Baltimore Regional Transportation Board

# BALTIMORE REGION TRANSPORTATION IMPROVEMENT PROGRAM 2021-2024


**DEVELOPED BY THE BALTIMORE METROPOLITAN PLANNING ORGANIZATION**

CITY OF ANNAPOLIS ◆ ANNE ARUNDEL COUNTY ◆ BALTIMORE CITY ◆ BALTIMORE COUNTY

CARROLL COUNTY ◆ HARFORD COUNTY ◆ HOWARD COUNTY ◆ QUEEN ANNE'S COUNTY ◆ HARFORD TRANSIT

MD DEPARTMENT OF TRANSPORTATION ◆ MD DEPARTMENT OF THE ENVIRONMENT ◆ MD DEPARTMENT OF PLANNING ◆ MD TRANSIT ADMINISTRATION

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**https://www.baltometro.org/sites/default/files/bmc_documents/general/transportation/tip/21-24/21-24TIP.pdf**

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# I. INTRODUCTION

## A. Summary

The Baltimore Region Transportation Improvement Program (TIP) documents the anticipated timing, cost, and rationale for federally-funded transportation improvements to be made in the Baltimore region[1] over the next four years. It is a program of specific projects, not a plan. In accordance with federal guidelines, the TIP is a translation of recommendations from the long-range transportation plan (LRTP), *Maximize2045*, for the Baltimore region into a short-term program of improvements. This includes specific capacity improvements that have been identified in the LRTP, as well as system preservation projects and operational initiatives that are supported in the LRTP but have not been previously detailed. As such, the TIP ensures consistency between LRTP recommendations and project implementation in the region. The TIP also serves as a multi-modal listing of transportation projects in the region for which federal funding requests are anticipated between fiscal years 2021-2024.[2]

A summary of the key federal requirements is provided in Chapter II. The summary is followed by several sections that provide information for the requirements in key areas. The relationship between the TIP and other transportation plans and programs in the region, its fulfillment of federal requirements, and its regional review function are described in Chapter III. Chapter IV explains the terms and symbols used in the project listings. Chapter V presents the financial plan supporting the projects in the four year program. It also details the amount and source of federal funds to be requested for the coming fiscal year, FY 2021.

Chapter VI includes environmental justice maps and detailed project listings. The detailed project listings include all federally funded and regionally significant projects. The projects are grouped first according to the local jurisdiction or state agency responsible for their implementation. Within those sections

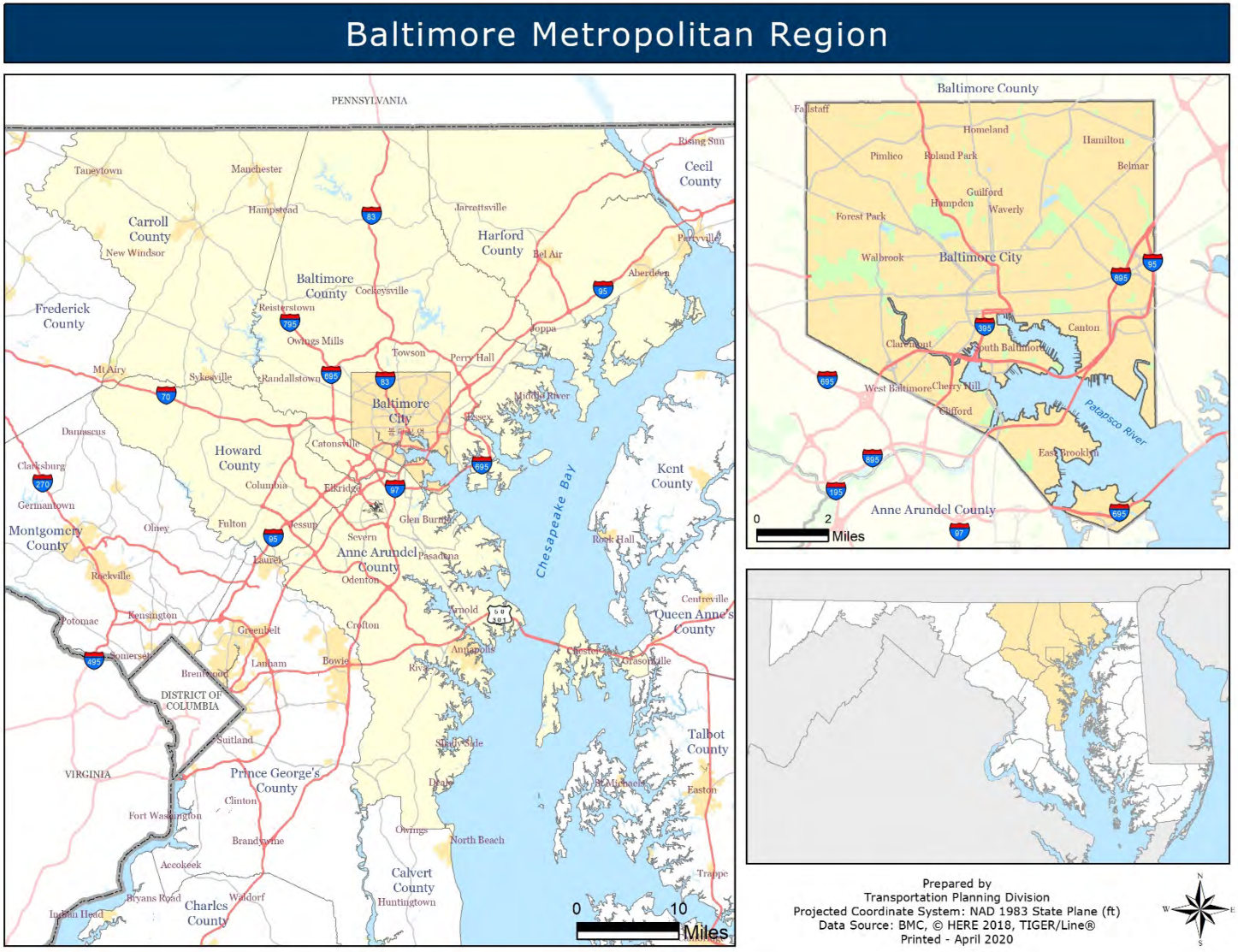
[1] As shown in Exhibit I-1, the Baltimore region is composed of Baltimore City, Annapolis and Anne Arundel, Baltimore, Carroll, Harford, Howard and Queen Anne's counties. As a result of Census 2010, there are three federally recognized urbanized areas in the region. One includes the City of Baltimore and portions of Anne Arundel, Baltimore, Carroll, Howard and Queen Anne's County. The second includes Westminster in Carroll County. The third is Aberdeen – Havre de Grace – Bel Air in Harford County and portions of Cecil County.

[2] The Baltimore Region TIP follows the Maryland state fiscal year: July 1 to June 30

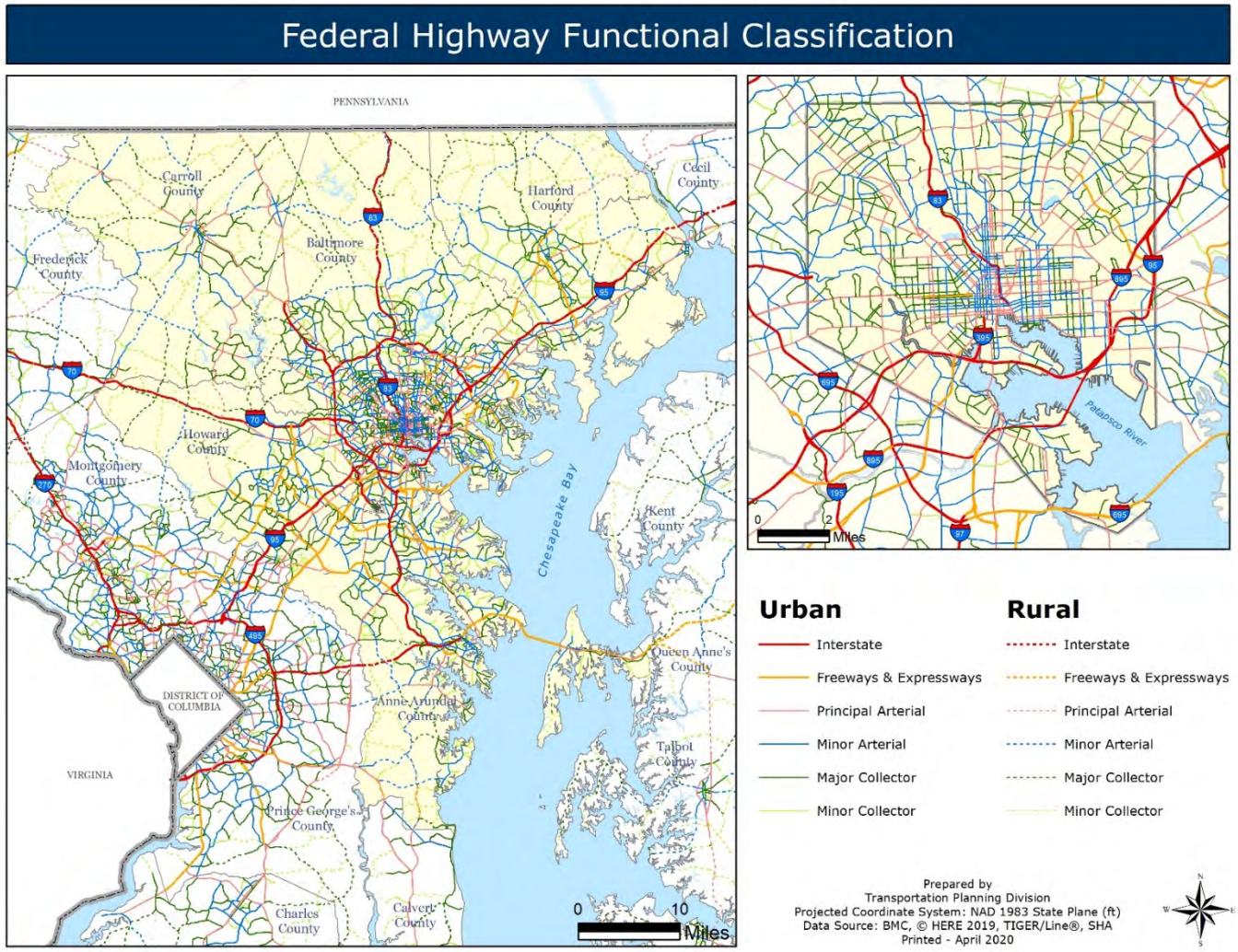
they are then grouped by category in the following order: commuter rail capacity, commuter rail preservation, enhancement program, environmental/safety, emission reduction strategy, highway capacity, highway preservation, transit capacity, transit preservation, ports, and miscellaneous. A timetable for anticipated federal funding requests is presented for each project.

The 2021-2024 TIP programs a total of $4.26 billion. Federal funds account for $2.46 billion of this total, with local and state matching funds accounting for the remaining $1.8 billion.

