



Chapter 7

Resilience 2050 Major Capital Projects

Anticipated Projects: 2028-2050

The Transportation Improvement Program (TIP) consists of near-term projects with defined scopes, established schedules and committed funding. In contrast, *Resilience 2050* consists of long-term commitments to system operations and system preservation, along with details on specific expansion projects. While prior LRTPs have not detailed specific system preservation projects, *Resilience 2050* includes several large-scale system preservation projects.

These long-term projects generally have only conceptual scopes, potential schedules and anticipated funding. The TIP covers the period from 2024 to 2027. The planning horizon for *Resilience 2050* begins immediately after and must cover a minimum of 20 years per federal requirements. *Resilience 2050* covers the period from 2028 to 2050.

Local jurisdictions and state agencies submitted 98 candidate projects for consideration, including 62 roadway projects and 36 transit projects. There are always more projects submitted than the region can afford to include in the LRTP. Working with local jurisdictions and state agencies, we selected a list of projects for *Resilience 2050* from among the 98 candidate projects. The projects were selected by applying the adopted evaluation and scoring criteria, consistent with federal laws and policies and the region's adopted transportation goals. The number of projects included depends on estimated year of expenditure (YOE) costs of projects and the financial forecast for the region. Chapter 6 summarizes each of these elements in more detail. Cost estimation methodologies, project evaluation criteria and project scores are available in Appendix B.

The fiscally constrained list of projects included in *Resilience 2050* is known as the preferred alternative. Ninety-two of the 98 projects were selected, including all of the transit projects and 56 of the roadway projects. In addition to the specific expansion and system preservation projects, the preferred alternative also consists of funding allocated for operation and maintenance of existing systems. For the projects and



programs in the preferred alternative, we coordinated with the Maryland Department of Transportation (MDOT) to identify future funding sources the region reasonably anticipates will be available. This is to comply with the requirement for a financially constrained plan.

The major capital expansion and system preservation projects in the *Resilience 2050* preferred alternative have only generally defined scopes. Similarly, funds to cover the design, right-of-way and construction phases of these projects for the most part have not been committed yet. Such funds would come from forecasted revenues the region reasonably expects to be available for major projects throughout the life of the plan. Project sponsors may or may not be able to commit these anticipated funds to specific projects during the life of the plan. Rather, the projects included in the preferred alternative represent our best judgment about what is desirable and what meets the federal requirement for fiscal constraint, all while considering existing conditions and future expectations.

Analysis of the Potential Effects of Major Capital Projects

We included major capital projects in the master network of programmed and planned system improvements. We analyzed this master network using a travel demand model. The travel demand model combines socioeconomic forecasts of future households, population and employment with anticipated changes to the transportation network to model

future effects on air quality and travel demand. The travel demand model is also used to evaluate potential effects of the projects in *Resilience 2050* on Environmental Justice populations. Appendix C shows the results of these analyses.

Other Programs and Projects

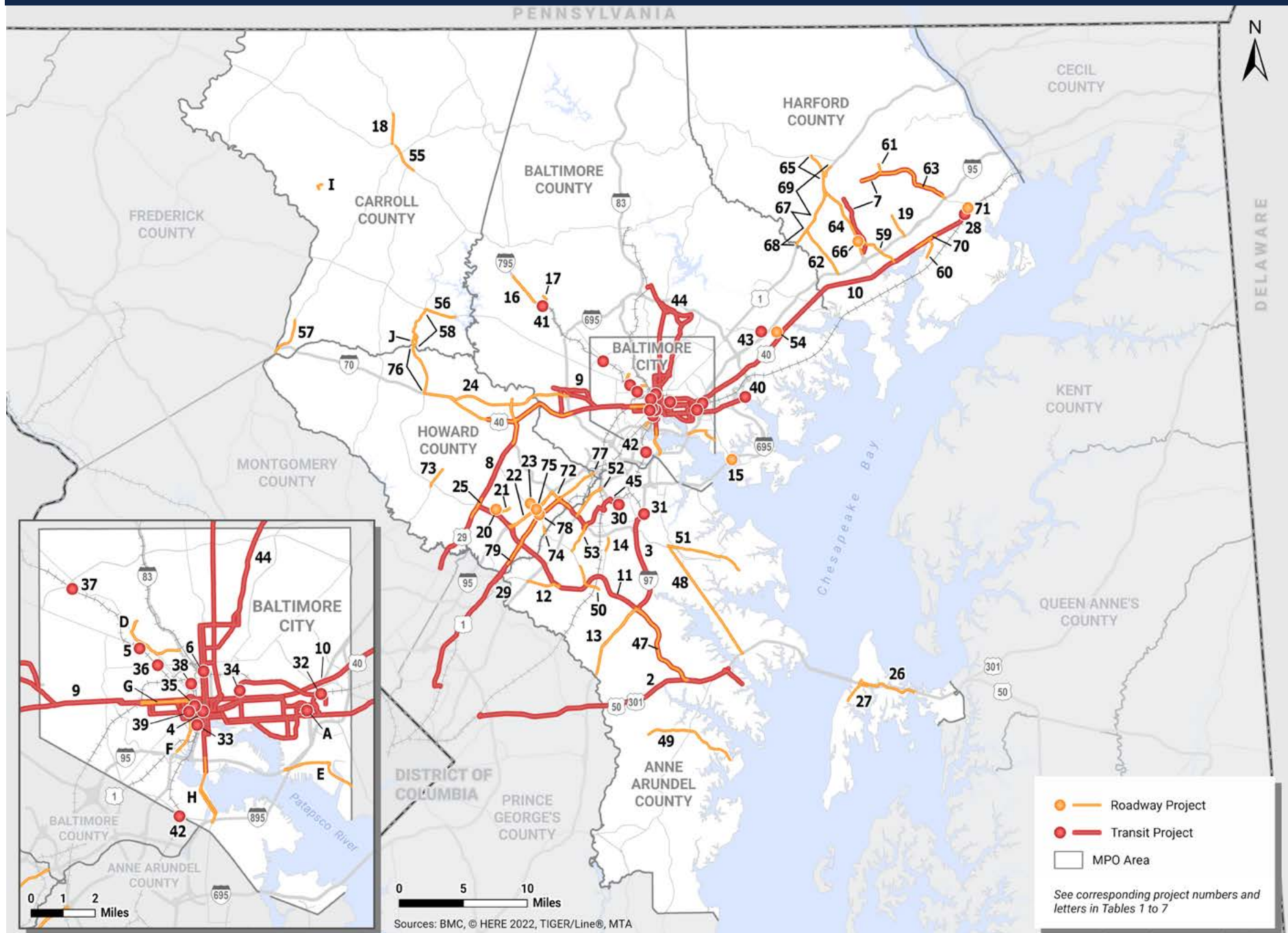
This chapter also lists other categories of programs and projects. This includes funding set aside from the financial forecast to fund programs and initiatives that will improve air quality in the Baltimore region. Set-aside funds are part of the financially constrained LRTP.

The federally funded projects in the *Resilience 2050* preferred alternative are anticipated to use funds from the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA). However, *Resilience 2050* must also account for projects funded by other sources that affect air quality and travel demand. These include projects funded by Maryland Transportation Authority (MDTA) toll revenues and rail projects using Federal Railroad Administration (FRA) funding. Each of these categories of programs and projects is summarized at the end of this chapter.



The fiscally constrained list of projects in *Resilience 2050* is known as the preferred alternative.

Map 1 - Locations of Major Capital Expansion and System Preservation Projects: 2028-2050 (See corresponding project numbers and letters in Tables 1-7)



*Projects marked with an asterisk in the following tables are not location specific and do not appear in this map

Preferred Alternative – Expansion and System Preservation Projects: 2028-2050

The tables beginning on the next page show major capital expansion and system preservation projects in the timeframes within which we anticipate they might be implemented. Sponsors, in coordination with MDOT SHA and MDOT MTA, provided current year cost estimates. We then applied an inflation factor, consistent with MDOT

expectations, out to the expected year of operation to arrive at estimated YOE cost estimates.

Current assumptions about project scopes, future inflation rates and future conditions could change over the next four years by the time of the next update of the regional plan. For this reason, these cost estimates should be considered conceptual in nature, based on the best available knowledge and expectations.

Expansion Projects

Figure 1 shows a breakdown of anticipated expansion investments by type and time period. Tables 1-4 beginning on the next page provide details on these expansion projects. The ID corresponds to the project numbers on Map 1.

