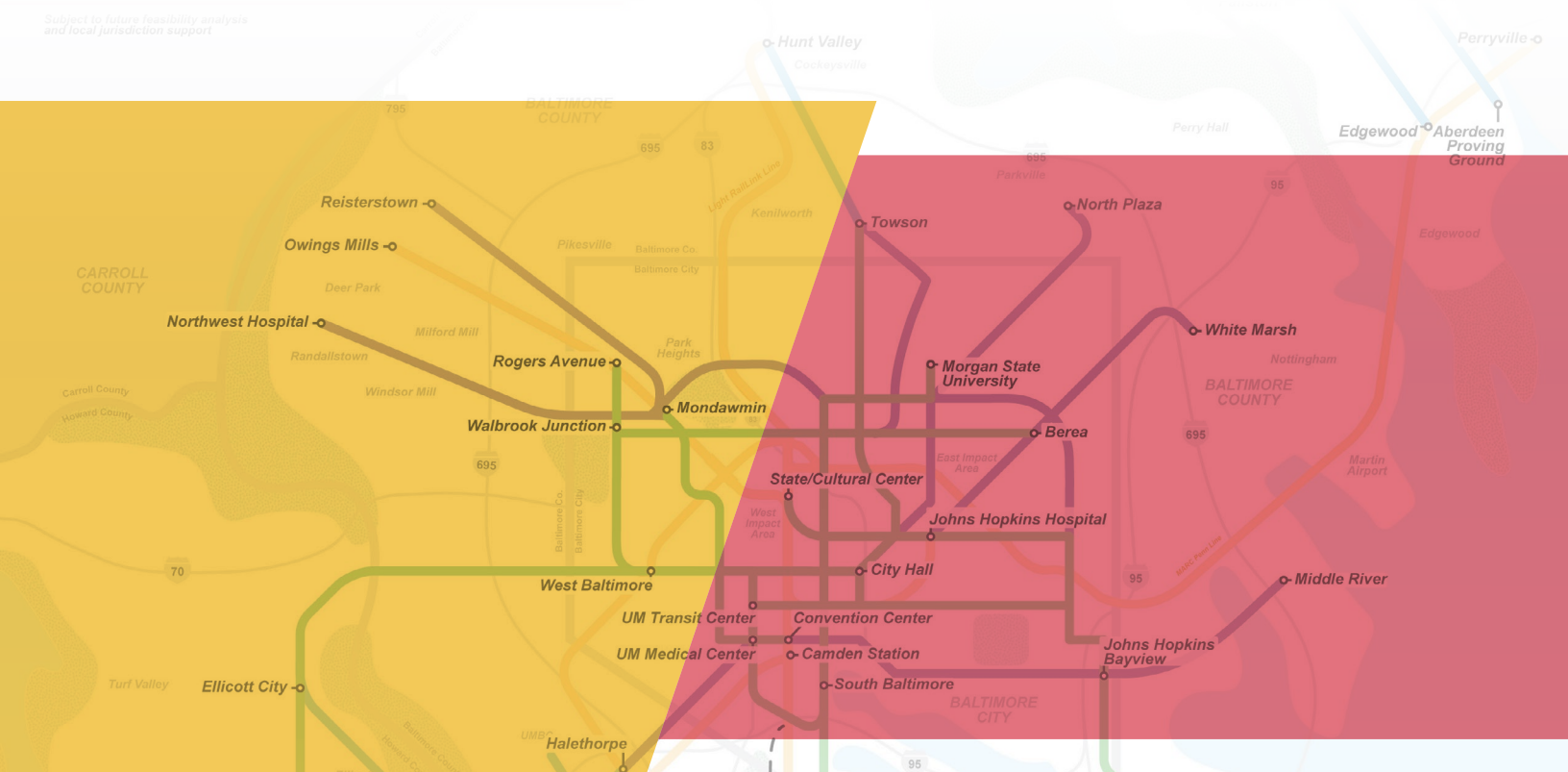




Connecting Our Future

A Regional Transit Plan for Central Maryland

Subject to future feasibility analysis and local jurisdiction support



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