## Exhibit I-1: The Baltimore Region

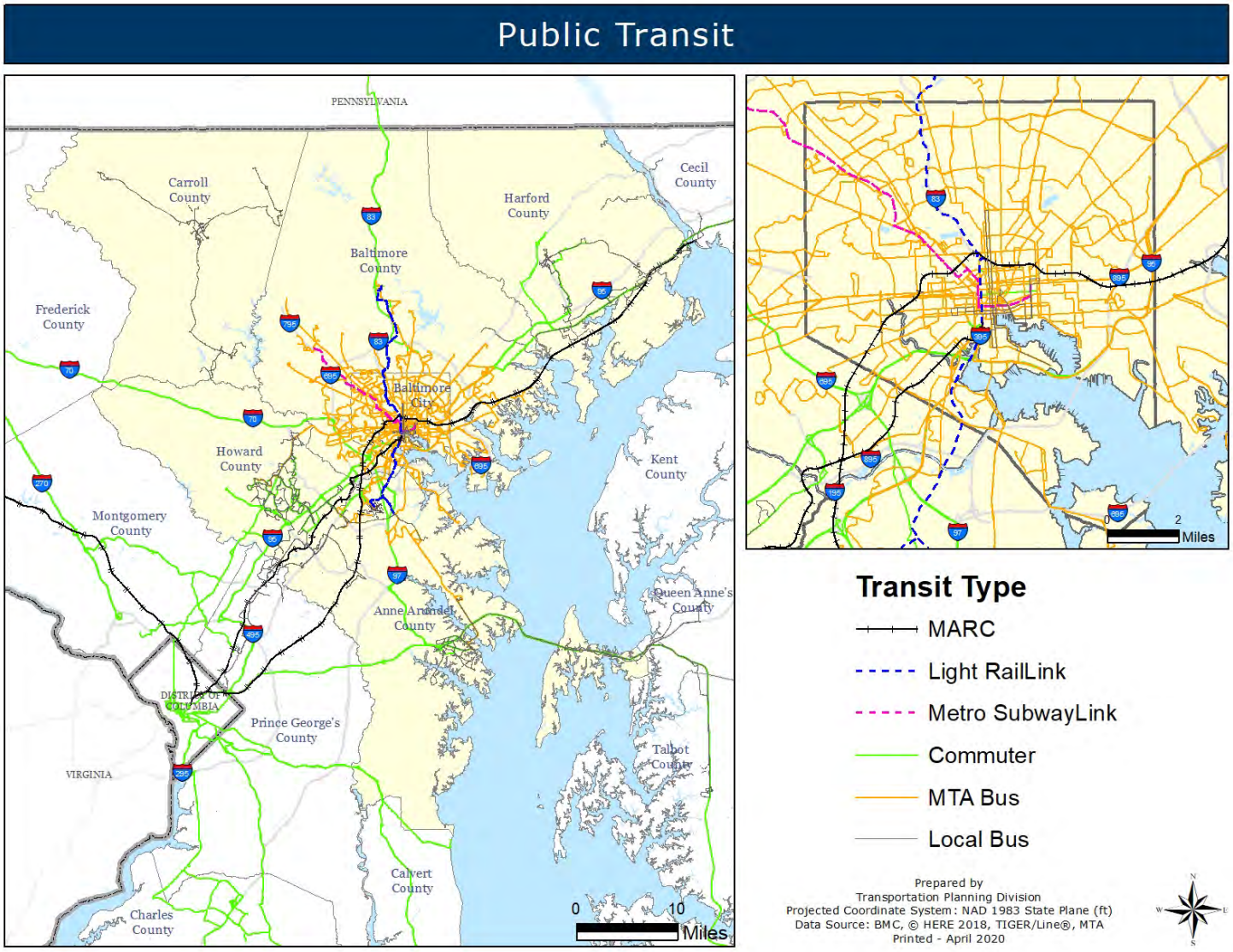


## Exhibit I-2: The Baltimore Region Federal Highway Functional Classification*




*See page 58 for a description of Federal Highway Functional Classifications

## Exhibit I-3: The Baltimore Region – Transit



**B. Metropolitan Planning Organization Self-Certification**

At the time the metropolitan TIP, and the projects requesting funds in the coming fiscal year, are endorsed for funding out of the U. S. Department of Transportation (DOT), a Metropolitan Planning Organization (MPO) is required to certify that projects selected through the transportation planning process conform with all applicable federal laws and regulations. The Baltimore Regional Transportation Board (BRTB), in its capacity as the MPO for the Baltimore region, certifies via Resolution #21-4 that the transportation planning process is conducted in a manner that complies with the requirements of 23 USC 134, 49 USC 5303, 23 CFR Part 450 and 49 CFR Part 613, and Sections 174 and 176(c) and (d) of the Clean Air Act. The certification requirement directs members of the BRTB to review the planning process that has been under way and ascertain that the requirements are being met. The review serves to maintain focus on essential activities. Members of the BRTB are listed in Appendix A of this document.

The BRTB's commitment to comply with applicable federal transportation planning requirements is evidenced by the following: ❶ the BRTB has a continuing, cooperative and comprehensive (3-C) transportation planning process that results in plans and programs consistent with the general land use and master plans of the local jurisdictions in the urbanized area; ❷ the BRTB has adopted a public participation process that fulfills the requirements and intent of public participation and outreach as defined in the Metropolitan Planning Regulations; ❸ the BRTB adopted a financially constrained long-range transportation plan, *Maximize2045*, for the Baltimore region consistent with the metropolitan planning factors in the Fixing America's Surface Transportation (FAST) Act; ❹ the BRTB maintains a Congestion Management Process (CMP); ❺ the BRTB has determined that conformity (8-hour ozone) of *Maximize2045* and the 2021-2024 TIP for the Baltimore region has been conducted under the U.S. Environmental Protection Agency's (EPA's) final rule as amended; and ❻ the BRTB adheres to the federal Disadvantaged Business Enterprises (DBE) requirements set forth in 49 CFR Part 26.

## C. Consistency with Maximize2045

In an effort to plan for future regional transportation needs and to comply with the intention of the FAST Act and the Clean Air Act Amendments of 1990 (CAAA), the BRTB endorsed *Maximize2045: A Performance-Based Transportation Plan*, the long-range transportation plan, in July 2019. The factors that guided development of *Maximize2045* are listed in the Metropolitan Planning Regulations effective May 27, 2016. These regulations continue and strengthen the emphasis on performance-based planning and programming.

*Maximize2045* includes a set of overarching regional goals, specific implementation strategies that support these goals, and a series of performance measures and targets. These measures and targets are consistent with the performance-based approach to planning and programming set forth in MAP-21, the FAST Act, and corresponding regulations. These measures and targets help the BRTB and operating agencies gauge progress relative to regional goals and strategies.

Performance measures have been developed for transit asset management, roadway safety, roadway and bridge conditions, and system performance. Target selection was coordinated with the State and public transportation providers to ensure consistency. All required measures and targets were adopted by the November 2018 deadline with the exception of those for transit safety. The BRTB has not yet adopted these targets but will do so once MDOT has set its transit safety targets. All of the measures and targets will be used to guide the Maryland Department of Transportation and metropolitan planning organizations in carrying out the requirements of the applicable FHWA and FTA laws and regulations.

Section II.G summarizes the performance measures and targets as well as the anticipated impact of investments in the TIP on these performance measures and targets. Appendix B includes a table connecting TIP projects to *Maximize2045* goals and performance measures.

In addition to performance measures and targets, *Maximize2045* reports on forecasted regional growth in population, households and employment to the year 2045 and the projected travel demand resulting from this forecasted growth. It demonstrates how the existing and committed transportation network likely will struggle to accommodate future travel demand based on projected increases in congested VMT and vehicle hours of delay. The region may need to apply

additional transportation demand management strategies to meet future performance targets related to regional mobility.

To address the projected demands on the transportation system, *Maximize2045* includes a range of projects through the year 2045. It outlines a multimodal array of transportation improvements along with the requisite funding scenario needed to support the program. Non-motorized transportation alternatives are included, as well as intermodal and transportation demand management strategies. The transportation demand management strategies are particularly important to complement the infrastructure improvements and ensure the region meets the conformity requirements for transportation plans and programs by way of national air quality goals and objectives.

The capacity projects in the 2021-2024 TIP "flow" from *Maximize2045*, resulting in a prioritized subset of projects for implementation. In this way, long-range policy recommendations are translated into short-range transportation improvements.

## II. FEDERAL REQUIREMENTS AND REGIONAL REVIEW FUNCTION

### A. Requirements of the Fixing America's Surface Transportation (FAST) Act

The Fixing America's Surface Transportation (FAST) Act was signed into law on December 4, 2015. Below is a discussion of key federal requirements that are in place regarding development of the TIP. Requirements of the FAST Act include:

• Prioritized list of financially constrained improvements: The BRTB, in cooperation with state and local agencies and transit operators, have developed a prioritized and fiscally constrained TIP. Fiscal constraint means that the funds programmed in the 2021-2024 TIP are reasonably expected to be available over the timeframe covered by the TIP. Projects included in the 2021-2024 TIP have been cooperatively determined by members of the BRTB. The project selection process considered air quality implications and regional mobility enhancement prior to inclusion in the final TIP document.

Priority is reflected by the year in which a project is shown. Priorities and financial analysis are provided for all four years of the TIP. Financial reasonableness is evaluated on three fronts: ❶ MDOT ensures that federal funding requests during the TIP planning process are reasonable for our region; ❷ MDOT provides documentation of the state's capacity to meet the match requirements associated with state-sponsored projects in the TIP; and ❸ Local governments also provide documentation of the same financial reasonableness requirements to match the federal funds requested for locally sponsored projects.

Federal law requires that projects proposed for inclusion in plans and programs be analyzed to ensure that the fiscal resources required to construct them are reasonably expected to be available within the timeframe specified. With the additional revenue projected as a result of passage of the Transportation Infrastructure Investment Act of 2013, the funding will be available to advance some projects. Within this context, the proposed projects have been assessed and found to meet the fiscal constraint requirement.

• Flexing Funds: The TIP is required to take full advantage of the increased flexibility of Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) capital funds. MDOT provides a "statement of concurrence" that consideration of this provision (flexing funds) has been utilized in the development of all state initiatives. Documentation of project

prioritization, financial reasonableness and flexible funding is included in Appendix B.

• Financial Plan: FAST requires that the TIP include a financial plan that demonstrates that the projects proposed in the TIP can be funded. The financial plan in Chapter V demonstrates that the region, through public and private funding, is reasonably able to generate the projected resources needed to carry out the projects in the TIP.

• Congestion Management Process: FAST states that for "transportation management areas classified as nonattainment for ozone or carbon monoxide. . . , Federal funds may not be advanced in such area for any highway project that will result in a significant increase in the carrying capacity for single-occupant vehicles unless the project is addressed through a congestion management process (CMP)". CMP guidelines were adopted by the BRTB in October, 1997. As potential capacity projects enter the state planning process, the BRTB is invited to participate in interagency discussions. This process allows the BRTB to offer recommendations during the process to address congestion prior to building additional lane capacity. At three stages in this interagency process the BRTB adopts a resolution approving the analysis to date. The BRTB also conducts ongoing data collection and monitoring to assess conditions and ascertain the effectiveness of a range of strategies to relieve congestion.

• Public Involvement: The public must have an opportunity to review and comment on the TIP in the early stages of preparation with at least one public meeting. The BRTB updated formal public participation procedures governing metropolitan transportation planning activities in June 2018. These guidelines reaffirmed a framework for public participation and information dissemination.

The BRTB offered members of the public, affected public agencies, private providers of transportation and other interested parties reasonable opportunities to comment on a draft list of projects. A schedule of key dates in the development of the TIP was provided to the members of the Public Advisory Committee (PAC) along with a description of the information available in the TIP.

The draft TIP was made available online. Two public meetings were held for the public to comment on the draft TIP. These meetings were held virtually due to public health concerns presented by the Coronavirus (COVID-19). Opportunities to comment on the draft TIP were advertised in local papers, on

the Baltimore Metropolitan Council (BMC) website, and on BMC social media accounts, with outreach work undertaken by public involvement staff. PAC members were also asked to distribute the flyer to their constituencies. In addition, the public was able to address the BRTB at its June, July, and August 2020 meetings. Written comments by mail, email, fax or social media are accepted during the public review period. In addition, members of the public could submit comments directly via an interactive TIP project map. A summary of all comments received, both verbal and written, BRTB responses, and the public participation notices are included in Appendix G.

The public participation process for the TIP also meets the FTA public participation requirements for the MDOT Maryland Transit Administration's (MDOT MTA) program of projects. MDOT MTA, in lieu of a separate mandated public comment period for federal funding assistance under 49 USC Sections 5307, 5310, and 5311 has exercised its option to use the procedures of the BRTB's public involvement process for the 2021-2024 TIP to satisfy the public participation requirements associated with development of the MDOT MTA Program of Projects (POP).

- Listing of Obligated Projects: MPO's must publish an annual listing of projects for which federal funds have been obligated in the preceding year. The list must be consistent with projects identified in the TIP, with the intent of improving the transparency of transportation spending decisions. The FY 2019 obligated listing includes all federal funds obligated in the Baltimore region from July 1, 2018 – June 30, 2019.[3]
- Performance-Based Planning and Programming (PBPP): The U.S. DOT published updated Metropolitan Planning Regulations on May 27, 2016 following the enactment of the FAST Act. These updated regulations continue and strengthen the emphasis on PBPP. The intent of PBPP is to aid MPOs in gauging progress relative to regionally established goals, strategies, and performance measures and targets. Federal rulemaking requires MPOs to adopt a series of 25 performance measures and targets and to link investment priorities in the TIP

[3] The full obligated listing is available here: https://www.baltometro.org/sites/default/files/bmc_documents/general/transportation/tip/19-22/2019_FederalAidObligations.pdf

and LRTP to the achievement of these performance measures and targets. Section II.G provides further details on PBPP.

• TIP Changes: The project schedules and funding breakdowns for projects in the TIP represent the best estimates by project sponsors at the time the TIP is developed. However, project schedules and funding can change. As a result, the TIP is frequently updated throughout the year through the TIP change process. There are two types of TIP changes. TIP amendments involve major changes to a project such as the addition or deletion of a project or a major change in project cost, timeline, or scope. Administrative modifications involve minor revisions to project costs, fund sources or project timelines.

The BRTB Public Participation Plan[4] details procedures for TIP amendments and administrative modifications. All amendments are presented to the BRTB Technical Committee and the BRTB for consideration and approval. In addition, any project that requires a new regional emissions analysis, such as roadway or transit capacity expansions, automatically triggers a 30-day public review and public meeting. Administrative modifications are reviewed and approved by the BRTB Executive Committee.