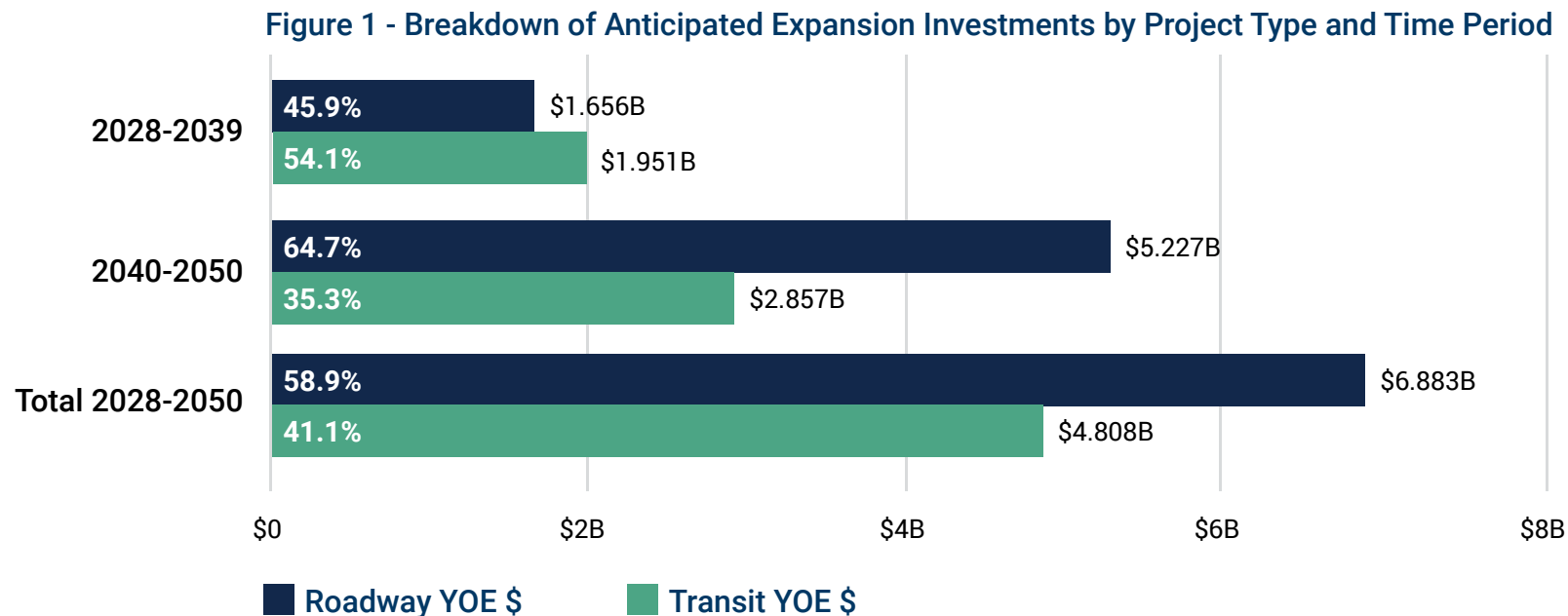


Table 1 - Transit Expansion Projects: 2028-2039

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
1*	Anne Arundel County	Anne Arundel Countywide Microtransit	Countywide	Expand microtransit service in Anne Arundel County from 1 zone in the south to 7 zones, providing on-demand transit services to connect to existing fixed route services across the entire county.	A countywide microtransit system would address many of the first / last mile issues with existing passenger rail, light rail and regional / local bus services in the County, increasing the ability of residents to take advantage of existing services that might otherwise not be available to them.	\$3,000,000
2	TBD Anne Arundel County	Annapolis to New Carrollton Transit	New Carrollton to Parole 21.0 miles	New Express Bus service between Parole and New Carrollton with stops at major communities along the way.	Limited transit alternatives exist between the Annapolis and Prince George's County / Washington DC areas. Providing a new high-quality transit service would expand economic opportunity and increase regional mobility and accessibility for vulnerable populations in both communities.	\$3,000,000
3	TBD Anne Arundel County	Glen Burnie to Annapolis Transit	Cromwell / Glen Burnie to Annapolis / Parole 16.0 miles	New Express Bus service between Annapolis / Parole and Glen Burnie along I-97.	Frequent, high-quality service connecting the state capital area with the Glen Burnie / BWI areas and to the City of Baltimore via the existing light rail service connection will increase economic opportunities for both areas. It will also help reduce demand on MD 2 and I-97, thus reducing the environmental impacts of SOV travel.	\$7,000,000
• 4 • 5 • 6	MDOT MTA 3 Locations in Baltimore City	MDOT MTA Transit Hubs: • Charles Center • Mondawmin • Penn Station	Jurisdiction: • Baltimore City • Baltimore City • Baltimore City	MDOT MTA has identified transit hub locations as part of the Regional Transit Plan. Typically, a transit hub includes enhanced amenities (shelters, benches, information). The Penn Station project has received \$5M in Congressionally Designated Funding for multimodal access improvements to the station and a Federal RAISE discretionary grant to further fund investments around the station.	Transit hubs are important for both passengers and operators. Well-situated and well-designed transit hubs can significantly improve transferring from one system, mode or vehicle to another. At a minimum, a transit hub should include amenities like shelters, benches, real-time information and CCTV for security. Comfort stations will be considered to support bus operators, particularly at terminal stops and stations. 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 / 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.	• \$14,000,000 • \$7,000,000 • \$19,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
7	MDOT SHA Harford County	Transit Signal Priority	MD 22 corridor from MD 543 to Long Drive / Technology Drive 7.4 miles MD 924 corridor from MacPhail Road to Woodsdale Road 4.7 miles	Construct queue jump lanes along MD 22 and MD 924 and install equipment on buses that syncs with traffic signals along these corridors.	Improve service and mobility for current and future riders by addressing capacity, frequency and reliability.	\$2,000,000
8	TBD Howard County	US 29 Bus Rapid Transit	US 40 to MD 198 (Burtonsville, MD) 16.0 miles	Connect Ellicott City to Columbia, Maple Lawn and Burtonsville at MD 198 in Montgomery County, including separated facilities on US 29 to integrate with Montgomery County improvements and the development of a transit center in Downtown Columbia.	Strengthen and support transit as well as economic connections between the Baltimore and Washington, DC regions, with a focus on connecting state and local investment in Downtown Columbia, Maple Lawn, Applied Physics Laboratory, Burtonsville, White Oak and Silver Spring. Provide greater access to housing, educational, cultural and recreational opportunities in each region. Service and road improvements will address peak hour congestion to enhance mobility, including partnering with other improvements on US 29 to enhance capacity and safety such as reducing bottlenecks at Rivers Edge Road and other proposed projects in Montgomery County.	\$20,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
9	MDOT MTA Regional	East-West Transit Corridor (Project now known as the Red Line)	Ellicott City to Essex 17.0 miles	New east-west transit service to connect major Baltimore region destinations like West Baltimore, Downtown, East Baltimore and the western suburbs as identified in the RTP.	Corridor represents a major area of transit infrastructure need. Specific transit routes and/or stations, modes, alignments or service levels have not been determined. Careful study is required to assess demand and local context before investing in specific transit assets. This corridor is an Early Opportunity Corridor selected for its potential to benefit the highest number of people, jobs and households in the region in the short term. Corridor exhibits strong market demand and represents a critical link in the regional transit system. Corridor serves areas with a high density of jobs and population as well as high concentrations of vulnerable populations.	\$1,829,000,000
10	MDOT MTA Regional	MDOT MTA Commuter Service	Harford County to Downtown Baltimore and Harbor East	Additional MDOT MTA commuter bus service from Harford County to Downtown Baltimore and Harbor East.	Improve service and mobility for current and future riders by addressing capacity, frequency and reliability.	\$2,000,000
11	TBD Regional	Annapolis to Fort Meade to Columbia Transit	Annapolis / Parole to Fort Meade to Columbia 25.0 miles	New Express Bus service between Parole and Columbia with primary service to Fort Meade and stops at major communities along the way.	Fort Meade / NSA is one of the primary job hubs of the state. Express bus service to and from Columbia and Annapolis will expand economic opportunities for residents and reduce vehicular demands on those corridors.	\$45,000,000

*Project does not appear in map

Table 2 - Roadway Expansion Projects: 2028-2039

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
12	MDOT SHA Anne Arundel County	MD 198	MD 295 to MD 32 2.7 miles	Widen from 2 to 4 lanes and construct a continuous center median. Widen ramp at MD 295. Provide bicycle and pedestrian facilities within project limits.	Support economic growth at and around Fort Meade by constructing additional travel lanes to reduce congestion and a median that will improve safety. Improvements will enhance access to this major employment hub.	\$275,000,000
13	MDOT SHA Anne Arundel County	MD 3	MD 450 to MD 32 6.2 miles	Targeted widening from 4 to 5 lanes, including intersection improvements, access controls to address safety, TSMO ¹ strategies to address congestion and bicycle and pedestrian improvements.	Address capacity issues along MD 3, improve operations at intersections, improve roadway safety and enhance bicycle and pedestrian accessibility.	\$95,000,000
14	MDOT SHA Anne Arundel County	MD 170	Norcross Lane to Wieker Road 0.8 miles	Widen from 2 to 4 lanes, resurface and restripe along MD 170 and along MD 174 to create new turn lanes and increased capacity at the MD 170 / MD 174 intersection, including sidewalks and bicycle compatible shoulders.	Improve safety and operations along MD 170 from Norcross Lane to Wieker Road, including the intersection of MD 170 and MD 174.	\$23,000,000
15	MDOT Baltimore County	I-695 at Broening Highway Interchange		Construct a partial interchange at Exit 44 of I-695 to support redevelopment at Sparrows Point.	Maximize the potential redevelopment activities at TradePoint Atlantic and improve access to this major activity center. Allow for truck avoidance of the toll plaza and reduce truck traffic affecting residential communities on Dundalk Avenue and Holabird Avenue.	\$147,000,000
16	MDOT SHA Baltimore County	I-795	Owings Mills Boulevard to Franklin Boulevard 2.6 miles	Widen from 4 to 6 lanes and construct a full interchange at Dolfield Boulevard, including TSMO strategies.	Improve access to the planned growth corridor along Red Run Boulevard in Owings Mills.	\$155,000,000
17	MDOT SHA Baltimore County	MD 140	Painters Mill Road to Owings Mills Boulevard 0.4 miles	Widen from 4 to 6 lanes, including a raised median, bicycle accommodations and pedestrian facilities.	Accommodate ongoing development in the area by adding capacity. Addition of a median will manage turning movements and increase safety.	\$33,000,000

¹ Transportation System Management and Operations (TSMO) includes a set of strategies that focus on operational improvements that can maintain and even restore the performance of the existing transportation system before extra capacity is needed.

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
18	MDOT SHA Carroll County	MD 97	Bachmans Valley Road to MD 140 in Westminster 2.4 miles	Widen from 3 to 5 lanes, with a full interchange at Meadow Branch Road and bicycle and pedestrian facilities.	Support economic vitality of the community by reducing congestion and improving operations through widening MD 97 and constructing an interchange at Meadow Branch Road. Improve multimodal mobility with bicycle and pedestrian facilities.	\$202,000,000
19	MDOT SHA Harford County	MD 543	MD 136 to I-95 1.9 miles	Widen from 2 to 4 lanes, including intersection upgrades at MD 136, turn lanes, capacity upgrades to the MD 543 / I-95 interchange and bicycle and pedestrian access. Improvement will fix queuing problems on MD 543 through the intersection with MD 7.	Relieve congestion and improve access, capacity, mobility and safety for passenger and freight traffic as well as bicyclists, pedestrians and transit riders. Address extreme queuing issues at I-95 interchange.	\$140,000,000
20	Howard County	Broken Land Parkway at Snowden River Parkway	Broken Land Parkway from south of MD 32 to north of Snowden River Parkway; Snowden River Parkway from east of Minstrel Way to Patuxent Woods Drive 0.25 miles	Capacity, operational and safety improvements at this signalized intersection as well as access improvements to the MD 32 / Broken Land Parkway interchange ramps.	This major East Columbia intersection is a “gateway” to West and Downtown Columbia and is integral to the operations and community and economic health of Columbia. Existing peak period congestion and safety problems to / from MD 32 create significant traffic safety problems and impede economic vitality of Snowden River Parkway corridor. Broken Land Parkway, a major arterial connection to Downtown Columbia, also is impeded with congestion and crashes. Improvements will include ADA-compliant pedestrian access as well as bicycle and transit access / mobility improvements. Project will reduce pedestrian and bicycle vulnerability and sideswipe, angle and rear end collisions, improve freight access and mobility and reduce congestion in this complex intersection.	\$63,000,000
21	Howard County	Snowden River Parkway Widening	Broken Land Parkway to Oakland Mills Road 1.1 miles	Widen from 4 to 6 lanes, including auxiliary lanes and pedestrian, bicycle and transit improvements on both sides of the road.	Enhance capacity and safety, including significant pedestrian, bicycle and transit improvements. Reduce diverted traffic using the local road network. Improve commuting, freight operations and alternate modal choices for travel. Augment prior Federal, State and County investment and mitigate traffic demand on parallel routes MD 175 and MD 32.	\$21,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
22	MDOT SHA Howard County	I-95	MD 32 to MD 100 6.0 miles	Create peak hour part-time shoulder use lanes.	Relieve congestion and improve freight movement by adding one outside lane in both directions during peak hours. Creating additional merge area at entrance ramps will increase safety.	\$45,000,000
23	MDOT SHA Howard County	MD 175 / MD 108 Interchange	0.25 miles in all directions from the current intersection and a direct connection of MD 108 to Columbia Gateway Drive. 0.25 miles	This T-intersection experiences significant congestion and an even worse collision experience. Existing intersection exhibits a collision rate higher than almost all intersections in Howard County. A partial grade-separation with direct access into Columbia Gateway will improve intersection capacity and alleviate the high collision rate.	Mitigate and reduce impacts at this congested intersection within the I-95 corridor, which currently experiences very high rates of rear-end and sideswipe collisions. Improve access to I-95 and direct access to Columbia Gateway, a Regional Activity Center. Improve commuter access to / from I-95, US 1 and US 29 as well as access for nearby communities, commercial uses (retail, offices) and schools. Facilitate access to the Columbia Association Gateway pathway system.	\$102,000,000
24	MDOT SHA Howard County	TSMO System 1	I-70 from I-695 to MD 32 (11.0 miles) US 29 from MD 99 to MD 100 (4.0 miles) US 40 from I-695 to I-70 (10.0 miles)	Implement a combination of information technology and geometric improvements to address safety and operations within TSMO System 1 including I-70, US 29 and US 40.	Improve safety and operations along I-70, US 29 and US 40.	\$48,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
25	MDOT SHA Howard County	US 29	Patuxent River Bridge to Seneca Drive 1.7 miles	Widen northbound US 29 from 2 to 3 lanes, including improvements at intersection with Rivers Edge Road.	Reduce congestion by adding one lane in the northbound direction to match the southbound typical section. Improve safety at the Rivers Edge Road intersection.	\$103,000,000
26	MDOT SHA Queen Anne's County	MD 18	Kent Narrows to Bay Bridge – MD 18 and MD 835 on east side of Kent Narrows to MD 18 5.0 miles	Widen from 2 to 4 lanes, including right-of-way acquisition, utility relocation, new pedestrian improvements and reconstruction of intersections to improve capacity, safety and mobility on the only alternate route to US 50/301 on the island.	More than 26 million vehicles travel US 50/301 and cross the William Preston Jr. Memorial Bridge annually, making this a vital transportation corridor in the mid-Atlantic region. MD 18 is the only alternate route to US 50/301 for 10 miles from the US 50/301 split in Queenstown to the Bay Bridge. MD 18 is vital to mobility in the area, access to services and emergency service response and transport. Widening MD 18 to add capacity, improve safety and maintain mobility as volumes and congestion on US 50/301 increase is vital to the transportation system while MDOT is planning for additional capacity for crossing the Chesapeake Bay.	\$114,000,000
27	MDOT SHA Queen Anne's County	MD 8 / US 50/301 Interchange and Service Roads	Skip Jack Parkway south to Davidson Drive; east to Thompson Creek service road 2.0 miles	Widen from 2 to 4 lanes, convert MD 8 overpass to full divergent diamond interchange with US 50/301, and add Thompson Creek and Cox Creek service roads to improve traffic flow, add capacity and allow for alternate routes to services and residential areas. Provide for bike and pedestrian improvements along existing and new routes.	MD 8 is predominantly a 2-lane road that serves as the only access to a 10-mile residential peninsula on southern Kent Island. Widening northern sections of MD 8 and reconstructing existing overpass will add capacity, improve safety, reduce congestion and allow for pedestrian and bike access in corridor. Reconstructing MD 8 overpass into a divergent diamond will improve mobility and access of daily commuters to Chesapeake Bay Bridge. Project allows for safe bike and pedestrian access across US 50/301, connecting existing improvements north and south of US 50/301. Thompson Creek service road will allow access to business and allow some traffic to bypass more congested sections of MD 8. Shoulder use on MD 8 North is permitted in limited circumstances at times of severe congestion.	\$90,000,000