Appendix F lists all amendments and administrative modifications to the previous TIP, the 2020-2023 TIP.

[4] The BRTB Public Participation Plan is available here: https://baltometro.org/sites/default/files/bmc_documents/general/transportation/advisory/PPP2018.pdf

**B. Environmental Justice**

Environmental Justice (EJ) seeks to ensure that the benefits and burdens of transportation investments are shared as equitably as possible among all affected communities. Specifically, EJ considers whether low-income and minority populations bear disproportionate impacts resulting from governmental decisions. Historically, EJ was borne out of civil rights and environmental complaints from low-income and minority communities. Concerns were raised, showing that these communities may suffer disproportionately from exposure to toxic chemicals and the siting of industrial plants and waste facilities.

In February 1994, President Clinton signed Executive Order 12898 entitled *Federal Action to Address Environmental Justice in Minority and Low-Income Populations*. In 1997, the U.S. Department of Transportation (DOT) issued an "Order to Address Environmental Justice in Minority Populations and Low-income Populations."

The DOT Order directs consideration of two groups: low-income persons and minorities. Low-income is defined as a person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines. Minorities are defined as a person belonging to any of the following groups:

- Person of origin in any of the black racial groups of Africa;
- Person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin;
- Person having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent, or Pacific Islands; or
- Person having origins in any of the original people of North America (American Indian, Alaskan Native) and who maintains cultural identification through tribal affiliation or community recognition.

The DOT Order applies to all policies, programs and other activities undertaken, funded or approved by the DOT, including metropolitan planning. There are three fundamental DOT environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Metropolitan planning organizations (MPOs) are responsible for assessing the benefits and burdens of transportation system investments for different socio-economic groups. This includes both a data collection effort and engagement of minority and low-income populations in public involvement activities.

**EJ Populations in the Baltimore Region**

Low-income Populations

As stated previously, low-income is defined as persons whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. The primary source of data on low-income persons is the Census Bureau's American Community Survey (ACS). The Census Bureau uses a set of income thresholds that vary by household size and composition to determine poverty. If a household's total income is less than the threshold, then that household and every individual in it is considered to be in poverty. For example, the 2018 threshold for a four-person household with two dependents is $25,465. The HHS poverty guidelines are a simplified version of the poverty thresholds utilized by the Census Bureau.

While low-income is defined as persons living at or below the poverty line, the BRTB utilizes households in poverty to identify low-income populations due to data constraints. EJ analysis for the LRTP relies on BMC's travel demand model to predict travel times and distances for persons living in the Baltimore region. The ACS does not provide poverty data for individuals at the level of granularity required by the travel demand model, but does for households in poverty. Households in poverty proves to be a suitable proxy for individuals living in poverty as the data yields similar results for the region as a whole. According to the ACS, 10.2% of households in the Baltimore region fall below the poverty line compared to 10.5% of individuals.

Table 1 summarizes low-income households by jurisdiction. Households at or below the poverty line are not evenly distributed throughout the region, ranging from 4.8% of

households in Howard County to 20.8% of households in Baltimore City. In total, 106,144 out of the 1,040,704 households in the Baltimore region, or 10.2%, have incomes at or below the poverty line.

Table 1. Low-Income Households by Jurisdiction

| Jurisdiction | Total Households | At or Below 100% of Poverty Line | |
|---|---|---|---|
| | | Households | Share |
| Anne Arundel | 205,395 | 11,818 | 5.8% |
| Baltimore City | 239,791 | 49,940 | 20.8% |
| Baltimore Co | 312,859 | 27,209 | 8.7% |
| Carroll | 60,432 | 3,174 | 5.3% |
| Harford | 92,895 | 7,539 | 8.1% |
| Howard | 111,337 | 5,385 | 4.8% |
| Queen Anne's | 17,995 | 1,079 | 6.0% |
| **BRTB Region Total** | **1,040,704** | **106,144** | **10.2%** |

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates (Table B17017)

## Minority Populations

The ACS also serves as the primary data source for identifying minority populations. Minorities include individuals who are members of several population groups including Hispanic persons and non-Hispanic persons who are Black, American Indian or Alaskan Native, and Asian or Pacific Islander. Non-minorities are defined as those that are both white and non-Hispanic.

Table 2 summarizes minority individuals by jurisdiction. As with low-income populations, minorities are not evenly distributed throughout the region. According to the latest 5-year estimates from the ACS, the share of minorities in BRTB jurisdictions ranges from 10.2% in Carroll County to 72.4% in Baltimore City. In total, minorities make up 42.5% of the Baltimore region population while white, non-Hispanics make up the remaining 57.5%. Exhibit II-1 at the end of this section summarizes minority individuals by Hispanic/Latino origin and race.

Table 2. Minorities by Jurisdiction

| Jurisdiction | Minority Population | White, non Hispanic Population | Minority Share | White, non Hispanic Share |
|---|---|---|---|---|
| Anne Arundel | 171,461 | 393,139 | 30.4% | 69.6% |
| Baltimore City | 448,880 | 170,916 | 72.4% | 27.6% |
| Baltimore Co | 341,945 | 486,692 | 41.3% | 58.7% |
| Carroll | 17,022 | 150,297 | 10.2% | 89.8% |
| Harford | 57,623 | 192,509 | 23.0% | 77.0% |
| Howard | 143,426 | 169,069 | 45.9% | 54.1% |
| Queen Anne's | 6,582 | 42,489 | 13.4% | 86.6% |
| **BRTB Region Total** | **1,186,939** | **1,605,111** | **42.5%** | **57.5%** |

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates (Table B03002)

Mapping EJ Populations in the Baltimore Region

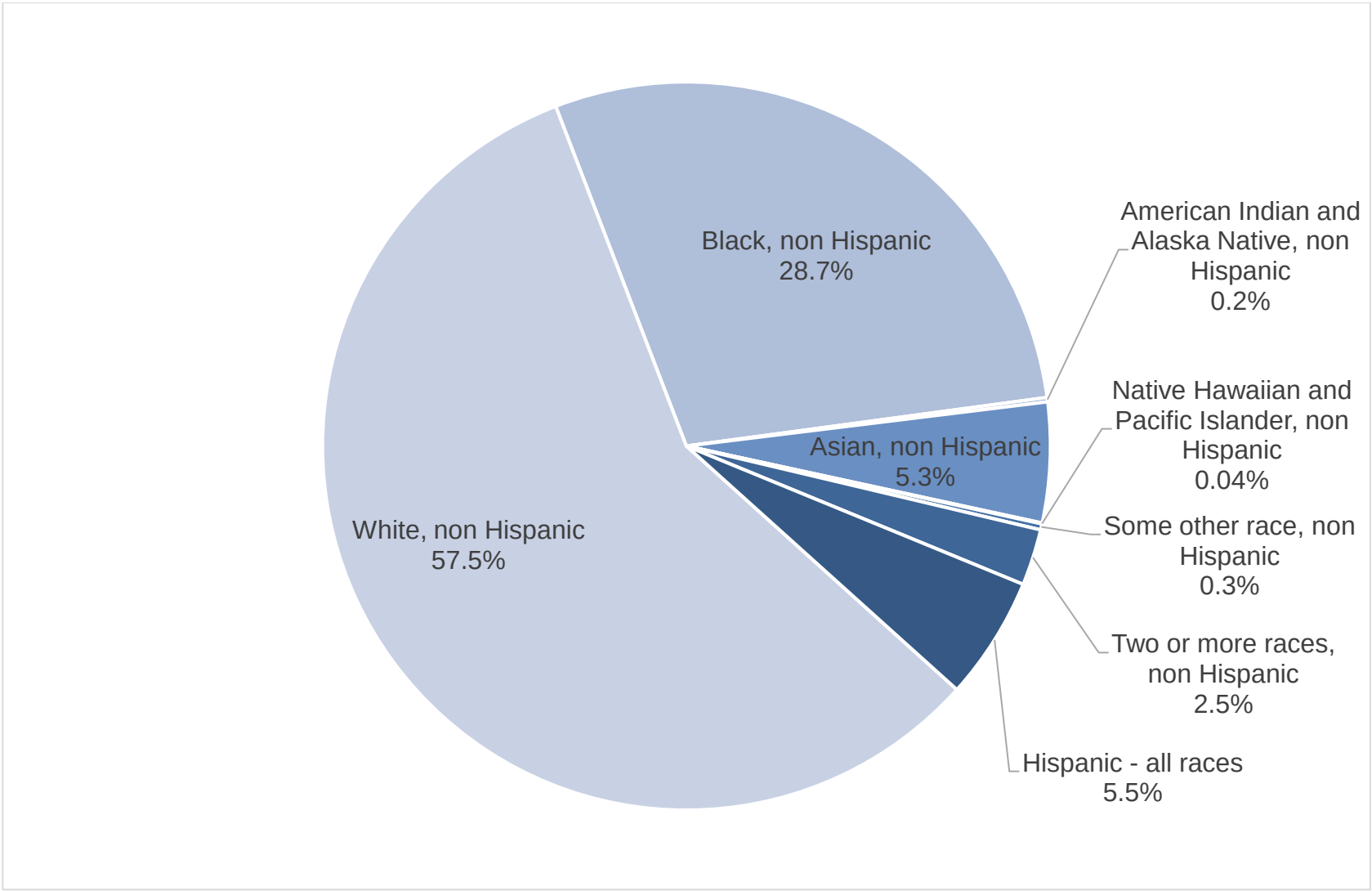
The BRTB uses Transportation Analysis Zones (TAZ) as a basis for identifying EJ areas. TAZs are a basic unit of geography used to predict travel behavior in the BRTB's travel demand model. They are constructed using census block information and are smaller than census tracts. Having established that TAZs will be the geographic unit of analysis, we need a way to identify EJ and non-EJ TAZs. This is done through the use of a regional threshold. A TAZ is identified as an EJ area if it has a concentration of households living in poverty or minorities greater than their respective regional averages.

The percentage of households with incomes at or below the poverty line in the Baltimore region is 10.2%. Thus, TAZs with a concentration of households in poverty greater than 10.2% are considered low-income TAZs for EJ purposes. Similarly, TAZs with a concentration of minorities greater than the regional average of 42.5% are considered minority TAZs for EJ purposes. Exhibits II-2 and II-3 show household poverty and minority populations, respectively, by TAZ. Exhibit II-4 shows all EJ TAZs, breaking EJ TAZs into those exceeding the regional average for households in poverty, those exceeding the regional average for minority concentration, and those exceeding both regional averages.

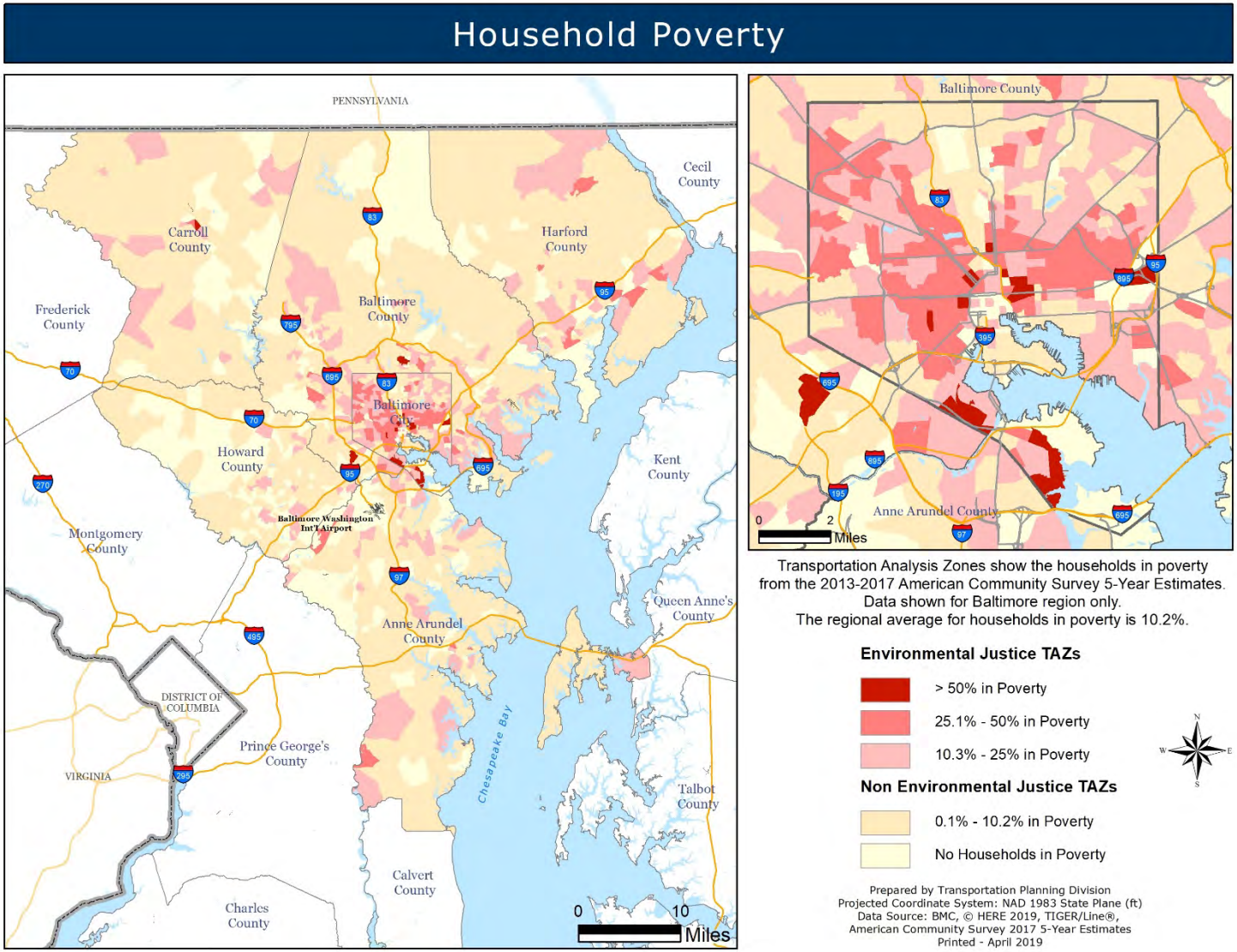
Additional EJ maps are available in Section VI.A: Project and Environmental Justice Maps by Jurisdiction. These maps show the locations (by jurisdiction) of specific TIP projects in relation to EJ TAZs. When these and other transportation projects enter project planning, consideration of EJ is undertaken. These studies are conducted by the appropriate state agency (e.g. MDOT SHA, etc.) or a local jurisdiction during the project planning phase. Opportunities for public participation are central to these efforts.

The LRTP, *Maximize2045*, includes an extensive environmental justice analysis. BMC staff utilized several measures to compare the effects on EJ and non-EJ TAZs of projects in the preferred alternative of *Maximize2045*, including all nonexempt projects in the TIP. These measures include accessibility to jobs and shopping, travel times for commuting and for other purposes, and proximity to key destinations such as supermarkets and hospitals. The BRTB continues to evaluate methods used by other MPOs as well as guidance issued by FHWA for additional environmental justice analysis of the TIP.

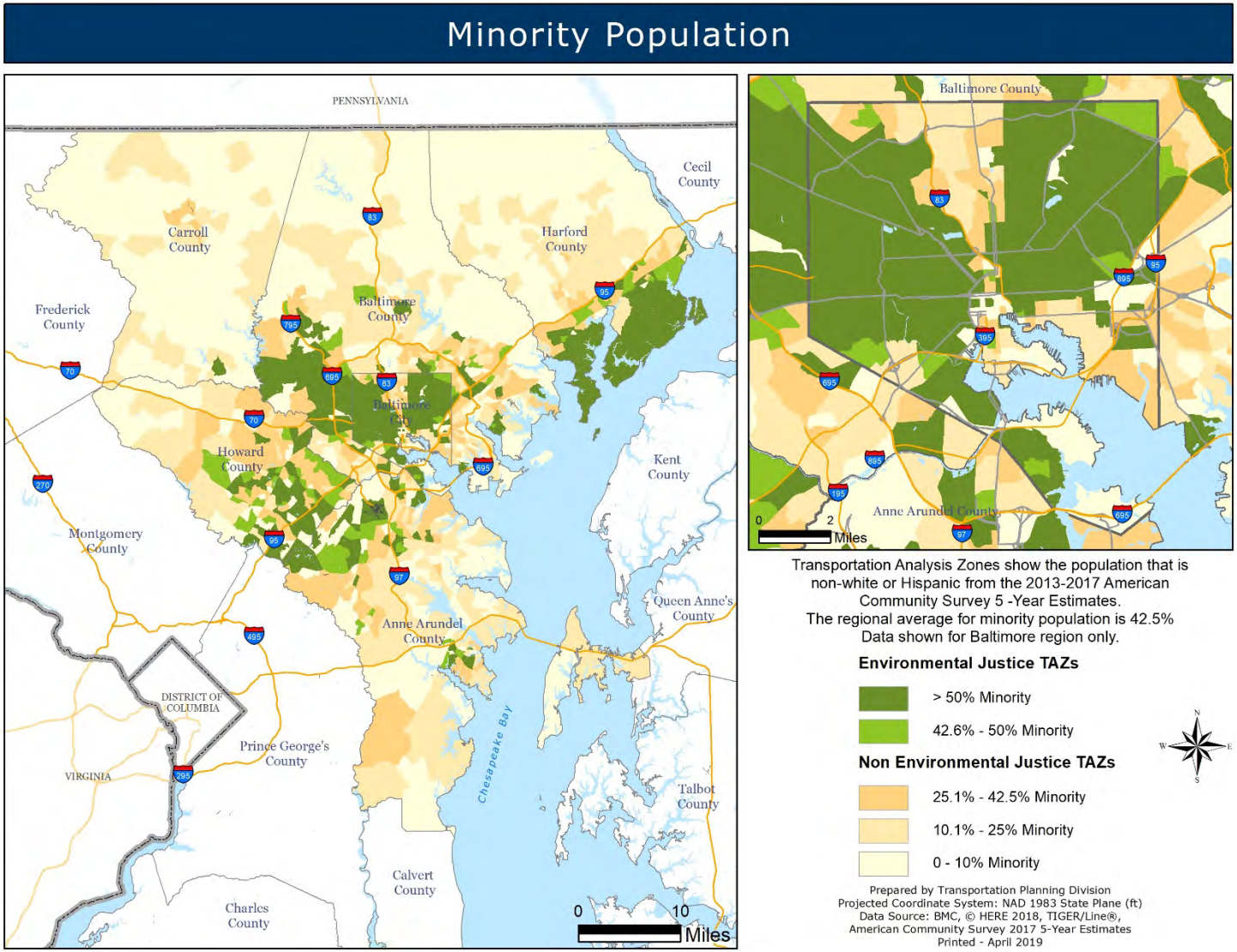
## Exhibit II-1: BRTB Region Minority Populations by Race and Hispanic or Latino Origin



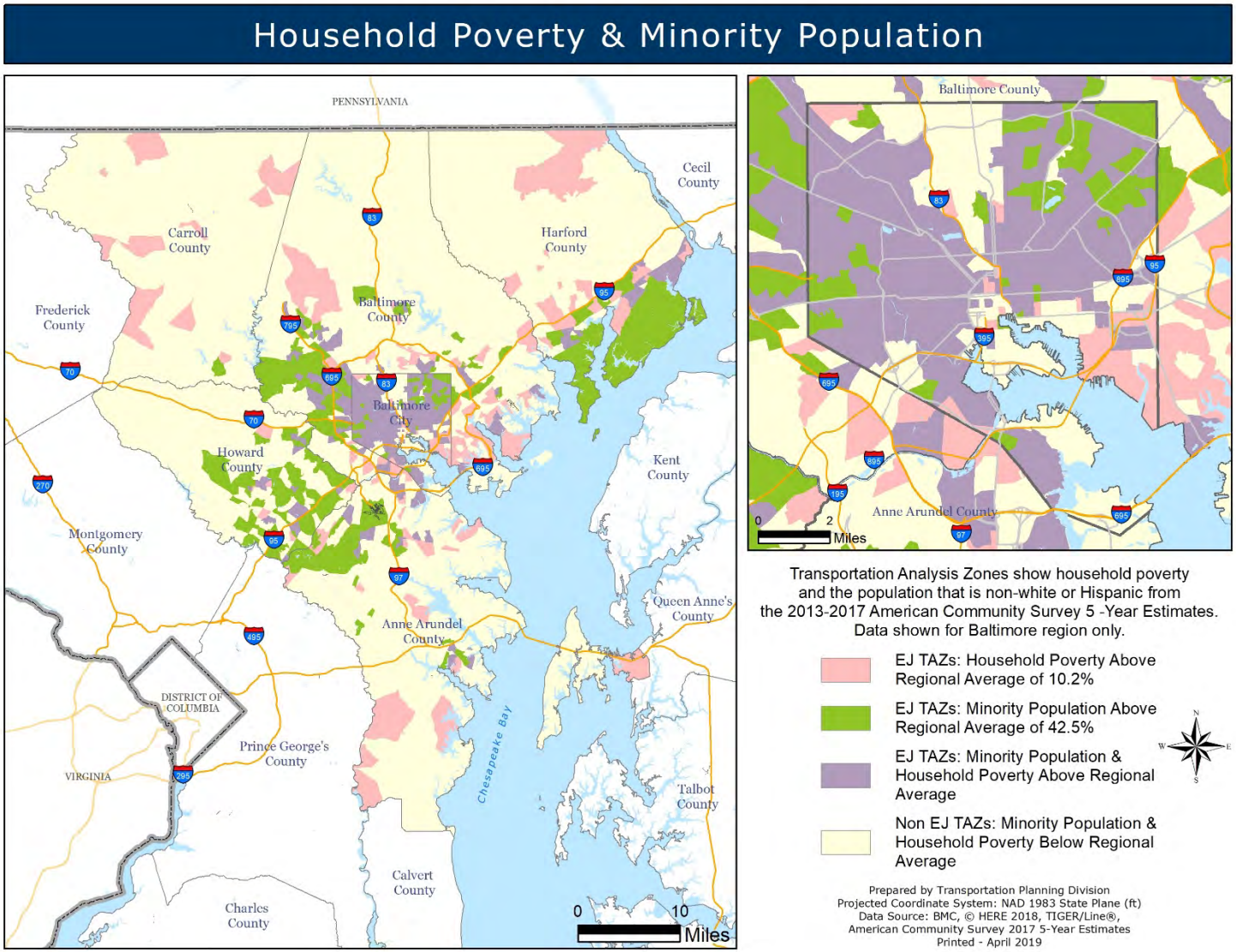
# Exhibit II-2: Household Poverty by TAZ



# Exhibit II-3: Minority Population by TAZ



## Exhibit II-4: Environmental Justice TAZs by Type



## C. Coordinating Human Service Transportation

The FAST Act continues to support transportation initiatives for elderly and disabled populations through the FTA Section 5310 Capital Grant Program and low-income populations through the eligibility of job access and reverse commute projects under FTA's Urbanized Area Formula Grants (Section 5307) and Formula Grants for Rural Areas (Section 5311) programs. The MDOT Maryland Transit Administration (MDOT MTA) is the administrator for all three programs, and consults with the BRTB on program implementation.

Grant recipients must certify that projects funded through these programs "are included in a locally developed, coordinated public transit-human services transportation plan". The coordinated plan identifies the transportation needs of individuals with disabilities, older adults, and people with low incomes; provides strategies for meeting those local needs; and prioritizes transportation services for funding and implementation. The BRTB takes the lead, with assistance from MDOT MTA, for development of the Baltimore Region Coordinated Public Transit-Human Services Transportation Plan. MDOT MTA and the BRTB last updated the Baltimore Region Coordinated Transportation Plan in December 2019.

The Maryland Job Access Reverse Commute Program (MD-JARC) was passed by the General Assembly in 2018.

Modeled after the former FTA grant program of the same name, MD-JARC is designed to connect target populations with employment areas that have experienced significant growth in employment opportunities, by funding transportation services. Target populations reside in low-income areas, have limited or no access to a personal vehicle, and have limited access to fixed route transit service. Up to $400,000 each year will be available for grants, with 70 percent of the funds for use in urbanized areas and 30 percent for rural areas. The minimum request is $10,000 and must be matched by a 25% local contribution.

Sample projects include 1) Extension of service hours on local fixed route systems, 2) Vanpool services, 3) Employer-provided transportation services, and 4) Demand Response / Deviated Fixed Route service. Baltimore Region projects must be endorsed by the BRTB to be considered. The BRTB endorsed three applications in April 2019. Applications are considered every two years.

## D. Additional Programs for Seniors and Persons with Disabilities

In addition to administering the FTA Section 5310 and MD-JARC Programs, MDOT MTA provides paratransit service for the elderly and persons with disabilities. MDOT MTA also operates a fleet of buses that is fully accessible to the elderly and persons with disabilities. All new bus purchases are lift-equipped.

As part of their training program, bus drivers receive disability awareness/passenger assistance technique training for passengers with special needs. The needs of the elderly and disabled customers, those with hidden disabilities and blind, deaf and mentally disabled travelers are discussed. The training emphasizes Americans with Disabilities Act (ADA) service requirements and techniques for communicating with the elderly and people who are disabled. Drivers also learn how to operate lift equipment and assist riders who are disabled.

MDOT MTA operates Mobility and a Reduced Fare Program for the elderly and persons with disabilities. Mobility provides comparable ADA service for those who cannot use fixed-route bus service. The Reduced Fare Program provides a 50% discount for the elderly and persons with disabilities in accordance with requirements for recipients of federal operating assistance from FTA (49 CFR 609.23).