Table 3 - Transit Expansion Projects: 2040-2050

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
28	TBD Harford County	Aberdeen MARC Station	US 40 at MD 132 (Bel Air Avenue)	TOD, new train station, additional parking, US 40 "Green Boulevard" and remove pedestrian overpass and replace with Station Square Plaza - a new pedestrian underpass and green, terraced plaza / amphitheater.	Improve service and mobility for current and future riders by addressing capacity, frequency and reliability.	\$126,000,000
29	TBD Howard County	US 1 Corridor Bus Rapid Transit	Dorsey MARC Station to College Park Purple Line Station 19.5 miles	Bus Rapid Transit will emulate light rail operation at a lower cost, and is designed to link Howard County commuters from the Dorsey MARC to the Laurel MARC Station and the City of Laurel as well as to College Park and the Purple Line Light Rail.	More closely link the Baltimore and Washington regions to foster greater economic, educational, housing, cultural and recreational opportunities without peak hour and other congestion. Provide increased mobility to the University of Maryland, enhancing educational opportunities and resulting in stronger state investment in the University.	\$281,000,000



ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
<ul style="list-style-type: none"> • 30 • 31 • 32 • 33 • 34 • 35 • 36 • 37 • 38 • 39 • 40 • 41 • 42 • 43 	<p>MDOT MTA</p> <p>14 Locations throughout the region</p>	<p>MDOT MTA Transit Hubs:</p> <ul style="list-style-type: none"> • BWI Airport • Glen Burnie • Bayview Medical Center • Camden Station • Johns Hopkins Hospital • Lexington Market • Penn-North • Rogers Avenue • State / Cultural Center • UM Medical Center • Essex • Owings Mills • Patapsco • White Marsh 	<p>Jurisdiction:</p> <ul style="list-style-type: none"> • Anne Arundel • Anne Arundel • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Baltimore Co • Baltimore Co • Baltimore Co • Baltimore Co 	<p>MDOT MTA has identified transit hub locations as part of the Regional Transit Plan. Typically, a transit hub includes enhanced amenities (shelters, benches, information).</p>	<p>Transit hubs are important for both passengers and operators. Well-situated and well-designed transit hubs can significantly improve transferring from one system, mode or vehicle to another. At a minimum, a transit hub should include amenities such as shelters, benches, real-time information and CCTV for security. Comfort stations will be considered to support bus operators, particularly at terminal stops and stations. 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 / last mile access at hubs. TOD is often centered around a transit hub, though not all transit hubs are appropriate for TOD.</p>	<ul style="list-style-type: none"> • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000 • \$9,000,000
44	<p>MDOT MTA</p> <p>Regional</p>	<p>North-South Transit Corridor</p>	<p>Towson to Downtown Baltimore (potentially Lutherville to Port Covington)</p> <p>14.0 miles</p>	<p>New North-South transit service to connect Towson to Downtown Baltimore, with associated investments to significantly improve the speed and reliability of transit service in this busy corridor.</p>	<p>Corridor represents a major area of transit infrastructure need. Specific transit routes and/or stations, modes, alignments or service levels have not been determined. Careful study is required to assess demand and local context before investing in specific transit assets. Corridor is an Early Opportunity Corridor selected for its potential to benefit the highest number of people, jobs and households in the region in the short term. Corridor exhibits strong market demand and represents a critical link in the regional transit system. Corridor serves areas with a high density of jobs and population as well as high concentrations of vulnerable populations.</p>	<p>\$2,025,000,000</p>

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
45	TBD Regional	Bus Rapid Transit to BWI	Dorsey MARC Station to BWI Light Rail Station 9.7 miles	New Bus Rapid Transit service from the Dorsey MARC station to Arundel Mills to BWI consolidated rental car facility to the BWI light rail station.	Benefit the region by more closely linking the Baltimore and Washington regions via connectivity to the MARC Camden Line, jurisdictions within the Baltimore region and BWI airport, a major transportation facility. Reduce commuter traffic congestion on major arterials and automobile emissions.	\$240,000,000
46*	TBD Regional	Chesapeake Bay Ferry Service		Establish a passenger ferry between numerous ports along the Chesapeake Bay.	Support goal addressing community vitality and economic prosperity by establishing an alternative mode of transportation that supports tourism and economic development.	\$59,000,000