In addition to these programs, MDOT MTA initiated two programs: MDOT MTA Taxi Access II Service and the Senior Ride Program.

MDOT MTA Taxi Access II Service

The MDOT MTA Taxi Access II Service is open to eligible MDOT MTA Mobility customers. This program offers program participants same day transportation options through a network of taxi and sedan providers. Participants in the program can use the service for any purpose and take it to anywhere within the service area of Mobility. There is a fee of $3.00 for each ride. MDOT MTA will pay the fare up to $20, and the participant is responsible for the balance of the fare that exceeds the $20 limit. Participants may be accompanied by up to 3 people per trip if all passengers start and end the ride at the same location. A limited number of wheelchair accessible taxis and sedans are available to individuals with mobility impairments who use motorized or non-folding wheelchairs. A list of participating companies is available to users.

Senior Ride Program

Since FY 2006, MDOT MTA has awarded grants to qualified applicants statewide to encourage and facilitate the development of volunteer transportation services for low-income and moderate-income seniors. MDOT MTA has offered approximately $180,000 in State funds each year to be matched by 25% local contributions. The projects must provide door-to-door transportation service, use primarily volunteer drivers, and have a dispatching system.

FY 2020 awards went to the following organizations in the Baltimore Region:

- Action in Maturity, Inc.: $22,500
- Comprehensive Housing Assistance, Inc.: $10,351
- Getting There Ride Share (Grace Memorial Church in Deer Creek Parish-Wilson Ministries): $20,000
- Neighbor Ride: $33,640
- Partners in Care: $59,500

## E. Status of Projects from the 2020-2023 TIP and New Projects in the 2021-2024 TIP

As mandated by the federal regulations for metropolitan planning, major projects from the previous TIP, the 2020-2023 TIP, must be tracked and any significant delays in the planned implementation of these major projects must be explained. In order to meet this guideline, Table II-1 lists all projects from the 2020-2023 TIP by jurisdiction including the TIP ID, year of operation in the 2020-2023 TIP, year of operation in the 2021-2024 TIP (if any), and status of the project.

Table II-1 sometimes lists the year of operation in the 2021-2024 TIP as XX. This means the project is not in the new TIP either because funds have been received, the project is complete, the project is between funding stages, the project is on hold, or the project is not being pursued. The reason is noted in the project status. Ongoing means that this project continues year after year. NA means not applicable, usually used for a study where the year of operation has yet to be determined.

Table II-2 lists projects that are new to the 2021-2024 TIP. Additional details on these projects are available in Chapter VI.