*Project does not appear in map

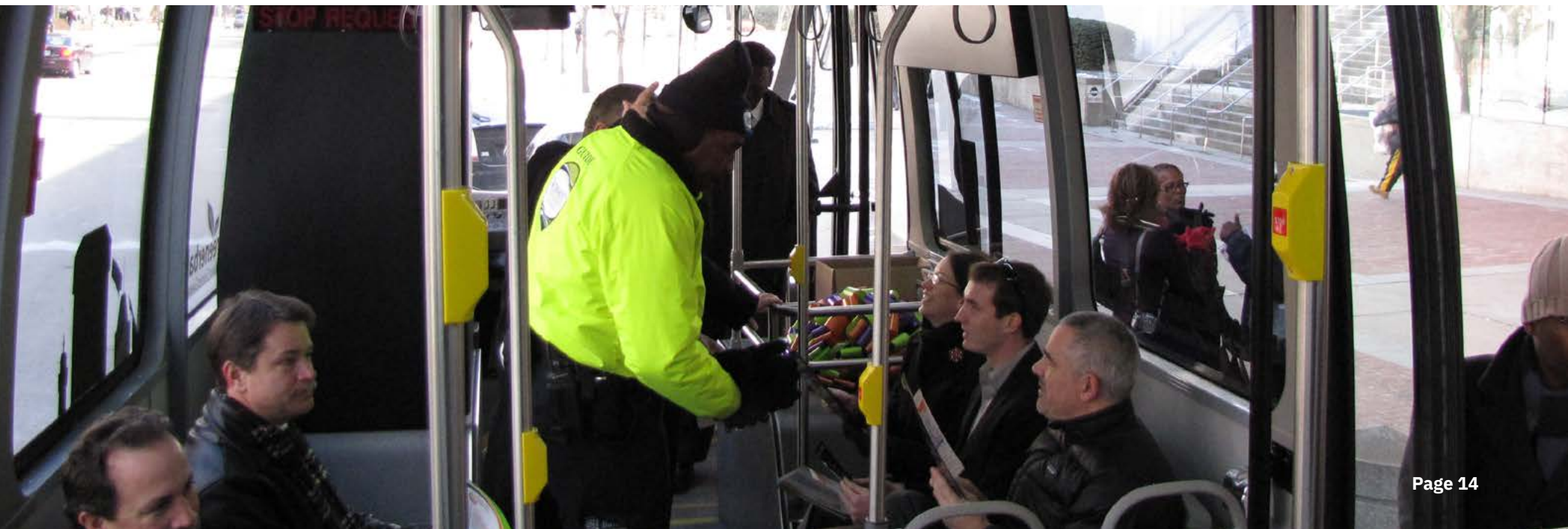


Table 4 - Roadway Expansion Projects: 2040-2050

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
47	MDOT SHA Anne Arundel County	I-97	MD 32 to US 50/301 6.5 miles	Widen from 4 to 6 lanes, adding managed lanes (HOV lanes) to address capacity needs. Investigate need for additional interchange access in Crownsville.	I-97 provides a gateway to the City of Annapolis and the Eastern Shore. Bottlenecks occur on roadway year round. The project will support the US 50/301 improvements (Bay Bridge).	\$450,000,000
48	MDOT SHA Anne Arundel County	MD 2	US 50 to MD 100 10.0 miles	Widen existing 4-lane sections to 6 lanes to create a continuous typical section throughout corridor, including intersection improvements and pedestrian facilities throughout to connect MD 2 to the B&A Trail at various locations.	Address existing congestion, improve lane utilization and accommodate high volumes of MD 2 traffic utilizing TSMO strategies.	\$205,000,000
49	MDOT SHA Anne Arundel County	MD 214	MD 424 to Shoreham Beach Road 7.5 miles	Widen from 2 to 4 lanes east of MD 2, bicycle improvements throughout most of the corridor and pedestrian improvements in segments. Traffic signal warrant assessments recommended at MD 214 / Riva Road and MD 214 / Stepneys Lane intersections.	MD 214 provides an essential link between the Edgewater area to the rest of the County and the Washington, DC region. It serves local traffic in Edgewater as well as commuters traveling to job centers in Washington, DC, Fort Meade, the NSA and Annapolis. Proposed improvements include bicycle and pedestrian infrastructure for improved safety as well as intersection improvements and some segments of additional through lanes for congestion relief.	\$236,000,000
50	MDOT SHA Anne Arundel County	MD 175	Reece Road to MD 170 2.7 miles	Widen from 4 to 6 lanes, including improvements at the MD 32 interchange and bicycle and pedestrian facilities.	Support the growth of cyber-security activities at Fort Meade by relieving congestion with added travel lanes, improving traffic operations with access controls in the form of a center median and supporting multimodal access to this major employment hub with extensive bicycle and pedestrian facilities.	\$277,000,000
51	MDOT SHA Anne Arundel County	MD 177	MD 2 to Lake Shore Drive 6.1 miles	Widen from 2 to 4 lanes, including intersection improvements and improved bicycle and pedestrian infrastructure in accordance with the County Study and MDOT SHA MD 177 Operational Analysis.	Reduce vehicle crashes by installing a median island, improve capacity at various intersections, widen segments of MD 177 and provide bicycle and pedestrian infrastructure where none currently exists.	\$223,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
52	MDOT SHA Anne Arundel County	MD 295	MD 100 to I-195 3.3 miles	Widen from 4 to 6 lanes, including a new full interchange at Hanover Road and an extension of Hanover Road from the CSX railroad tracks to MD 170.	Support economic growth at BWI. Relieve congestion and improve freight movement by adding one lane to MD 295 in both directions. Develop a key component of the local network with the Hanover Road interchange and extension.	\$393,000,000
53	MDOT SHA Anne Arundel County	MD 713	MD 175 to MD 176 2.6 miles	Construct corridorwide improvements including reconstruction and widening, intersection improvements and bicycle and pedestrian accommodations. Primary widening is from 2 to 4 lanes between MD 175 and Stoney Run Drive.	Widen the roadway and improve intersections to address congestion. Reconstruct the roadway to include sidewalk and shared use paths to improve bicycle and pedestrian safety and facilitate existing transit along the corridor. MD 713 connects Fort Meade and NSA to Arundel Mills and by connecting to MD 176, improves access for all modes to BWI Airport.	\$68,000,000
54	MDOT SHA Baltimore County	MD 7 at MD 43 Interchange		Upgrade interchange from partial to full, including two new ramps to accommodate full movements at interchange.	Improve mobility through the corridor and provide another important link between the MD 43 corridor and White Marsh Town Center in the White Marsh growth area.	\$82,000,000
55	MDOT SHA Carroll County	MD 140	Market Street to Sullivan Road 2.5 miles	Widen from 6 to 8 lanes, with a full interchange at MD 97, continuous flow intersections at Center Street and Englar Road, and bicycle and pedestrian facilities.	Improve mobility and provide additional capacity for planned growth and economic development within Westminster.	\$474,000,000
56	MDOT SHA Carroll County	MD 26	MD 32 to the Liberty Reservoir 2.5 miles	Widen from 4 to 6 lanes, including a raised median, intersection improvements and pedestrian facilities.	Addition of a median and partial access controls will improve safety along the corridor. Continuous pedestrian facilities will improve multimodal access to employment and service centers.	\$120,000,000
57	MDOT SHA Carroll County	MD 27 Corridor Improvements	Carroll County Line to Leishear Road 3.2 miles	Widen to a consistent four lanes, including dedicated turn lanes, signalized traffic control, boulevard separation of lanes and controlled intersections to allow pedestrian crossings.	The MD 27 corridor serves the needs of Frederick and Carroll Counties, and is a vital link between I-70 and northern Carroll County. Several large undeveloped parcels in this area are targeted for significant employment and residential uses.	\$78,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
58	MDOT SHA Carroll County	MD 32	Howard County Line to MD 26 3.4 miles	Widen from 2 to 4 lanes with pedestrian and bicycle facilities.	Addition of two lanes addresses anticipated traffic growth. Construction of a median and access controls will increase safety in the corridor. Pedestrian and bicycle facilities will improve multimodal connections.	\$66,000,000
59	Harford County	Abingdon Road	MD 924 to US 40 3.0 miles	Capacity improvements including turn lanes, bicycle lanes and sidewalks.	Improve safety and pedestrian access from commercial areas along MD 924 to residential communities to the east.	\$87,000,000
60	Harford County	Perryman Access - Mitchell Lane	US 40 in the vicinity of Mitchell Lane to Canning House Road 2.0 miles	Construct a new 2-lane road and bridge over Cranberry Run in Perryman, including turn lanes and bicycle and pedestrian access.	Improve access, mobility and safety into and out of the Perryman Peninsula for passenger and freight traffic as well as bicyclists, pedestrians and transit users. Roadway will be the primary access for residential developments in the western part of the peninsula and to the north of the Amtrak railroad tracks.	\$62,000,000
61	Harford County	Thomas Run Road	MD 22 to West Medical Hall Road 0.8 miles	Streetscape and capacity improvements, including center turn lane, sidewalks, bicycle accessibility, pedestrian-scale lighting with banners, crosswalks and street furniture.	Partnership between Harford Community College and Towson University will bring expected growth and planned expansion. Project will improve safety, mobility and access for passenger traffic, bicyclists and pedestrians on and around these campuses.	\$21,000,000
62	MDOT SHA Harford County	MD 152	US 1 to I-95 4.3 miles	Capacity improvements including turn lanes and bicycle and pedestrian access where applicable.	Improve access, mobility and safety for passenger and freight traffic as well as bicyclists, pedestrians and transit users.	\$103,000,000
63	MDOT SHA Harford County	MD 22	MD 543 to I-95 7.9 miles	Widen existing 2 and 3 lane sections to 4 and 5 lanes, including an HOV lane from Old Post Road to the Aberdeen Proving Ground (APG) gate, bicycle and pedestrian access and transit queue jump lanes and transit priority system where applicable.	MD 22 corridor is a major east west arterial in Harford County connecting the municipalities of Bel Air and Aberdeen with direct access to the main APG gate. The road has interchanges with I-95 and US 40. A segment of the roadway is designated as part of the East Coast Greenway.	\$221,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
64	MDOT SHA Harford County	MD 24	US 1 Bypass to south of Singer Road 5.0 miles	Widen from 4 to 6 lanes, including sidewalks and bicycle accommodations where appropriate.	Increased traffic volumes continue to stress the roadway network in and around the town of Bel Air. The MD 24 corridor links Bel Air, Forest Hill and communities in the northern part of Harford County with I-95 and the US 40 corridor.	\$128,000,000
65	MDOT SHA Harford County	MD 24 (Rock Spring Road)	US 1 Bypass to MD 23 1.8 miles	Widen from 2 to 4 lanes, including turn lanes and completion of shared use path adjacent to the roadway from Forest Valley Road to Red Pump Road.	Increased traffic volumes continue to stress the roadway network in and around the town of Bel Air. This section of roadway is a gateway into the County's growth area from rural northern Harford County communities.	\$44,000,000
66	MDOT SHA Harford County	MD 24 at Singer Road Interchange		Elevate grade of cross street through movement as well as left turn movements from all directions while allowing MD 24 through and right turn movements as well as side street right turn movements to operate with free-flowing movements as described in MD 924 study.	Reduce congestion and improve safety and operations by transforming an at grade intersection into a full grade-separated intersection.	\$182,000,000
67	MDOT SHA Harford County	US 1	MD 152 to MD 147 / US 1 Business 1.3 miles	Widen from 4 to 6 lanes, including bicycle and pedestrian accommodations.	Increased traffic volumes continue to stress the roadway network in and around the town of Bel Air. US 1 is a major transportation corridor linking Bel Air with northeast Baltimore County.	\$212,000,000
68	MDOT SHA Harford County	US 1	Baltimore County Line to MD 152 1.4 miles	Widen from 4 to 6 lanes, including turn lanes and bicycle and pedestrian access where applicable.	Improve the safety and operational characteristics of US 1.	\$35,000,000
69	MDOT SHA Harford County	US 1 Bypass	MD 147 / US 1 Business to Hickory Bypass 4.6 miles	Widen from 2 to 4 lanes and improve US 1 / MD 24 and US 1 / MD 924 interchanges.	Reduce congestion with added roadway capacity. Interchange improvements will improve safety and operations. Support economic development and improve quality of life in Harford County communities.	\$354,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
70	MDOT SHA Harford County	US 40	MD 543 to Loflin Road 1.7 miles	Widen from 4 to 6 lanes, including turn lanes, a partial interchange reconstruction at MD 543 and bicycle and pedestrian access.	Project can relieve some of the congestion on I-95 by providing local travelers an alternate route. Includes bicycle and pedestrian improvements.	\$93,000,000
71	MDOT SHA Harford County	US 40 at MD 22 Interchange		Improve capacity, reconfigure the existing interchange, restrict all left turn movements (allowing room for designated bike lanes) and relocate the existing signal from MD 22 to US 40.	Improve capacity and safety at this interchange for passenger, freight and transit traffic as well as bicyclists and pedestrians.	\$48,000,000
72	MDOT SHA Howard County	MD 100 Widening	I-95 to Anne Arundel County Line 2.0 miles	Widen from 4 to 6 lanes with additional merge/diverge lanes.	MD 100 experiences daily capacity and safety issues (merging/weaving), especially during peak periods, that negatively impact commuting and freight / commercial and regional traffic. Local traffic diverts to local road networks, overloading the capacity and operational capability of these roadways. Widening MD 100 east of I-95 will relieve these problems and accommodate increasing demand for MD 100. Prior investment for initial MD 100 construction will be positively augmented by further investment.	\$47,000,000
73	MDOT SHA Howard County	MD 108	Trotter Road to Guilford Road 1.7 miles	Improvements as articulated in the 2014 Clarksville Pike Streetscape Plan & Design Guidelines / Traffic Study. Includes selected road capacity enhancements, sidewalks, shared use paths and traffic signal upgrades.	Current road design negatively impacts existing and newly developing commercial land uses. In coordination with private sector development, project will deliver operational and safety improvements. Project will improve mobility to MD 32 and provide for safe access for pedestrians and cyclists along the corridor.	\$64,000,000
74	MDOT SHA Howard County	MD 175	Oceano Avenue to Anne Arundel County Line 0.5 miles	Widen from 2 to 4 lanes, including bicycle, transit and pedestrian improvements consistent with Anne Arundel County widening proposals.	Improve multimodal inter-jurisdictional traffic. Improve housing, commuting and freight options (to / from the Baltimore region). Provide benefits to new and existing communities and commercial land uses through access for all travel modes. Facilitate freight access to / from Dorsey Run Road and MD 295 and access to the MARC Camden and Penn lines.	\$24,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
75	MDOT SHA Howard County	MD 175 at I-95 Interchange	1.0 miles	Improve existing full interchange consistent with preferred options in the MDOT SHA MD 175 Improvement Study.	Reduce congestion and improve mobility at this critical point on the regional and national highway network and support freight movement to and from distribution centers in the area.	\$196,000,000
76	MDOT SHA Howard County	MD 32	North of I-70 to Carroll County Line 4.0 miles	Widen from 2 to 4 lanes to provide safety, capacity, operational and access improvements on MD 32.	MD 32 connects high growth area of Carroll County with growing job markets in Howard County.	\$79,000,000
77	MDOT SHA Howard County	US 1	Baltimore County Line to MD 175 5.5 miles	Widen from 4 to 6 lanes and construct the revised typical section in the State / County MOU for US 1 revitalization, including connecting community destinations in the US 1 corridor to support safety and access as per the US 1 safety evaluation, functional plans and the regional active transportation priority project.	Improve access, mobility, safety and enhance economic activity and opportunity on the corridor by: (a) Enhancing safe and secure access from communities to US 1 and providing safe passage for drivers, pedestrians and cyclists along US 1, which is also supported as a regional active transportation project; (b) Enhancing freight movement by providing sufficient capacity and operations improvements for the corridor's freight and distribution sector; (c) Addressing documented safety hot-spots; (d) Supporting land use and planning efforts to residential and commercial areas; and (e) Supporting local and state efforts to support freight mobility in the county and region.	\$205,000,000
78	MDOT SHA Howard County	US 1 at MD 175 Interchange	0.5 miles	Construct a new grade-separated Single Point Urban Interchange, with MD 175 passing over US 1.	Support commercial revitalization of the US 1 corridor by relieving congestion with a grade-separated interchange. Improve safety by removing at grade turning movements.	\$184,000,000
79	MDOT SHA Howard County	US 1 Revitalization Breakout Projects	MD 175 to Whiskey Bottom Road 4.5 miles	Widen from 4 to 6 lanes along with bicycle, pedestrian, transit, streetscape and access improvements consistent with the US 1 Design Manual. Involve the private sector development community under the auspices of the US 1 State / County MOU and the US 1 Design Manual.	Enable active transportation modes and improve access to affordable housing and commuting options for households and employees in the region. Improve access, safety and active transportation options for existing and new communities and businesses. Eliminate bottleneck locations such as the skewed intersection at Guilford Road. Improve freight movements. Enhance prior investment in this Priority Funding Area.	\$166,000,000