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| **Anne Arundel County** | | | | |
| Hanover Road Corridor Improvement | 11-1801-42 | 2022 | TBD | Engineering is almost complete. The project is funded for ROW acquisition only. No schedule or funding for construction have been determined. |
| Furnace Avenue Bridge over Deep Run | 11-1103-13 | 2022 | 2025 | Project is in the preliminary design/pre-NEPA phase, with construction advertisement anticipated beyond the timeframe covered by this TIP. Project delays are due to negotiations regarding project scope and cost with the engineering consultant and SHA. Project completion anticipated in 2025. |
| Harwood Road Bridge over Stocketts Run | 11-1208-13 | 2022 | 2022 | Project is in the final design/structural review phase, with construction advertisement anticipated 3/2021. |
| Magothy Bridge Road Bridge over Magothy River | 11-1402-13 | 2022 | 2022 | SHA is conducting their final review, with construction advertisement anticipated 12/2020. |
| O'Connor Road Bridge over Deep Run | 11-1403-13 | 2021 | 2024 | Project is in the preliminary design/pre-NEPA phase, with construction advertisement anticipated in FY 2023. Project delays are due to additional preliminary design required to address an adjacent property owner's concerns, investigation of design alternatives to lower estimated construction costs, and administrative delays related to the processing of change orders. |
| McKendree Road Culvert over Lyons Creek | 11-1601-19 | 2022 | 2023 | Preliminary design and NEPA are complete, with construction advertisement anticipated in FY 2022. The project has been delayed as SHA reviews the engineering consultant's proposal to proceed to final design. |
| Polling House Road Bridge over Rock Branch | 11-1602-13 | 2023 | 2025 | Design is ready for contract initiation, with construction advertisement anticipated beyond FY 2024. The year of operation has moved to 2025 due to delays encountered during the SHA review process. |
| **Baltimore City** | | | | |
| Citywide Bicycle and Pedestrian Improvements | 12-1217-25 | Ongoing | XX | Citywide TIP sheet removed and broken out into individual projects: Bush Street Bike Facility (12-2101-03); Greenway Middle Branch Phase 2 (12-2102-03); Eutaw Place Bike Facility (12-2103-03); Wolfe and Washington Street Bike Facility (12-2104-03). |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| Citywide Traffic Signals, Intelligent Transportation System and Safety Improvements | 12-1218-07 | Ongoing | Ongoing | Various projects are ongoing. Signal upgrades at 28 intersections are in design. Traffic signal timing optimization is in process and awaiting approval. Construction of CCTV cameras and signal rewiring is preparing for construction advertisement. PS&E package for the installation of fiber optic and copper communications was sent to SHA for review 12/2018. ITS deployment and upgrades project includes installation of 5 new CCTV cameras. 95% design plans were sent to SHA 11/2019. |
| Transportation Management Center Upgrade | 12-1701-04 | 2021 | 2022 | Baltimore City is currently working on the system engineering document. The project is anticipated to advertise for construction in FY 2021. Project completion was delayed from 2021 to 2022 due to funding delays. |
| Perring Parkway Ramp and Hillen Road Bridge | 12-1215-13 | 2022 | 2022 | 95% Design Stage. The project is anticipated to advertise for construction in FY 2022. |
| Sisson Street Bridge over CSX Railroad | 12-1216-13 | 2022 | 2024 | Advertisement for construction anticipated in the fall of 2020. Right-of-way acquisition delays have pushed the year of operation to 2024. |
| Wilkens Avenue Bridge over Gwynns Falls | 12-1403-13 | 2023 | 2024 | Advertisement for construction anticipated in the spring of 2021. Project completion has been delayed from 2023 to 2024 due to additional stormwater engineering. Stormwater management and sediment/erosion control measures were reevaluated to ensure that the proposed measures would be sufficient given the recent increase in the frequency of severe storms. |
| Belair Road Complete Streets | 12-1404-11 | 2024 | 2025 | Notice to Proceed for construction of Phase I was received 2/2020, with completion anticipated 2/2021. Notice to Proceed for design of Phase II was received 1/2020. Project completion has been delayed from 2024 to 2025 due to funding availability. |
| Citywide System Preservation | 12-1414-11 | Ongoing | XX | Clinton Street rehabilitation from Boston Street to Keith Avenue advertised for construction, with completion anticipated fall 2021. Russell Street concrete pavement rehabilitation from Russell Street viaduct to Waterview Avenue is on hold. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| Hanover Street Bridge Multimodal Corridor | 12-1419-13 | NA | XX | Project is between funding stages. Funds are being banked for this project for engineering after FY 2024. No official decision has been made regarding replacement vs rehabilitation. |
| Orleans Street Bridge over I-83 and City Streets | 12-1601-13 | 2028 | 2028 | Initiation of engineering is pending approval and activation of a new federal aid design contract. Engineering is anticipated to be authorized in FY 2021. |
| Remington Avenue Bridge over Stony Run | 12-1602-13 | 2024 | 2024 | 65% Design Stage. The project is anticipated to advertise for construction in FY 2022. |
| Radecke Avenue and Sinclair Lane over Moores Run | 12-1603-13 | 2026 | 2026 | The project scope has expanded to include rehabilitation of the Sinclair Lane bridge over Moores Run due to its close proximity to the Radecke Avenue bridge. Initiation of engineering for Sinclair Lane is pending approval and activation of a new federal aid design contract. Engineering is anticipated to be authorized in FY 2021. |
| I-83 Concrete Deck Mill and Resurface | 12-1604-13 | 2025 | 2025 | Construction anticipated in FY 2024. |
| Moravia Road Ramp Bridge over Pulaski Highway | 12-1605-13 | 2026 | 2026 | Initiation of engineering is pending approval and activation of a new federal aid design contract. Engineering is anticipated to be authorized in FY 2022. |
| Hanover Street Bridge Deck Repair over Middle Branch | 12-1705-13 | 2022 | XX | Project advertised for construction in July 2020. Project is not requesting further funds. |
| MLK Boulevard and Howard Street Intersection Improvements | 12-1706-11 | 2024 | 2023 | Advertisement for construction anticipated 9/2021. Project completion has advanced from 2024 to 2023 due to funds being available earlier than anticipated. |
| 25th Street Rehabilitation from Greenmount Avenue to Kirk Avenue | 12-2001-11 | 2025 | 2025 | Proposal package submitted to Baltimore City DOT contract administration. Engineering continues in FY 2021. |
| 41st Street over I-83, MTA Light Rail Tracks, and Jones Falls | 12-2002-13 | 2030 | 2030 | Future project. Engineering is anticipated to be initiated in FY 2023. |
| Citywide Asset Management | 12-2003-19 | Ongoing | Ongoing | A citywide ADA ramp analysis and an ADA self-compliance report have been completed. Current activities include a GIS-based inventory of 21 asset classes and over 500,000 features, with completion anticipated by the end of 2020. Asset classes being analyzed include: curb ramps, sidewalk, crosswalks, pedestrian signals, alleys, driveways, barriers, speed humps, end treatments, medians, and curbs. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| Baltimore Street from Howard Street to President Street | 12-2004-11 | 2026 | XX | This project will not be pursued as it was determined to not be cost-effective. Baltimore Street is now being considered for modifications to make it a transit-oriented corridor. |
| Brehms Lane over Herring Run | 12-2005-13 | 2027 | 2027 | Initiation of engineering is pending approval and activation of a new federal aid design contract. Engineering is anticipated to be authorized in FY 2021. |
| Fremont Avenue Rehabilitation from Lafayette Avenue to Presstman Street | 12-2007-11 | 2025 | 2025 | Proposal package submitted to Baltimore City DOT contract administration. Engineering continues in FY 2021. |
| Hanover Street over CSX | 12-2008-13 | 2027 | 2027 | Future project. Engineering is anticipated to be authorized in FY 2022. |
| Howard Street over I-83, CSX, Amtrak, and Jones Falls | 12-2009-13 | 2030 | 2030 | Future project. Engineering is anticipated to be authorized in FY 2021. |
| Madison Street Rehabilitation from North Milton Avenue to Edison Highway | 12-2010-11 | 2026 | 2025 | Proposal package submitted to Baltimore City DOT contract administration. Notice to proceed on preliminary engineering received 2/2020. Engineering continues in FY 2021. |
| Park Heights Avenue from West Rogers Avenue to Strathmore Avenue | 12-2011-11 | 2025 | 2028 | Proposal package submitted to Baltimore City DOT contract administration. Engineering continues in FY 2021. Project completion has been delayed from 2025 to 2028 due to funding delays. |
| Patapsco Avenue from Magnolia Avenue to Patapsco River Bridge | 12-2012-11 | 2026 | 2028 | Proposal package submitted to Baltimore City DOT contract administration. Engineering continues in FY 2021. Project completion has been delayed from 2026 to 2028 due to funding delays. |
| Pennington Avenue Rehabilitation from Birch Street to East Ordnance Road | 12-2013-11 | 2024 | 2026 | Notice to Proceed for engineering received in January 2020. Engineering continues in FY 2021. Project completion has been delayed from 2024 to 2026 due to funding delays. |
| Waterview Avenue over Ramp to 295 | 12-2015-13 | 2027 | 2027 | Initiation of engineering is pending approval and activation of a new federal aid design contract. Engineering is anticipated to be authorized in FY 2021. |
| Baltimore City Locked Gate Interstate Access Point Approval (IAPA) | 12-1201-99 | 2021 | XX | Project is on hold. Engineering was completed in 2019. Amtrak has deferred this work as the various developer agreements around the station progress. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| Capital Project Delivery Services | 12-1901-99 | Ongoing | Ongoing | The project management tool, Oracle's Unifier product, is currently under design. Following implementation of the tool agency-wide, the intent is for Unifier to be used in the workforce development of Baltimore City DOT. |
| Citywide Transportation Plan | 12-2006-99 | 2021 | XX | The first phase of the plan has been completed. It included an inventory and consolidation of all existing local, neighborhood, and corridor plans. The second phase involves analyzing the plans from Phase I and developing new recommendations for the citywide plan. This phase is on hold due to competing short-term priorities in planning and engineering. |
| Citywide Transportation Studies | 12-2014-99 | Ongoing | Ongoing | The Druid Park Lake Drive realignment study is being pursued under this TIP ID |
| **Baltimore County** | | | | |
| Dogwood Road Bridge No. B-0072 Over Dogwood Run | 13-0001-13 | 2022 | 2023 | Engineering is nearly complete. The project has been extensively delayed by right of way acquisition which includes a land swap with the State of Maryland. Once a right of way clearance date is established, some re-engineering will be required due to changes in the stream alignment. The current design is based on field surveys that are roughly 20 years old. The year of operation has been set assuming a 4/2022 construction advertisement. |
| Mohrs Lane Bridge No. B-0143 over CSX Railroad | 13-0803-13 | 2022 | 2024 | Engineering is nearly complete, with a 7/2021 construction advertisement anticipated. This project has been delayed due to right of way acquisition and the advertisement date is contingent on clearing right of way. |
| Gunpowder Road Bridge No. B-0409 | 13-1005-13 | 2025 | 2026 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Hammonds Ferry Road Bridge No. B-0100 over CSX Railroad | 13-1012-13 | 2022 | 2023 | Project delayed due to other projects having a higher priority. Construction advertisement anticipated in 11/2021. |
| Lansdowne Boulevard Bridge No. B-0113 over CSX Railroad | 13-1105-13 | 2026 | 2026 | Future project, no work has been undertaken. |
| Piney Grove Road Bridge No. B-0140 over CSX railroad | 13-1107-13 | 2025 | 2031 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Peninsula Expressway Bridge No. B-0119 over CSX Railroad | 13-1108-13 | 2027 | 2029 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Old Ingleside Avenue Bridge No. B-0096 over Dead Run | 13-1202-13 | 2025 | 2027 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| Old Court Road Bridge No. B-0237 over Bens Run | 13-1204-13 | 2020 | XX | Project is not requesting further funds. Construction advertisement anticipated on or before 6/2020, with project completion in 2021. |
| Sparks Road Bridge No. B-0018 over Gunpowder Falls | 13-1206-13 | 2022 | 2023 | Future federal aid bridge painting project. No work has been undertaken. This project has been delayed due to other projects having a higher priority. |
| Golden Ring Road Bridge No. B-0110 over Stemmers Run | 13-1208-13 | 2026 | 2027 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Rolling Road Bridge No. B-0358 over Branch of Dead Run | 13-1209-13 | 2027 | 2028 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Forest Park Avenue N. Bridge No. B-0097 over Dead Run and Dogwood Road | 13-1210-13 | 2024 | XX | Baltimore County intends to undertake remedial repairs with local funds to remove the structure's poor condition rating in lieu of using federal aid. |
| Rossville Boulevard Bridge No. B-0132 over Amtrak & Orems Road | 13-1701-13 | 2025 | 2027 | Future project, no work has been undertaken. Project delayed due to other projects having a higher priority. |
| Phoenix Road Bridge No. BC6507 over Gunpowder Falls & NCR Trail | 13-2001-13 | 2022 | XX | Project is not requesting further funds. Construction advertisement anticipated on or before 6/2020, with project completion in 2024. |
| Bridge Inspection Program | 13-8901-14 | Ongoing | Ongoing | Ongoing program. |
| **Carroll County** | | | | |
| Bixler Church Road Bridge over Big Pipe Creek | 14-1101-13 | 2020 | XX | Project advertised for construction in February 2020, with bids opened May 2020. Project completion anticipated in fall 2020. |
| Shepherds Mill Road Bridge over Little Pipe Creek | 14-1102-13 | 2020 | 2022 | Structural/final design submitted March 2020. The year of operation has shifted to 2022 to reflect a realistic schedule for construction advertisement. |
| Stone Chapel Road Bridge over Little Pipe Creek | 14-1103-13 | 2022 | 2023 | Scope of work developed and sent to SHA. Alternative Analysis began in May 2020. The year of operation has shifted to 2023 to reflect a realistic schedule for construction advertisement. |
| Babylon Road Bridge over Silver Run | 14-1601-13 | 2023 | 2023 | Type, Size, and Location engineering phase. The county is analyzing another bridge type to help with hydraulics and floodplain issues. |
| Gaither Road Bridge over South Branch Patapsco River | 14-1602-13 | 2023 | 2023 | Administrative preliminary paperwork to be completed. Scope of work to be developed. Engineering planned to begin in FY 2021. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| McKinstrys Mill Road Bridge over Sam's Creek | 14-1603-13 | 2022 | 2023 | Scope of work developed and sent to SHA. Alternative Analysis began in May 2020. The year of operation has shifted to 2023 to reflect a realistic schedule for construction advertisement. |
| Hughes Shop Road Bridge over Bear Branch | 14-1802-13 | 2022 | 2023 | Scope of work developed and sent to SHA. Alternative Analysis began in May 2020. The year of operation has shifted to 2023 to reflect a realistic schedule for construction advertisement. |
| Bridge Inspection Program | 14-9401-14 | Ongoing | Ongoing | Ongoing program. |
| **Harford County** | | | | |
| Bata Boulevard Access Road | 15-1402-42 | 2023 | XX | Project is no longer in the Harford County CIP and is on hold due to lack of funding. |
| Abingdon Road Bridge #169 over CSX Railroad | 15-1001-13 | 2021 | 2022 | Project is at 45% design, with Type, Size, and Location design nearly finalized. Construction advertisement anticipated in fall 2021, with project completion in summer 2022. Project delayed due to a 1+ year process to receive a required waiver from CSX. The estimated total cost has increased from $4.18 million to $4.48 million due to increases in ROW and construction costs. |
| Chestnut Hill Bridge #40 | 15-1101-13 | 2020 | XX | Project is not requesting further funds. Project advertised for construction in July 2020, with project completion in winter 2020/2021. |
| Phillips Mill Road Bridge #70 over East Branch tributary | 15-1102-13 | 2020 | XX | Project is not requesting further funds. Project advertised for construction in March 2020, with project completion in spring 2021. |
| Stafford Road Bridge #24 over Deer Creek | 15-1501-13 | 2021 | 2022 | Design is at the final/structural design stage (80% complete). Construction advertisement anticipated in spring 2021, with construction beginning summer 2021. The bridge is anticipated to be closed after Labor Day 2021 and reopened by Memorial Day 2022. Construction scheduled to be completed in summer 2022. |
| Glenville Road Bridge #30 | 15-1601-13 | 2023 | 2023 | Project is in preliminary engineering. Harford County negotiated with the consulting engineering firm in spring 2020, with design beginning summer 2020. The estimated total cost has been updated from $1.44 million to $1.735 million based upon the costs of recently completed projects. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| Grier Nursery Road Bridge #43 over Deer Creek | 15-2001-13 | 2023 | 2024 | Project is in preliminary engineering. Harford County negotiated with the consulting engineering firm in spring 2020, with design beginning summer 2020. The year of operation has been delayed to 2024 due to a delay in the availability of county matching funds. |
| Hookers Mill Road Bridge #13 over Bynum Run | 15-2002-13 | 2022 | 2023 | Project is in preliminary engineering, with design anticipated to begin in the summer or fall of 2020. The year of operation has been delayed to 2023 due to a delay in the availability of county matching funds. |
| Bridge Inspection Program | 15-9411-14 | Ongoing | Ongoing | Ongoing |
| **Howard County** | | | | |
| Dorsey Run Road: MD 175 to CSX Railroad Spur | 16-1403-41 | 2023 | 2024 | Design and land acquisition stage expected to be completed in FY 2021 or FY 2022. Project completion has been delayed from 2023 to 2024 due to budget delays. |
| Guilford Road: US 1 to Dorsey Run Road | 16-1405-41 | 2023 | 2024 | Project split into two phases. Phase 1 will deliver improvements at the intersection of US 1 and Guilford Road and Phase 2 will widen Guilford Road between Stayton Drive and Old Dorsey Run Road. 30% design plans for Phase 1 will be delivered in FY 2021. Project completion delayed from 2023 to 2024 due to budget delays. |
| MD 175 at Oakland Mills Road Interchange | 16-1407-46 | 2022 | 2023 | The project is divided into two phases. Phase I included road improvements and was completed in 2018. Phase II, the bridge over MD 175, has been moved to FY 2022 for design and construction. Project completion has been delayed from 2022 to 2023 due to budget delays. |
| Snowden River Parkway: Broken Land Parkway to Oakland Mills Road | 16-1410-41 | 2023 | 2025 | The project has been divided into multiple breakout projects. The first involved construction of the third left turn lane onto Broken Land Parkway and was completed in 2019. Design is underway for the Oakland Mills Road/Snowden River Parkway intersection and Minstrel Way turn lanes. Project completion has been delayed from 2023 to 2025 due to budget delays. |
| US 29/Broken Land Parkway Interchange and North South Connector Road | 16-1901-42 | 2022 | 2023 | This is a developer project. The project is at 60% design, with completion anticipated in 2023. Project completion has been delayed from 2022 to 2023 due to budget delays. |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | 21-24 TIP | Project Status |
|---|---|---|---|---|
| Bridge Repairs and Deck Replacement | 16-0436-13 | Ongoing | Ongoing | River Road over Rockburn Branch, Henryton Road over a tributary to the Patapsco River, Pindell School Road over Hammond Branch, and Daisy Road over Little Cattail Creek are anticipated to be complete in fall 2020. Carroll Mill Road over Benson Branch is anticipated to be complete in fall 2021. Pfefferkorn Road over the Middle Patuxent River is anticipated to be complete in fall 2023. |
| Bus Rapid Transit | 16-2001-67 | NA | XX | The project is on hold as Howard County seeks additional county and private sector funding. |
| **Maryland Port Administration** | | | | |
| Seagirt Marine Terminal Modernization: Berth Improvements | 32-2001-83 | 2021 | 2022 | Grant agreement finalized in summer 2020, with construction beginning in July 2020. The project will deepen the berth to 50 feet by July 2022. |
| **Maryland Transportation Authority** | | | | |
| I-95 Fort McHenry Tunnel: Moravia Road to Tunnel Improvements | 22-1601-41 | 2018 | XX | Project opened to traffic for beneficial use in 2018 and is complete. |
| I-95 Fort McHenry Tunnel: Port Covington Access | 22-1901-45 | 2029 | 2029 | The first phase of this project was MDTA's funding and oversight of the project's planning through FY 2020, with a NEPA study that is anticipated to be complete in 2020. A private developer will fund future planning efforts. |
| I-95 Express Toll Lane Northbound Extension | 25-1801-41 | 2026 | 2026 | The I-95 ETL Northbound Extension (part of Section 200) is being developed in two phases. Phase I includes new ETL facilities from MD 43 to south of MD 152 and safety improvements between MD 152 and MD 24. Phase I improvements have been developed into 10 construction contracts. Construction started in January 2019 and is anticipated to be completed in fall/winter 2023. Phase II includes new ETL facilities from south of MD 152 to north of MD 24 and reconstruction of the interchanges at MD 152 and MD 24. Phase II improvements are being developed into approximately 12 construction contracts. Construction is anticipated to begin in spring 2021 and is anticipated to be completed in fall/winter 2026. |
| **MTA - Transit** | | | | |
| Urban Transit Systems – Capital Assistance | 40-1602-05 | Ongoing | Ongoing | Projects are ongoing and on schedule |
| Bus and Paratransit Vehicle Overhaul and Replacement | 40-1802-05 | Ongoing | Ongoing | Project is ongoing |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| Small Urban Transit Systems – Capital Assistance | 40-9502-05 | Ongoing | Ongoing | Projects are ongoing and on schedule |
| Ridesharing - Baltimore Region | 40-9901-01 | Ongoing | Ongoing | Project is ongoing and on schedule |
| Small Urban Transit Systems – Operating Assistance | 40-0104-61 | Ongoing | Ongoing | Project is ongoing and on schedule |
| Kirk Bus Facility Replacement - Phase 1 & 2 | 40-1203-65 | 2021 | 2020 | Phase II construction of a building to store buses overnight continues. The exterior is 90% complete and interior work is 70% complete. Completion is anticipated in July 2020 (FY 2021). |
| Bus and Rail Preventive Maintenance | 40-1204-64 | Ongoing | Ongoing | Preservation project ongoing |
| Seniors and Individuals with Disabilities | 40-1502-69 | Ongoing | Ongoing | Projects are ongoing and on schedule |
| Urban Transit Systems – Operating Assistance | 40-1603-61 | Ongoing | Ongoing | Projects are ongoing and on schedule |
| Agencywide System Preservation and Improvement | 40-1801-64 | Ongoing | Ongoing | Transportation Asset Management (TAM) and Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) systems installation complete. Automatic fare collection system software upgrades initiated. |
| Bus System Preservation and Improvement | 40-1803-64 | Ongoing | Ongoing | The bidding process for the replacement of the Washington Boulevard paint booth began 2/2020. Construction documents are being prepared for submittal to procurement for the replacement of the historic gable windows at the Bush Division. |
| Metro and Light Rail Rolling Stock Overhauls and Replacement | 40-1804-63 | Ongoing | Ongoing | Delivery of last light rail vehicle anticipated in July 2022. Factory acceptance testing of the metro fleet is complete with delivery of the first car anticipated in August 2020. Completion of metro fleet is anticipated in May 2024. |
| Metro and Light Rail System Preservation and Improvement | 40-1805-64 | Ongoing | Ongoing | Projects are ongoing. Metro interlocking construction to begin 4/1/2020. Design for the replacement/repair of 400 metro doors scheduled for completion 7/30/2020. Metro resurfacing & bridge alignment complete. |
| Access and Mobility Partnership | 40-2001-62 | 2021 | XX | Project manager preparing documents required for procurement |
| Rural Transit Systems - Operating Assistance | 40-9204-61 | Ongoing | Ongoing | Project is ongoing and on schedule |
| **MTA - Commuter Rail** | | | | |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| Project | TIP ID | Year of Operation 20-23 TIP | Year of Operation 21-24 TIP | Project Status |
|---|---|---|---|---|
| MARC Rolling Stock Overhauls and Replacement | 70-1501-53 | Ongoing | Ongoing | Three overhauled MARC coaches were delivered to MDOT MTA in March 2020. The cars underwent commissioning and qualification testing after delivery, with Conditional Acceptance in July 2020. The remaining six cars are currently at the contractor's facility to undergo overhaul. Spec development is underway for some future locomotive overhaul projects. |
| MARC Improvements | 70-1502-54 | Ongoing | Ongoing | Project funds are split 50/50 between the Baltimore and Washington regions as commuter rail funds can be used anywhere MARC runs. Construction on the Brunswick and Camden lines began late 2019. MARC parking lot upgrades on the Brunswick Line were completed 12/2019. MARC Positive Train Control (PTC) is ready to begin testing on the Penn Line pending Amtrak readiness. The MARC Penn-Camden Connector has completed design. Partial procurement scheduled and funded in FY 2025. |
| MARC Facilities | 70-1503-55 | Ongoing | Ongoing | BWI station renovations are complete. MTA purchased the Riverside maintenance facility property from CSX on 11/12/19. Design is at 30% for the heavy maintenance building at this location. The earliest completion of the storage tracks at MARC Martin State Airport is the end of FY 2020. |
| **MDOT – Office of the Secretary** | | | | |
| State Safety Oversight | 90-1401-39 | Ongoing | Ongoing | Ongoing project |
| Baltimore-Washington Superconducting Maglev (SCMAGLEV) Project | 90-1901-99 | NA | NA | Planning activities are underway. A Draft Environmental Impact Statement is expected in FY 2021. |
| Port of Baltimore Enhancements | 92-1401-83 | 2018 | XX | Project is complete. No federal funding requested beyond 2020. Improvements included (a) providing rail access to the Fairfield Marine Terminal; (b) widening and straightening the navigation channel to Seagirt Marine Terminal; and (c) filling the Fairfield Basin to develop seven acres of new land for cargo storage. |
| **State Highway Administration** | | | | |
| Areawide Transportation Alternatives Projects | 60-9903-29 | Ongoing | Ongoing | Ongoing |
| Areawide Environmental Projects | 60-9506-38 | Ongoing | Ongoing | Ongoing |
| Areawide Congestion Management | 60-9504-04 | Ongoing | Ongoing | Ongoing |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| Areawide Bridge Replacement And Rehabilitation | 60-9310-13 | Ongoing | Ongoing | Ongoing |
| Areawide Resurfacing And Rehabilitation | 60-9501-11 | Ongoing | Ongoing | Ongoing |
| Areawide Safety And Spot Improvements | 60-9508-19 | Ongoing | Ongoing | Ongoing |
| Areawide Urban Reconstruction | 60-9511-19 | Ongoing | Ongoing | Ongoing |
| Morgan State University Transportation Research Program | 60-0702-99 | Ongoing | Ongoing | Ongoing |
| MD 198: MD 295 to MD 32 | 61-1403-41 | 2034 | XX | Entire corridor project on hold. The project programmed partial engineering funding for Phase 1 (MD 198 at MD 295) in the 2020-2023 TIP. |
| US 50: MD 70 to MD 2 | 61-1404-41 | 2018 | XX | Project complete. The improvements opened to traffic in May 2018. |
| MD 175: Disney Road to Reece Road | 61-1601-41 | 2020 | 2020 | The project will be open to service in spring 2020. Right-of-way acquisition continues in FY 2021. |
| MD 175: National Business Parkway to McCarron Court | 61-1701-41 | 2021 | 2024 | This project has been delayed significantly due to BGE utility realignment, which resulted in the termination of the project contract. Project re-advertisement is scheduled for December 2020. |
| I-695 at Cromwell Bridge Road – Drainage Improvement | 63-1801-38 | 2020 | 2020 | Construction ongoing, with completion anticipated 12/2020 |
| MD 140: Painters Mill Road to Owings Mills Boulevard – Phase 2 | 63-0802-41 | 2025 | 2025 | Engineering ongoing |
| I-795: Dolfield Boulevard Interchange | 63-0803-46 | 2040 | XX | Project is on hold pending available funding |
| MD 140: Garrison View Road to Painters Mill Road – Phase 1 | 63-1203-41 | 2019 | 2020 | Construction ongoing, with completion anticipated 7/2020. The project was delayed one year due to utility relocation. |
| I-695: US 40 to MD 144 | 63-1601-41 | 2021 | 2021 | Construction ongoing, with the project anticipated to be open to traffic in fall 2021 |
| I-695 Bridge Replacements at Benson Ave and US 1 | 63-1602-43 | 2018 | XX | Project complete. Project opened to traffic on April 15, 2018. |
| I-695: I-70 to MD 43 | 63-1802-41 | 2024 | 2024 | Request for Proposals issued on 2/11/2020 |
| I-83: Bridge Replacement over Padonia Road | 63-1701-13 | 2021 | 2022 | Construction ongoing, with completion anticipated 4/2022. The contractor revised the completion date due to utility delays. |
| MD 137: Bridge Replacement over I-83 | 63-1703-13 | 2018 | XX | Project complete. Project opened to traffic on October 1, 2018. |
| US 1: Bridge Replacement over CSX | 63-1704-13 | 2021 | 2021 | Construction ongoing, with completion anticipated 11/2021 |

**Table II-1: Status of Projects from the 2020-2023 TIP**

| | | Year of Operation | | |
|---|---|---|---|---|
| **Project** | **TIP ID** | **20-23 TIP** | **21-24 TIP** | **Project Status** |
| US 40: Bridge Replacements over Little & Big Gunpowder Falls | 63-1706-13 | 2021 | 2021 | Construction ongoing, with the project anticipated to be open to traffic in fall 2021 |
| MD 45: Padonia Road to Wight Avenue | 63-1707-11 | 2021 | 2021 | Construction ongoing, with completion anticipated fall 2021 |
| MD 151/MD 151B: Bridge Replacements | 63-2001-13 | 2023 | 2023 | Notice to Proceed on construction received in July 2020 |
| I-695: Bridge Replacement on Putty Hill Avenue | 63-2002-13 | 2022 | 2022 | Notice to Proceed on construction anticipated October 2020 |
| MD 30 Business: North Woods Trail to CSX Railroad (Hampstead Community Safety & Enhancement) | 64-1401-19 | 2020 | 2021 | Construction ongoing, with completion anticipated 11/2021. The project has been delayed by the redesign and relocation of a gas line, the addition of a bypass lane at an intersection, and curb and drainage upgrades/resurfacing of an additional .5 miles of roadway from the CSX railroad to Farmwoods Lane just north of the project limits. |
| MD 86: Bridge Replacement over Gunpowder Falls | 64-1701-13 | 2021 | 2021 | Construction ongoing, with completion anticipated in summer 2021 |
| MD 496: Bridge Replacement over Big Pipe Creek | 64-1702-13 | 2018 | XX | Project complete. Project opened to traffic on October 31, 2018 |
| US 40: MD 7 & MD 159 Intersection Reconstruction - Phase 2 | 65-1402-41 | 2019 | XX | Project complete. Project opened to traffic on July 29, 2019. |
| MD 24: South of Stirrup Run Culvert to Deer Creek Bridge, Section G | 65-1601-12 | TBD | TBD | Engineering ongoing. No funding or schedule has been identified for future phases. |
| US 29: Middle Patuxent River to Seneca Drive – Phase 2 | 66-1406-41 | 2030 | XX | Project is on hold pending available funding |
| MD 32: MD 108 to Linden Church Road | 66-1602-41 | 2019 | 2019 | Project opened to service in 2019. Remaining funds in FY 2021 are for right-of-way acquisition. |
| MD 32: Linden Church Road to I-70, Capacity & Safety Improvements | 66-1703-41 | 2022 | 2022 | Construction ongoing, with completion anticipated in summer 2022 |
| I-95: Active Traffic Management | 66-1801-41 | TBD | TBD | Engineering ongoing. The project is funded to the 30% design milestone only. No funding or schedule has been identified for future phases. |

**Table II-2: New Projects in the 2021-2024 TIP**

| Agency | Project | TIP ID | Project Category | Year of Operation |
|---|---|---|---|---|
| Anne Arundel County | MD 2: US 50 to Baltimore Annapolis Boulevard | 11-2102-41 | Highway Capacity | TBD |
| Anne Arundel County | MD 3: Saint Stephens Church Road to MD 175 | 11-2103-41 | Highway Capacity | TBD |
| Anne Arundel County | MD 214: MD 468 to east of Loch Haven Road | 11-2104-41 | Highway Capacity | TBD |
| Anne Arundel County | Hanover Road Bridge over Deep Run | 11-2105-13 | Highway Preservation | 2026 |
| Anne Arundel County | Conway Road Bridge over Little Patuxent River | 11-2106-13 | Highway Preservation | 2025 |
| Anne Arundel County | Jacobs Road Bridge over Severn Run | 11-2107-13 | Highway Preservation | 2027 |
| Anne Arundel County | Parole Transportation Center | 11-2101-66 | Transit Preservation | 2025 |
| Baltimore City | Frederick Avenue Slope Stabilization Wall | 12-2105-39 | Environmental/Safety | 2022 |
| Baltimore City | Bush Street Bike Facility | 12-2101-03 | Emission Reduction Strategy | 2023 |
| Baltimore City | Greenway Middle Branch Phase 2 | 12-2102-03 | Emission Reduction Strategy | 2025 |
| Baltimore City | Eutaw Place Bike Facility | 12-2103-03 | Emission Reduction Strategy | 2023 |
| Baltimore City | Wolfe/Washington Street Bike Facility | 12-2104-03 | Emission Reduction Strategy | 2024 |
| Baltimore City | Harford Road Bridge Over CSX | 12-2106-13 | Highway Preservation | 2024 |
| Carroll County | Old Kays Mill Road Culvert over Beaver Run | 14-2101-13 | Highway Preservation | 2027 |
| Carroll County | Brown Road Culvert over Roaring Run | 14-2102-13 | Highway Preservation | 2027 |
| Carroll County | McKinstrys Mill Road over Little Pipe Creek | 14-2103-13 | Highway Preservation | 2027 |
| Harford County | Madonna Road Bridge #113 over Deer Creek | 15-2101-13 | Highway Preservation | 2024 |
| Harford County | St. Clair Bridge Road Bridge #100 over Deer Creek | 15-2102-13 | Highway Preservation | 2027 |
| Harford County | Stafford Road Bridge #162 over Buck Branch | 15-2103-13 | Highway Preservation | 2026 |
| Harford County | Trappe Church Road Bridge #161 over Hollands Branch | 15-2104-13 | Highway Preservation | 2025 |
| Howard County | Marriottsville Road and I-70 Bridge Improvements | 16-2101-41 | Highway Capacity | 2022 |
| Maryland Transportation Authority | I-95 Southbound Part-Time Shoulder Usage | 25-2101-41 | Highway Capacity | 2024 |
| Maryland Port Administration | Howard Street Tunnel | 32-2101-83 | Ports | 2024 |
| MTA – Transit | Towson Circulator | 43-2101-67 | Transit Capacity | 2021 |

## F. Conformity with Air Quality Planning

The Clean Air Act Amendments require careful evaluation of the conformity between transportation plans and programs against the applicable State Implementation Plan (SIP) for attaining air quality standards. The procedures for performing this evaluation have been documented and issued by the U.S. Environmental Protection Agency (EPA) in the final rule, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Funded or Approved under Title 23 USC or the Federal Transit Act", hereafter termed Final Rule.

The Baltimore region is designated as a nonattainment area with regard to the 8-hour ozone National Ambient Air Quality Standard (NAAQS). The BRTB has conducted a comprehensive analysis of conformity for the 2021-2024 TIP with air quality goals as a pre-condition of its acceptance by federal funding agencies. The results of this work, as summarized below and in an accompanying report entitled *Conformity Determination of the 2021-2024 Transportation Improvement Program and Maximize 2045*, concluded that the region's transportation plan and program are in conformity with air quality goals.