System Preservation Projects

Including further details on large-scale system preservation projects in *Resilience 2050* demonstrates the increasing importance of system preservation, also observed at the national and state level. As our transportation infrastructure ages, system preservation expenditures comprise an increasing share of transportation budgets. This section details only the thirteen specific system preservation projects submitted for *Resilience 2050* and is not reflective of all anticipated system preservation investments from 2028-2050. A summary of estimated system preservation expenditures by category from MDOT MTA and MDOT SHA is included in Chapter 6.

Tables 5-7 beginning on the next page provide details on system preservation projects. The ID corresponds to the project letters on Map 1 on page 3.



As our transportation infrastructure ages, system preservation expenditures comprise an increasing share of transportation budgets.

Table 5 - Transit System Preservation Projects: 2028-2039

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
A	MDOT MTA Baltimore City	Eastern Bus Division		Reconstruct the Eastern Bus Division as an electric bus facility.	Allow for an expanded fleet and enhance MDOT MTA's ability to transition to a zero-emission fleet. Reduce noise pollution, improving the work environment for operators, mechanics and residents who live in the surrounding area.	\$464,000,000
B*	MDOT MTA Regional	Zero-Emission Bus Transition Phase 1	MDOT MTA's core service area in the Baltimore region	Transition 50% of MDOT MTA's 760-bus fleet to zero-emission by 2030. Includes procurement of over 350 Battery Electric Buses by 2030, training the transit workforce and retrofitting Kirk and Northwest bus divisions with charging infrastructure. Beyond 2030, MDOT MTA is preparing to have a 95% zero-emission fleet by 2045.	Improve the region's overall air quality while providing passengers with a comfortable ride. MDOT MTA projects that about 500 million pounds of carbon dioxide emissions will be avoided through use of electric buses instead of diesel buses between 2025 and 2030. Reduce noise pollution, improving the work environment for operators, mechanics and residents who live in the surrounding area. Transition plan updates and ongoing studies will seek to build on those benefits beyond 2030.	\$1,594,000,000
C*	MDOT MTA Regional	Light Rail Fleet Mid-life Overhaul	Hunt Valley to BWI/Glen Burnie	Overhaul the entire Light Rail fleet, extending the fleet's life by approximately 15 years, improving safety and reliability, providing a more comfortable and secure ride and lowering maintenance costs.	Ensure safe operation, reduce ongoing maintenance costs, increase vehicle reliability and availability, and increase passenger comfort and security.	\$210,000,000

*Projects do not appear in map

Table 6 - Roadway System Preservation Projects: 2028-2039

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
D	Baltimore City	Druid Park Lake Drive Complete Streets	Greenspring Avenue in the northeast to I-83 in the southeast along Druid Hill Park 2.2 miles	Redesign Druid Park Lake Drive to implement guidelines and recommendations in the City's Complete Streets Manual. Reduce automobile traffic by removing travel lanes and adding or improving infrastructure and accessible connections for pedestrians, persons with disabilities, bicyclists, transit users and e-scooters.	Baltimore residents indicated overwhelming support for a redesign of Druid Park Lake Drive during public engagement. The 15% design concepts are a starting point for the transformation of the corridor that would make it safe and easy for residents to utilize all of the modes of transportation available to them, enable them to access the excellent park in their backyards, rebuild property values, improve public health and raise the quality of life for thousands of residents.	\$43,000,000
E	Baltimore City	Keith Avenue / Broening Highway Improvements	Clinton Street to the Baltimore City Line Southeast of Ralls Avenue 2.5 miles	Keith Avenue and Broening Highway are part of Baltimore City's critical freight route network, connecting I-95 and the Seagirt and Dundalk Terminal Port facilities. Improvements are needed to upgrade roadway conditions, improve wayfinding and integrate Complete Streets amenities to better accommodate safety for transit, pedestrians and bicyclists.	Both Keith Avenue and Broening Highway are concrete roadways including a prestressed concrete girder bridge. Concrete slabs in the roadway are deteriorated with joints spalling and the roadways are structurally deficient and functionally obsolete. The ramp bridges on Keith Avenue and Colgate Creek are currently weight restricted due to its state of disrepair. As a result, weight restricted trucks have to travel through existing neighborhoods, increasing noise and environmental pollution.	\$84,000,000
F	Baltimore City	Russell Street Complete Streets Improvements	Annapolis Road to South Greene & South Paca Streets 1.0 miles	Russell Street (MD 295) in south Baltimore is in need of investments to improve asset conditions and multimodal Complete Streets infrastructure for automobile traffic and pedestrian, transit and freight movement. Transportation improvements will support safe mobility and economic development in the city's growing southern edge and Camden Yards.	Russell Street is the gateway to the city of Baltimore and to Downtown and south Baltimore for travelers from Washington and the central Maryland suburbs. This corridor serves as an endpoint of the BW Parkway, and as a link to MD 295, I-95 and several MDOT MTA CityLink and CommuterLink bus routes. This corridor also serves as an important connection for the historically disadvantaged, low-income and minority communities to job centers in the Carroll-Camden industrial area, BWI Airport, Downtown Baltimore, Anne Arundel County and points south. The road is in poor condition and difficult to use for walking or biking given the excessive speeding of vehicles and freight traffic. Corridor improvements with multimodal accommodations and traffic calming will ensure this corridor offers a safe, reliable and accessible Complete Streets connection to leverage economic development and community revitalization.	\$54,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
G	Baltimore City	US 40 Highway Deconstruction	Smallwood Street to Greene Street 1.5 miles	US 40 is a depressed expressway built in the 1970s cutting through neighborhoods in West Baltimore. It was intended to connect with I-70, but that connection was never made. Building this fragment of an expressway has caused irreparable damage to community cohesion and economic stability. Deconstructing the highway will offer over 60 acres for redevelopment and improvements to adjacent streets.	When this highway was built in the 1970s, it obliterated 16 blocks of an established community, causing damage to the community fabric, cohesion and economic opportunities. The expressway never connected to its intended destination of I-70, and is a fragment that provides no real value to the transportation network. Instead, it serves as an omnipresent scar of a time when urban, low-income, black communities were impacted at the expense of highways for suburban and more affluent drivers. The space this expressway occupies offers over 60 acres of redevelopment opportunities that could benefit the community impacted by the construction 50 years ago. The area today is a low-income, black community with limited car ownership, educational attainment, jobs and amenities. Deconstructing US 40 provides new opportunities for Complete Streets retrofits and new economic development that can repair what had been lost to improve quality of life.	\$157,000,000
H	Baltimore City	Vietnam Veterans Memorial Bridge and Hanover / Potee Street Corridor Improvements	Patapsco Avenue to Wells Street 2.2 miles	Rehabilitate or replace the Vietnam Veterans Memorial Bridge and improve multimodal Complete Streets infrastructure along the Hanover / Potee Streets (MD 2) corridor in south Baltimore. Transportation improvements will improve accommodations for pedestrians, bicycles, transit, freight and auto traffic to support safe mobility and economic development.	The Vietnam Veterans Memorial Bridge, built in 1916, is past its service life and is not suited to today's transportation needs. This corridor serves as a freight connection between MDOT MPA's Port of Baltimore and I-95 and as a transit connection for several MDOT MTA CityLink bus routes. Furthermore, this corridor serves as an important connection for the historically disadvantaged, low-income and minority Cherry Hill, Brooklyn and Greater Baybrook communities to job centers in Port Covington, Downtown Baltimore, the Port of Baltimore and points south in Anne Arundel County. The bridge cannot safely accommodate bicycles, sidewalks are not ADA compliant and the roadway is a one-way pair with excessive speeding. Corridor improvements with multimodal accommodations and traffic calming will ensure this corridor offers a safe, reliable and accessible Complete Streets connection to leverage economic development and community revitalization.	\$339,000,000

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
I	MDOT SHA Carroll County	MD 31 Corridor Improvements	MD 31 from Church Street to High Street and High Street from Main Street to Coe Drive 0.7 miles	Improve sidewalks, enhance bicycle and pedestrian accessibility and improve the roadway.	Stabilize roadway infrastructure and improve bicycle and pedestrian access to an existing commercial center.	\$16,000,000
J	MDOT SHA Carroll County	MD 851 Urban Reconstruction	Cooper Drive to South Branch of the Patapsco River 1.0 miles	Roadway reconstruction and improvements to pedestrian and bicycle facilities, as well as streetscape amenities.	Project will help restore Sykesville's historic Main Street to an attractive and pedestrian-friendly urban local roadway.	\$16,000,000



Table 7 - Transit System Preservation Projects: 2040-2050

ID	Operating Agency / Jurisdiction	Name	Limits / Length	Description	Justification	Estimated Cost (YOE)
K*	MDOT MTA Regional	Fleet Replacement with Low-Floor Light Rail Vehicles		Transition to low-floor Light Rail Vehicles when replacement is needed. This will require significant station retrofits, modifying maintenance facilities and amending standard operating practices.	Light Rail systems are increasingly moving toward vehicles and platforms providing “level boarding,” in which customers can move from the station platform to the main level of the train without steps or grade changes. This design better accommodates individuals with mobility issues requiring walking aids or wheelchairs or those with strollers or other large items without necessitating “high blocks” or ramps to the wheelchair accessible door on the Light Rail vehicle.	\$757,000,000
L*	MDOT MTA Regional	Zero-Emission Bus Transition Phase 2	MDOT MTA's core service area in the Baltimore region	Transition to a 95% zero-emission fleet by 2045. Capital costs for phase 2 are rough estimates and include retrofitting for Washington Boulevard, a 5th Division and Battery Electric Buses.	Improve the region's overall air quality while providing passengers with a comfortable ride. Reduce noise pollution, improving the work environment for operators, mechanics and residents who live in the surrounding area. Transition plan updates and ongoing studies will seek to build on those benefits.	\$2,228,000,000
M*	MDOT MTA Regional	MARC Rolling Stock Overhauls and Replacements	Penn, Camden and Brunswick MARC Lines	Short-term, medium-term and long-term plans to replace and overhaul MARC locomotives and train sets, including: <ul style="list-style-type: none"> • GP39H-2 Locomotive Mid-Life Overhaul • MP36PH-3C Mid-Life Overhaul • MARC III and MARC IV Railcar Overhaul • Railcar Fleet Replacement • Locomotive Fleet Replacement 	Enhance the rider experience, providing safer and pleasant train service. Improve operational efficiency, with more system reliability and on-time train arrivals and departures. New train sets and locomotives will be environmentally friendly, resulting in lower carbon emissions.	\$570,000,000**

*Projects do not appear in map

**Project benefits multiple MPO regions. Cost listed is 50% of total project cost of \$1.14 billion.

Small Program Set-Asides: 2028-2050

We have set aside funds to support various strategies intended to improve air quality due to the Baltimore region's nonattainment status in regards to the National Ambient Air Quality Standards (NAAQS). These strategies can increase transportation system efficiency or employ Transportation Demand Management (TDM) approaches to reduce travel demand of single-occupancy vehicles (SOV). Transportation system efficiency strategies rely primarily on managing existing transportation facilities, rather than building new capacity. TDM refers to various strategies that change travel behavior (how, when and where people travel) to increase transportation system efficiency. Together, these types of strategies contribute to cleaner air and a safer transportation system. Although most individual strategies

only affect a small portion of total travel, the cumulative impacts of a wide range of strategies can be significant. Objectives that can be addressed through this funding include managing congestion, reducing emissions, promoting equity and improving safety.

We approved a total of \$250 million for these set-asides from the \$12.062 billion in anticipated expansion revenues from federal and state sources detailed in the financial forecast (see Chapter 6). Examples of the kinds of programs and strategies the region can consider implementing during the life of the plan include:

> Transportation System Management and Operations (TSMO) Strategies: TSMO includes a set of strategies intended to optimize the performance of existing infrastructure through the implementation of systems, services and projects designed to preserve capacity and improve security, safety and reliability of the transportation system. This means

using technology and enhanced agency coordination to operate the existing transportation system as safely, reliably and efficiently as possible. Typically, TSMO projects cost less than projects that add capacity, such as construction of a new lane, and they take significantly less time to implement.

Example strategies drawn from MDOT's 2018 TSMO Strategic Plan include:

- Incorporate TSMO in MDOT SHA policies, programs and standard practices
- Implement and institutionalize a TSMO Master Plan
- Promote a culture to mainstream TSMO within and outside MDOT SHA at all levels
- Develop and implement Advanced Traffic Management Systems with Active Traffic Management capabilities
- Develop Integrated Corridor Management capabilities for multimodal passenger and freight movement

- Develop and apply technological foundations for Connected and Automated Vehicles (CAV)
- Implement a comprehensive data-driven performance management program to support TSMO
- Advance data governance, analysis and modeling capabilities to inform planning, operational and TSMO decisions
- Provide reliable and accessible real-time modal choice information to customers
- Raise awareness and general understanding of TSMO by the traveling public

> **Complete Streets Strategies:**

The increased awareness of the needs of all transportation system users, including active transportation users, is the basis of Complete Streets. Complete Streets focuses on creating roadways that are safe and comfortable for all users and that increase equity and access to destinations. Recognizing the importance of active transportation and Complete Streets, many

jurisdictions in the Baltimore region have drafted and adopted Complete Streets policies and plans.

The Complete Streets concept focuses not only on individual roadways but also on changing the decision-making and design processes to consider the needs of all users during the planning, design, construction and operation of all roadways. If done in advance as an integrated best practice and not as an afterthought, a Complete Streets approach can reduce the need for retrofitting and making safety and accessibility improvements after projects are built.

The following list presents some potential investments that follow a Complete Streets approach:

- Improve sidewalks, crosswalks, paths and bike lanes
- Correct specific roadway hazards to non-motorized transport
- Accommodate people with disabilities and other special needs
- Develop pedestrian-oriented land use and building design

- Provide street furniture and design features
- Implement traffic calming, traffic speed reductions and road space reallocation
- Integrate biking and walking facilities with transit
- Provide bicycle parking

> **Transportation Emission Reduction Measures (TERMS):**

The Baltimore region is an EPA-designated nonattainment area for the ground level ozone standard. As the metropolitan planning organization for the Baltimore region, we are required to ensure that transportation planning takes air quality into account through the transportation conformity process (described in Chapter 1).

There are a variety of TERMS that can help mitigate the effects of pollution from automobiles, trucks and other mobile sources on air quality. The following list of TERMS includes examples of promising measures that, when implemented together, can reduce emissions of criteria

pollutants and greenhouse gases in a meaningful way:

- **Technologies:** Fleet bus replacement, truck replacement incentives, incentives/technologies to improve truck fleet efficiency

A connected and safe active transportation network benefits the entire region by improving equitable access to destinations that meet the daily needs of a diverse group of users.

and reduce idling, retrofit highway construction and maintenance equipment, electric vehicle charging infrastructure and promotion of electric vehicles.

- **Capital Improvements:** Park-and-ride lots and virtual truck weigh stations.
 - **Land Use:** TOD and mixed-use land use practices.
 - **Behavioral Strategies:** Promotion of eco-driving, clean commuting, reduced idling and teleworking as well as incentivizing changed behavior through programs such as Commuter Choice, Guaranteed Ride Home and rideshare coordination.
- > **Active Transportation:** Active transportation is critical to the Baltimore region's transportation system and includes bicycling, walking and use of electric scooters, electric bicycles and wheelchairs. A connected and safe active transportation network benefits the entire region by improving equitable access to destinations that meet the daily needs of a diverse group of users. This can include connections

to transit systems, schools, jobs, core services, parks and more. Broadening transportation choices and potentially increasing active transportation use can increase job opportunities, increase physical activity, reduce motor vehicle traffic congestion on roadways, provide tourism opportunities and increase economic competitiveness.

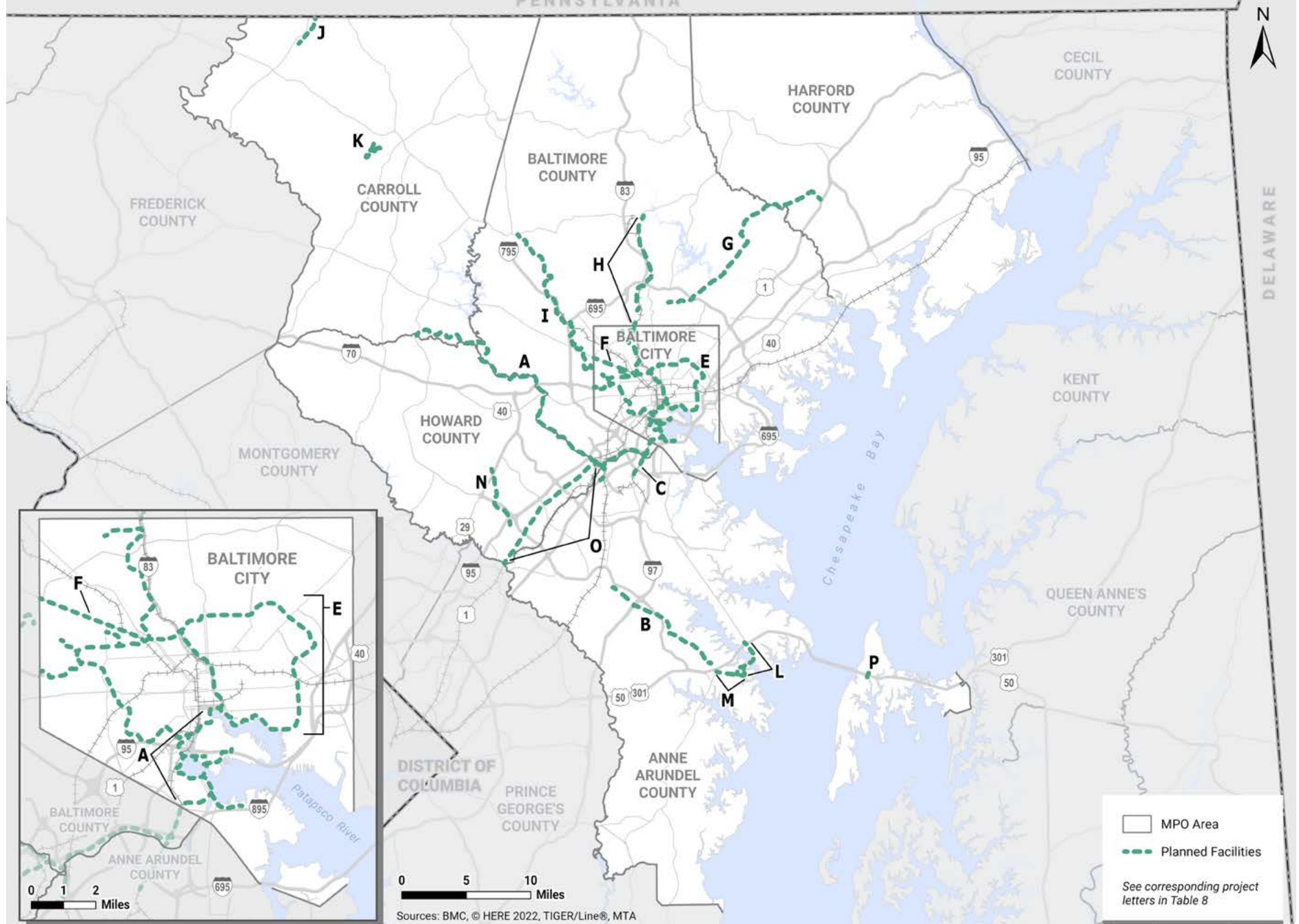
Our Bicycle and Pedestrian Advisory Group worked with local jurisdictions, state agencies and other stakeholders in 2022 to identify the top active transportation priorities in the Baltimore region. We elected to include the full list of active transportation priorities as part of the set-aside funding. Table 8 lists these active transportation priorities, with the corresponding locations shown in Map 2.

Table 8 - Top Regional Active Transportation Priorities (see corresponding letters in Map 2 on the next page)

Map ID	Priority Project	Location	Length
A	Complete the Patapsco Regional Greenway	Region-wide	40 miles
B	Complete the South Shore Trail Missing Segments	Anne Arundel County	13.1 miles
C	Connect BWI Trail Loop to the Gwynns Falls Trail	Anne Arundel County	1.3 miles
D*	Citywide ADA Infrastructure Improvements	Baltimore City	N/A
E	Complete the Baltimore Greenway Trail Network	Baltimore City	35 miles
F	Separated Bicycle Facilities along Liberty Heights Avenue	Baltimore City	3.5 miles
G	Connection through Baltimore County to Ma & Pa Trail in Harford County	Baltimore County and Harford County	17.3 miles
H	Torrey C. Brown/NCR Trail Connections	Baltimore County	7 miles
I	Gwynns Falls Trail Connection	Baltimore County	18 miles
J	Northwest Trail	Carroll County	5.6 miles
K	Wakefield Valley Park Bicycle & Pedestrian Trail System	Carroll County	8 miles
L	B&A Trail - Annapolis Extension	City of Annapolis and Anne Arundel County	4.3 miles
M	Shared Use Path and Sidepath along West East Express	City of Annapolis	2.2 miles
N	Patuxent Branch Trail Completion	Howard County	6 miles
O	Shared Use Path and Sidewalk along US 1 Corridor	Howard County	10.9 miles
P	Connect the Cross Island Trail and South Island Trail	Queen Anne's County	3 miles

**Project does not appear in map*

Map 2 - Top Regional Active Transportation Priorities (See corresponding project letters in Table 8)



Set-Aside Funding for Locally Operated Transit Systems

We have also elected to set aside \$30 million for Locally Operated Transit Systems (LOTS) in the Baltimore region. LOTS in the Baltimore region include Annapolis Transit, Anne Arundel County Transit, Baltimore City's Charm City Circulator, Baltimore County CountyRide and Towson Loop, Carroll County Trailblazer, Harford TransitLINK, Queen Anne's County Ride and the Regional Transportation Agency of Central Maryland.

Potential uses of these funds include capital expenses such as the purchase of vehicles, equipment and facilities.



Resilience 2050 must also account for projects funded by other sources such as MDTA toll revenues that affect air quality and travel demand.

Programs and Projects from Other Funding Sources: 2028-2050

The federally funded projects in the *Resilience 2050* preferred alternative are anticipated to use funds from FHWA and FTA. However, *Resilience 2050* must also account for projects funded by other sources that affect air quality and travel demand. These include projects funded by MDTA toll revenues and the FRA, as well as one former LRTP project that is now included in a neighboring MPO's LRTP.



Maryland Transportation Authority Projects

The MDTA is an independent agency responsible for managing, operating and improving the state's toll facilities. Because MDTA projects are funded by tolls, they are not included in the listing of projects to be supported with federal funds. *Resilience 2050*, however, must account for these projects because of their effects on air quality conformity and travel demand.

Table 9 shows the projects MDTA expects to implement by 2050. We included these projects in the master network of programmed and planned system improvements. We analyzed this master network to determine air quality conformity and to predict system-wide travel demand effects. Appendix C shows the results of these analyses.

Table 9 - MDTA Projects: 2028-2050

Year	Jurisdiction	Name	Limits/Length	Description
2028	Baltimore City	I-895/Baltimore Harbor Tunnel Toll Plaza and Interchange Improvements	K-Truss Bridge to Baltimore Harbor Tunnel 0.7 miles	Remove toll booths and install an overhead gantry at the I-895/Baltimore Harbor Tunnel Toll Plaza, providing two lanes of barrier-separated mainline through-traffic in each direction along I-895 between the K-Truss bridge and the Baltimore Harbor Tunnel. In addition, install a separated collector distributor road in each direction adjacent to the mainline traffic lane between the I-895 interchanges with Frankfurst Avenue and Childs Street. Mainline I-895 modifications include replacing and raising the I-895 bridge over Frankfurst Avenue, replacing the I-895 bridge over Childs Street and removing the I-895 bridge over the toll facility campus storage area.
2029	Baltimore City	I-95: Port Covington Access Improvements	Caton Avenue to Fort McHenry Tunnel 7.0 miles	Improve I-95 ramps along approximately 7 miles of I-95 and sections of Hanover Street, McComas Street and Key Highway. Improvements include: <ol style="list-style-type: none"> 1. I-95 Northbound Off-Ramps: (a) Exit 52, new ramp from Russell Street off-ramp; (b) Exit 53 interchange, new spur from I-395 southbound ramp; (c) Exit 54, remove ramp from I-95 northbound to Hanover Street southbound; and (d) Exit 55, reconstruct ramp from I-95 northbound to McComas Street 2. I-95 Northbound On-Ramps: new ramp from McComas Street to I-95 northbound 3. I-95 Southbound Off-Ramps: new ramp from I-95 southbound to McComas Street westbound 4. I-95 Southbound On-Ramps: realign ramp from McComas Street westbound to I-95 southbound 5. Hanover Street: reconstruction from CSX Bridge to McComas Street westbound to I-95 southbound 6. McComas Street and Key Highway: (a) realign McComas Street; and (b) widen Key Highway between McHenry Row and McComas Street 7. Pedestrian and Bicycle Connections: (a) new sidewalks along Hanover Street and realigned McComas Street; (b) shared use path along Key Highway; and (c) shared use path linking South Baltimore to Port Covington peninsula.

Federal Railroad Administration Projects

MDOT MTA submitted several large-scale projects that are anticipated to use funds from the FRA. The regional LRTP over which we have jurisdiction does not cover FRA-funded projects. These projects are listed in Table 10.

Table 10 - FRA Projects: 2028-2050

Year	Operating Agency / Jurisdiction	Name	Limits	Description
2028-2039	MDOT MTA Regional	Penn Camden Connector		Increase efficiency by consolidating vehicle maintenance and repair for the Penn and Camden Lines, leverage the capital investment in the Riverside Heavy Maintenance Building and facilitate access to a new MARC storage and maintenance facility for Penn Line MARC trains. A new storage and maintenance facility is required as Amtrak's Baltimore Penn Station redevelopment plans do not accommodate the current storage and maintenance at Penn Station.
2028-2039	Amtrak Regional	Frederick Douglass Tunnel/B&P Tunnel Replacement Program	Along the Northeast Corridor and surrounding neighborhoods between Penn Station and Amtrak's Gwynns Falls Bridge	Transform a four mile section of the Northeast Corridor including two new high-capacity electrified tubes, new roadway and railroad bridges, new rail systems and track and a new ADA-accessible West Baltimore MARC station. Design efforts began in 2020. Amtrak has worked closely with MDOT MTA and other partners to conduct public outreach.
2028-2039	MDOT MTA Regional	BWI Fourth Track from Odenton MARC to Halethorpe MARC	Odenton MARC Station to Halethorpe MARC Station	Construct a new platform and improvements to the current station with possible multi-level TOD and addition of 9 miles of fourth track along the Northeast Corridor Line.
TBD	Amtrak Regional	Susquehanna River Rail Bridge Replacement	Havre de Grace (Harford County) to Perryville (Cecil County)	Replace the existing 2-track bridge with 2 new 2-track bridges; realign and reconstruct five route miles of track; and modernize and improve track, catenary and signals for higher speeds. The existing bridge, built in 1906, is owned by Amtrak and is used by Amtrak, Maryland's MARC Commuter Rail and Norfolk Southern Railway to carry passenger and freight trains across the Susquehanna River. The FRA issued a Finding of No Significant Impact (FONSI) for the project, which completes the National Environmental Policy Act (NEPA) process.

MARC Service Project in WILMAPCO LRTP

Our previous LRTP, *Maximize 2045*, included a project to fill the commuter rail gap in the Northeast rail corridor between Perryville, Maryland and Newark, Delaware. This project is included in the LRTP for the Wilmington Area Planning Council (WILMAPCO) MPO, which includes Cecil County, Maryland. We continue to support this project and its benefits to the Baltimore region, but it is not included in the *Resilience 2050* preferred alternative to avoid double counting the project.

Committed Funding: 2024-2027

As noted, *Resilience 2050* covers the timeframe from 2028 through 2050. To present a complete picture of planned future transportation investments, Table 11 shows the major committed projects within the 2024-2027 period of the current adopted TIP. “Committed” means that a schedule is in place and sponsors have identified fund sources and have committed funds to build these projects by 2027.

Table 11 - Committed Projects: 2024-2027

Year	Operating Agency / Jurisdiction	Name	Limits	Description
2024 / 2027	Maryland Transportation Authority Baltimore and Harford Counties	I-95 Northbound	North of MD 43 to North of MD 24	<ul style="list-style-type: none"> • Add 2 northbound Express Toll Lanes to MD 152 (2024) and to north of MD 24 (2027) • Reconstruct interchanges at MD 152 and MD 24 along with a 1.7 mile auxiliary lane between the interchanges • Widen MD 24 from 2 to 3 lanes from MD 924 to north of Singer Road • Reconstruct overpasses at Raphel, Bradshaw, Old Joppa, Clayton, and Abingdon Roads • Widen I-95 northbound bridges over the Big and Little Gunpowder Falls and Winters Run
2024	MDOT MTA Baltimore City	Baltimore Arena Transit Hub	Baltimore Street from Howard Street to Hopkins Place	Design and construct a transit transfer facility in Downtown Baltimore as outlined in the Regional Transit Plan. Concept facility includes sidewalk expansion to add bus bays, lighting, ADA access and bus stop amenities on Baltimore Street near CFG Bank Arena.
2024	MDOT SHA Baltimore County	I-695	I-70 to MD 43	Add 1 lane in each direction during am and pm peak using inside shoulder (western and northern portion of I-695).
2025	Anne Arundel County	Odenton MARC TOD Improvements	Odenton MARC Station	Construct a structured parking garage on the state owned surface parking lot to set up the station for future TOD and expanded transportation services.

Year	Operating Agency / Jurisdiction	Name	Limits	Description
2025	Howard County	Dorsey Run Road	CSX Railroad to Old Dorsey Run Road	Widen from 2 to 3 lanes (with center turn lane).
2025	Howard County	Marriottsville Road and I-70 Bridge Improvements	South of US 40 to MD 99	Widen from 2 to 4 lanes, improve ramp for I-70 and replace bridge over I-70.
2025	Howard County	US 29 / Broken Land Parkway Interchange	3.1 miles of new lanes on ramps and new roadways	Construct new direct connections from westbound US 29 / Broken Land Parkway interchange ramp to new road (Merriweather Drive) and to Little Patuxent Parkway. Construct direct connection from Merriweather Drive to Broken Land Parkway, including configuring north and southbound US 29 ramps at Broken Land Parkway into signalized intersection. Remove existing ramp from Broken Land Parkway to US 29 southbound.
2025	Maryland Port Administration Baltimore City	Howard Street Tunnel		Reconstruct the 125-year-old tunnel to provide double-stack rail access to and from the Port of Baltimore.
2025	MDOT SHA Anne Arundel County	MD 175	Sellner Road / Race Road to McCarron Court	Widen from 2 to 6 lanes and reconfigure ramps in the NE and SW quadrants of the MD 295 interchange to create signalized left turns at MD 175. Add a shared use path on the south side of the road and bicycle compatible shoulders.
2026	Anne Arundel County	Parole Transportation Center	Westfield Annapolis Mall	Construct a multimodal transportation center at the Westfield Annapolis Mall to serve existing local and regional bus service. Project design will incorporate possible future connectivity to bikeshare, carshare and ridehailing services.
2026	Baltimore County	Mohrs Lane Bridge	Bridge over CSX Railroad	Reconstruct bridge closed in 2011 to accommodate 3 lanes of traffic on future Campbell Boulevard.
2026	Harford County	Woodley Road Extension to MD 715 (Perryman East - aka Road A)	MD 715 to Michaelsville Road	Construct new 2-lane road in Perryman.
2026	MDOT SHA Carroll County	MD 32	2nd Street to Main Street	Improve intersection geometry, extend turn lanes and modify access along MD 32 from 2nd Street to Main Street.
2026	MDOT SHA Harford County	MD 24 (Section G)	900 feet south of Sharon Road to 1,700 feet north of Ferncliff Lane	Resurface and reconstruct roadway, including slope repair and guardrail replacement.

Year	Operating Agency / Jurisdiction	Name	Limits	Description
2027	Maryland Transportation Authority Anne Arundel and Queen Anne's Counties	Chesapeake Bay Crossing, Phase II NEPA	Corridor containing the existing Bay Bridge	Conduct Phase II NEPA study on the selected bay crossing location. The Phase II NEPA will evaluate potential impacts of the selected bay crossing location. Phase II NEPA is vital to moving forward with adding additional capacity to cross the Chesapeake Bay.
2027	Maryland Transportation Authority Harford County	I-95 Southbound	Maryland House Travel Plaza to north of the MD 24 overpass	Restripe southbound lanes and improve left shoulder lane to provide part-time left shoulder use, including ITS devices to allow dynamic opening and closing of the left shoulder based on traffic conditions.
2027	MDOT SHA Anne Arundel County	I-97 TSMO	US 50 to MD 32	Implement TSMO improvements including peak period hard shoulder running from US 50 to MD 32.
2027	MDOT SHA Baltimore County	I-695	at I-70	Reconstruct interchange and replace existing bridges within the interchange.



Illustrative Projects

Federal regulations for metropolitan transportation planning identify the concept of “illustrative projects” as an element of the planning process. These are projects included in a metropolitan transportation plan for illustrative purposes only, meaning that they could be included in the adopted transportation plan if additional funds beyond the reasonably anticipated financial resources identified in the plan were to become available.

There is no requirement to select any project from an illustrative list of projects in a metropolitan plan at some future date, when funding might become available. Nonetheless, illustrative projects can be helpful in guiding transportation and land use planning efforts at both the regional and local levels because they provide a resource from which we can select regional priorities should additional funding become available. Any project amended into the LRTP must show financial resources and maintain conformity with air quality standards.

Table 12 shows the list of illustrative projects for the Baltimore region.



Table 12 - Illustrative Projects – Could be amended into *Resilience 2050* should future funds become available

Operating Agency / Jurisdiction	Name	Limits / Length	Description	Estimated Cost (YOE)
MDTA Anne Arundel County	Chesapeake Bay Bridge	MD 2 to US 50/US 301 Split 21.0 miles	Construct new crossing of the Chesapeake Bay Bridge and widen approach roadways.	Not available
MDOT SHA Anne Arundel County	MD 3	US 50 to MD 32 8.9 miles	Widen from 4 to 6 lanes to provide continuous through lanes throughout the corridor, including intersection improvements, access controls to address safety and bicycle and pedestrian improvements.	\$1,422,000,000
MDOT SHA Anne Arundel County	US 50	I-97 to MD 2 5.5 miles	Reconstruct freeway and widen from 6 to 8 lanes including possible managed lanes connecting to I-97 managed lanes, possible interchange modifications at I-97 and improvements associated with the Bay Bridge.	\$368,000,000
MDOT SHA Anne Arundel County	MD 32	I-97 to Howard County Line 11.0 miles	Widen from 6 to 8 lanes between I-95 and MD 295. Add additional HOV-2 lanes.	\$524,000,000
MDOT SHA Anne Arundel County	MD 100	Howard County Line to I-97 6.5 miles	Widen from 4 to 6 lanes and possible inclusion of managed lanes.	\$299,000,000
MDOT SHA Harford County	MD 24 at Wheel Road		Elevate grade of cross street through movement as well as left turn movements from all directions while allowing MD 24 through and right turn movements as well as side street right turn movements to operate with free-flowing movements as described in MD 924 study.	\$182,000,000
MDOT SHA Howard County	I-70	US 29 to MD 32 6.0 miles	Widen from 4 to 6 lanes, including reconstruction of Marriottsville Road interchange and upgrades to US 29 interchange.	\$838,000,000
MDOT SHA Howard County	MD 32	Cedar Lane to Anne Arundel County Line 8.0 miles	Widen from 4 to 6 lanes (Feasibility and Needs Study required), increase capacity at grade-separations, study feasibility of HOV and/or HOT lanes and improve freight operations and access to Regional Activity Centers.	\$1,153,000,000

Operating Agency / Jurisdiction	Name	Limits / Length	Description	Estimated Cost (YOE)
MDOT SHA Howard County	US 29 Widening	MD 100 to I-70 3.2 miles	Widen from 6 to 8 lanes, including a cross-section accommodating US 29 peak traffic volumes and ITS features facilitating movement and safety.	\$771,000,000
MDOT MTA Regional	Intercity Connection from Western Maryland to Baltimore and Washington, DC.		Improve accessibility to Western Maryland, helping to create links to essential services and generate economic development and tourism. Provide a missing commuter link between Baltimore and Frederick.	Not available
MDOT MTA Regional	Intercity Connection from the Eastern Shore to Baltimore and Washington, DC.		Improve connections to the Eastern Shore to help residents and visitors travel to and from the state's major metro areas.	Not available
MDOT MTA 7 Corridors throughout the region	Early Opportunity Regional Transit Plan (RTP) Corridors: <ul style="list-style-type: none"> • Morgan State University to South Baltimore • Rogers Avenue to City Hall • State Center to Hopkins Bayview • Walbrook Junction to Berea • Ellicott City to Silver Spring • Glen Burnie to South Baltimore • Sparrows Point to Hopkins Bayview 	Jurisdiction: <ul style="list-style-type: none"> • Baltimore City • Baltimore City • Baltimore City • Baltimore City • Regional • Regional • Regional 	Early Opportunity Corridors in the RTP are selected for their potential to benefit the highest number of people, jobs and households in the region in the short term. They include major travel corridors within Baltimore City, and commuter bus links from the suburbs to the region's job centers. All corridors currently exhibit strong market demand and represent critical links in the regional transit system. The RTP does not specify transit routes and/or stations and does not prescribe modes, alignments or service levels. Careful study is required to assess demand and local context before investing in specific transit assets.	<ul style="list-style-type: none"> • \$753,000,000 • \$861,000,000 • \$538,000,000 • \$538,000,000 • \$1,291,000,000 • \$753,000,000 • \$646,000,000

Operating Agency / Jurisdiction	Name	Limits / Length	Description	Estimated Cost (YOE)
MDOT MTA 11 Corridors throughout the region	Mid-Term Opportunity RTP Corridors: <ul style="list-style-type: none"> • Mondawmin to Hopkins Bayview • Mondawmin to South Baltimore • BWI to Columbia Town Center • BWI to Greenbelt • Convention Center to Middle River • Halethorpe to UM Transit Center • Mondawmin to Northwest Hospital • Mondawmin to Reisterstown • North Plaza to UM Transit Center • Towson to South Baltimore • White Marsh to Johns Hopkins Hospital 	Jurisdiction: <ul style="list-style-type: none"> • Baltimore City • Baltimore City • Regional • Regional • Regional • Regional • Regional • Regional • Regional • Regional • Regional 	Mid-Term Opportunity Corridors in the RTP are selected for their potential to benefit a high number of people, jobs and households in the region. These tend to score lower in certain evaluation measures than Early Corridors. Mid-Term Corridors are concentrated in Baltimore City and County, except for two that connect BWI Airport with important population and job centers in Howard and Anne Arundel counties. The RTP does not specify transit routes and/or stations and does not prescribe modes, alignments or service levels. Careful study is required to assess demand and local context before investing in specific transit assets.	<ul style="list-style-type: none"> • \$1,553,000,000 • \$988,000,000 • \$2,118,000,000 • \$1,835,000,000 • \$1,553,000,000 • \$847,000,000 • \$1,129,000,000 • \$1,412,000,000 • \$1,553,000,000 • \$1,835,000,000 • \$1,412,000,000
MDOT MTA 9 Corridors throughout the region	Long-Term Opportunity RTP Corridors: <ul style="list-style-type: none"> • Glen Burnie to Annapolis • Towson to Hunt Valley • Bel Air to Edgewood • Fallston to APG • Annapolis to Union Station • Ellicott City to BWI • Glen Burnie to Bowie • Laurel to Halethorpe • Odenton to Clarksville 	Jurisdiction: <ul style="list-style-type: none"> • Anne Arundel • Baltimore Co • Harford • Harford • Regional • Regional • Regional • Regional • Regional 	Long-Term Opportunity Corridors in the RTP are selected for their potential to benefit areas where transit demand is expected to increase over the next 25 years. These corridors are concentrated on the region's peripheries and tend to connect areas with low existing densities of residents, jobs and vulnerable populations relative to the region's urban core. However, much of the region's long-term growth is projected to occur in these peripheral areas, and transit markets along these corridors are expected to grow accordingly. The RTP does not specify transit routes and/or stations and does not prescribe modes, alignments or service levels. Careful study is required to assess demand and local context before investing in specific transit assets.	<ul style="list-style-type: none"> • \$2,400,000,000 • \$988,000,000 • \$1,271,000,000 • \$2,259,000,000 • \$1,694,000,000 • \$1,976,000,000 • \$2,118,000,000 • \$1,835,000,000 • \$2,400,000,000

“Mega-Regional” Projects

The projects listed below are outside the scope of this regional transportation plan. Currently, these projects are under study, but most have not progressed to the point where their sponsors have identified funds reasonably anticipated to be available during the 2028-2050 period. Even if these projects were to be funded some time in the future, at least some of the funding would need to come from sources outside of the fiscally constrained LRTP such as the FRA or MDTA toll revenues. Additionally, projects may be funded by the private sector. These projects are not considered within our analysis of fiscal constraint. Partly for this fiscal constraint reason, the preferred alternative does not include these projects. As projects move forward in the future, we will assess their impact on air quality in the region.

It is good policy for the region to be aware of these projects and to be prepared to determine their potential effects on regional travel demand and regional travel patterns. Below is a list of projects and a brief description.

Amtrak / Freight Rail Bridge over the Susquehanna River

The Susquehanna River Rail Bridge is a two-track bridge located in the City of Havre de Grace in Harford County, Maryland and the Town of Perryville in Cecil County, Maryland.

The nearly 120-year-old bridge is owned by Amtrak and is used by Amtrak, MARC Commuter Rail and Norfolk Southern Railway to carry passenger and freight trains across the Susquehanna River. The project would replace the existing two-track bridge with two new two-track bridges, realign and reconstruct five route miles of track and modernize and improve track, catenary and signals for higher speeds.

The FRA issued a Finding of No Significant Impact (FONSI) for the Susquehanna River Rail Bridge Project in 2017. The FONSI completes the NEPA process and this phase of the project. The project was placed on hiatus due to the COVID-19 pandemic in March 2020 but was restarted in October 2021.

Chesapeake Bay Bridge

MDTA owns, finances, operates and maintains the William Preston Lane, Jr. Memorial (Bay) Bridge and is conducting the Tier 2 NEPA Study for the project. Previously, MDTA completed the Chesapeake Bay Crossing Study: Tier 1 NEPA in April 2022, when the FHWA issued a Final Environmental Impact Statement/Record of Decision (FEIS/ROD). The FEIS/ROD identifies the corridor containing the existing Bay Bridge as the selected corridor alternative.

In June 2022, MDTA launched the four- to five-year Chesapeake Bay Crossing Study Tier 2 NEPA. This Tier 2 study will evaluate the environmental and socioeconomic impacts of a range of alternative alignments and transportation issues from the Severn River Bridge in



Anne Arundel County to the US 50/US 301 split in Queen Anne's County. The range of alternatives includes a No Build alternative and a range of build alternatives including various alignments, crossing types and modal and operational alternatives.

A potential Chesapeake Bay crossing project is included in the list of illustrative projects in this chapter.

Northeast Corridor (NEC)

In response to strong and continued demand for rail travel in the NEC, Amtrak has developed a vision for Next Generation high-speed rail service on the NEC. Amtrak is upgrading its infrastructure to increase track capacity, improve ride quality and offer greater reliability along the NEC. Amtrak is taking steps to improve its infrastructure for all users in preparation for the introduction of the new, next generation Acela Express fleet.

Among the many improvements, Amtrak will be constructing a new side high-level platform at New Carrollton Station and increasing the number of high-level platforms at Baltimore Penn Station to allow for greater operational flexibility and expansion of train service. Amtrak is also working to upgrade the last of three tracks between Washington Union Station and Baltimore Penn Station to operate at speeds up to 125 mph and improve ride quality for a more comfortable journey.