The conformity determination referred to above is founded upon technical analyses of the impact on areawide emissions of air pollutants associated with building, or not building, projects contained in the TIP. These air quality analyses are based upon Round 9A cooperative socio-economic forecasts, which were approved by the BRTB in Resolution #21-1 on July 28, 2020. All projects that serve as emission reduction strategies (ERS) in the TIP are identified as such by the ERS heading on the top right corner of the page. ERS-related projects are documented in the conformity determination report.

Many of the projects contained in the TIP involve non-capacity improvements such as bridge replacement, bridge rehabilitation, streetscaping, road reconstruction, road resurfacing, road rehabilitation, traffic engineering, safety projects, and bicycle and pedestrian facilities. These improvements do not alter the functional traffic capacity of the facilities being improved and are “exempt” from the requirement to determine conformity according to the Final

Rule. Therefore they were not included in the travel demand model-based technical analysis.

Projects in the TIP that are not identified as exempt in the Final Rule are identified in the conformity document as “non-exempt.” They are not exempt from the requirement to determine conformity. These projects in the TIP typically involve capacity improvements. Non-exempt projects which are regionally significant were included in the travel demand model. Non-exempt, non-regionally significant projects were evaluated to determine whether they were suitable to be included in the travel demand model. Non-exempt, non-regionally significant projects which were not able to be evaluated in the travel demand model were reviewed through a manual quantitative analysis.

Upon completion of the travel demand forecasting task, the results were analyzed by the Maryland Department of Environment (MDE) to estimate the emission effects of the highway based transportation system. The results are portrayed in tons per day of $NO_x$ and VOC for future horizon years.

Conformity determinations by the BRTB were made with input from the local jurisdictions and modal administrations. All projects were assessed by the Interagency Consultation Group (ICG) to determine conformity status for testing. Through coordination with the submitting agencies, the BRTB made a determination of conformity by testing projects in the model or performing quantitative analyses.

## G. Performance Based Planning and Programming

The U.S. DOT published updated Metropolitan Planning Regulations on May 27, 2016 following the enactment of the FAST Act. These updated regulations continue and strengthen the emphasis on performance-based planning and programming. The intent of performance-based planning and programming is to aid MPOs in gauging progress relative to regionally established goals, strategies, performance measures, and performance targets.

- **Goals** are broad aspirations or guiding principles for the region (e.g. “Improve system safety”)
- **Strategies** are specific approaches or policies aiding the implementation of goals (e.g. “Eliminate hazardous or substandard conditions in high-crash locations and corridors”)
- **Performance Measures** are specific metrics the region can use to assess progress towards achieving a goal (e.g. “Decrease number of highway fatalities”)
- **Performance targets** are specific levels to be reached within a certain time frame (e.g. “Decrease the number of highway fatalities to 121 by 2030”)

Federal rulemaking requires MPOs to adopt a series of 25 performance measures and targets and to link investment priorities in the TIP and LRTP to the achievement of these performance measures and targets. The BRTB coordinated target selection with the State and public transportation providers to ensure consistency. Out of the series of 25 federally mandated performance targets, the BRTB has adopted 21 to date.

Performance measures and targets cover several broad categories including transit asset management, highway safety, traffic congestion, on-road mobile source emissions, pavement and bridge condition, and travel time reliability.

The following paragraphs summarize each of these performance measures and targets as well as the anticipated impact of investments in the TIP towards their achievement. The BRTB will continue to work to improve the methods utilized to analyze the linkage between TIP investments and regional progress towards performance measures and targets.

**Transit Asset Management: Performance Measures and Targets**

FTA's final rule on transit asset management (TAM) requires transit agencies receiving FTA funding to develop asset management plans and monitor performance for public transportation assets, including: vehicles, facilities, equipment, and other infrastructure. The BRTB adopted the four required transit asset management targets in June 2017, with an update adopted in February 2019:

1) Percentage of revenue vehicles within an asset class that have either met or exceeded their Useful Life Benchmarks (ULBs). Table 1 summarizes these targets.

Table 1. MDOT MTA Revenue Vehicle Performance Targets

| **% of vehicles at or past their ULB** | | | | |
|---|---|---|---|---|
| Mode | Asset Class | 2017 Target | 2018 Target | 2019 Target |
| Bus | bus (40-ft) | 4.7% | 4.7% | 0.0% |
| Bus | bus (60-ft) | 0.0% | 0.0% | 0.0% |
| Light Rail | light rail vehicle | 0.0% | 0.0% | 0.0% |
| Metro | heavy rail vehicle | 88.9% | 88.9% | 88.9% |
| MARC | locomotive | 0.0% | 0.0% | 0.0% |
| MARC | passenger coach | 0.0% | 0.0% | 0.0% |
| Mobility | cutaway bus | 0.0% | 0.0% | 0.0% |
| Mobility | vans | 0.0% | 0.0% | 0.0% |
| Mobility | automobile | 4.4% | 4.4% | 4.4% |

2) Percentage of non-revenue vehicles that have either met or exceeded their ULBs. Table 2 summarizes these targets.

Table 2. MDOT MTA Non-Revenue Vehicle Performance Targets

| **% of vehicles at or past their ULB** | | | |
|---|---|---|---|
| Asset Class | 2017 Target | 2018 Target | 2019 Target |
| Steel wheel vehicles | 61.1% | 61.1% | 61.1% |
| Other rubber tire vehicles | 54.4% | 54.4% | 54.4% |

3) Infrastructure (rail fixed-guideway, track, signals, systems): percentage of track segments with performance restrictions. Table 3 summarizes these targets.

Table 3. MDOT MTA Guideway Performance Targets

| **% of guideway under performance restriction** | | | |
|---|---|---|---|
| Mode | 2017 Target | 2018 Target | 2019 Target |
| MARC | 3.5% | 3.5% | 3.5% |
| Metro | 3.5% | 3.5% | 3.5% |
| Light Rail | 5.8% | 5.8% | 5.8% |

4) Facilities: Percentage within an asset class rated below condition 3 on the FTA Transit Economic Requirements Model (TERM) scale. Table 4 summarizes the TERM scale and Table 5 summarizes the facilities targets.

Table 4. FTA Transit Economic Requirements Model (TERM) Scale

| General Condition Assessment Rating Scale | | |
|---|---|---|
| **Rating** | **Condition** | **Description** |
| 5 | Excellent | No visible defects, new or near new condition, may still be under warranty |
| 4 | Good | Good condition, but no longer new, may have some slightly defective or deteriorated component(s), but is overall functional |
| 3 | Adequate | Moderately deteriorated or defective components but has not exceeded useful life |
| 2 | Marginal | Defective or deteriorated component(s) in need of replacement; exceeded useful life |
| 1 | Poor | Critically damaged component(s) or in need of immediate repair; well past useful life |

Table 5. MDOT MTA Facilities Performance Targets

| % of facilities rated below condition 3 on the TERM scale * | | | |
|---|---|---|---|
| Asset Class | 2017 Target | 2018 Target | 2019 Target |
| administrative facility | 21% | 21% | 21% |
| maintenance facility | 65% | 65% | 50% |
| passenger facility | 17% | 17% | 17% |
| parking lot | 58% | 58% | 50% |

In addition to the TAM targets for MDOT MTA listed above, there are separate performance targets for Tier II agencies. MDOT MTA is a Tier 1 agency and Maryland's direct recipient of federal funds. Tier 1 providers are those transit operators with 101 or more vehicles in revenue service during peak regular service or operators of rail fixed-guideway public transportation systems. MDOT MTA is also overseeing asset management for 22 sub-recipients (two Tier I agencies and 20 Tier II agencies). Tier II providers are those transit operators that do not operate rail fixed-guideway public transportation systems and have 100 or fewer vehicles in service during peak regular service. Tier II targets are summarized in Table 6.

Table 6. Tier II Performance Targets

| % of vehicles at or past their ULB | | |
|---|---|---|
| Asset Class | Current Performance | 2019 Target |
| bus | 40.7% | 40.7% |
| cutaway bus | 52.3% | 52.3% |
| automobile | 66.7% | 66.7% |
| van | 85.4% | 85.4% |
| trucks and other rubber tire vehicles | 50.0% | 50.0% |
| administrative facility | 40.9% | 40.9% |
| combined administrative/maintenance facility | 11.1% | 11.1% |
| maintenance facility | 21.1% | 21.1% |
| passenger/parking | 25.0% | 25.0% |

The 2021-2024 TIP includes fifteen projects related to the purchase, maintenance and rehabilitation of transit assets. MDOT MTA is the project sponsor for all TAM related projects except for the Anne Arundel County sponsored Parole Transportation Center. Table 7 summarizes these projects. The 2021-2024 TIP includes a total of $1.117 billion dollars in TAM related investments. Federal sources such as CMAQ and FTA sections 5307, 5337, and 5339 account for $882.203 million of this total. Matching funds account for the

remaining $234.73 million. This investment represents 26.2% of the $4.26 billion programmed in the 2021-2024 TIP.

Table 7. 2021-2024 TIP Projects Related to Transit Asset Management

| Project | TAM Target | Federal | Matching | Total TIP Funds |
|---|---|---|---|---|
| MARC Rolling Stock Overhauls and Replacement | Vehicles | $36,206 | $9,052 | $45,258 |
| Bus and Paratransit Vehicle Overhaul and Replacement | Vehicles | $185,808 | $46,454 | $232,262 |
| Metro and Light Rail Rolling Stock Overhauls and Replacement | Vehicles | $228,732 | $57,183 | $285,915 |
| Bus and Rail Preventive Maintenance | Vehicles and Infrastructure | $156,415 | $39,105 | $195,520 |
| MARC Facilities | Facilities | $75,862 | $18,966 | $94,828 |
| Bus System Preservation and Improvement | Facilities | $3,600 | $900 | $4,500 |
| Kirk Bus Facility Replacement - Phase 1 & 2 | Facilities | $14,593 | $3,648 | $18,241 |
| MARC Improvements | Facilities and Infrastructure | $74,457 | $18,614 | $93,071 |
| Agencywide System Preservation and Improvement | Facilities and Infrastructure | $33,512 | $8,378 | $41,890 |
| Metro and Light Rail System Preservation and Improvement | Facilities and Infrastructure | $64,313 | $16,079 | $80,392 |
| Parole Transportation Center (Anne Arundel County) | Tier II Facilities | $0 | $14,175 | $14,175 |
| Rural Transit Systems - Capital Assistance | Tier II Facilities and Vehicles | $1,748 | $437 | $2,185 |
| Small Urban Transit Systems - Capital Assistance | Tier II Facilities and Vehicles | $1,305 | $327 | $1,632 |
| Urban Transit Systems - Capital Assistance | Tier II Facilities and Vehicles | $4,000 | $999 | $4,999 |
| Towson Circulator | Tier II Facilities and Vehicles | $1,652 | $413 | $2,065 |
| **Funding Total (in $1,000s)** | | **$882,203** | **$234,730** | **$1,116,933** |

**Highway Safety: Performance Measures and Targets**

The FHWA's final rule established five performance measures for state DOTs and MPOs to use to carry out the Highway Safety Improvement Program (HSIP). MDOT and the BRTB coordinated on a methodology using crash data to develop regional targets. The source for all fatality data is the most recently available NHTSA Fatality Analysis Reporting System (FARS) data. Serious injury data were obtained through the state's crash data system. Compliant with the final rule, the methodology uses 5-year rolling averages for each of the measures.

Table 8 summarizes the five required highway safety performance measures and targets. The table reflects new targets adopted by the BRTB in January 2020. The rightmost column in Table 8 shows 2030 TZD goals. This refers to the state's and the region's continued commitment to the concept of "Toward Zero Deaths." While MDOT and the BRTB have adopted short-term yearly highway safety targets in accordance with regulatory guidance and advice from the FHWA, both organizations nonetheless maintain their long-term commitment to achieving zero deaths on the state's and the region's highways. Consistent with the state's Highway

Safety Improvement Plan, the 2030 TZD targets are half the 2008 baseline targets.

Table 8. Highway Safety Performance Measures and Targets

| **Measures related to funding under the Highway Safety Improvement Program (HSIP)** | | | | | |
|---|---|---|---|---|---|
| Measure | 2008 Baseline | 2017 Actual | 2018 Actual | 2016-2020 Target | 2030 TZD Goal |
| Number of fatalities | 242 | 238 | 223 | 181 | 121 |
| Number of serious injuries | 1,868 | 1,678 | 1,566 | 1,227 | 934 |
| Fatality rate per 100 million VMT | 0.93 | 0.86 | 0.81 | 0.69 | 0.47 |
| Serious injury rate per 100 million VMT | 7.21 | 6.05 | 5.66 | 4.70 | 3.60 |
| Number of non-motorized (ped/bike) fatalities and serious injuries | 286 | 366 | 363 | 223 | 143 |

Table 9 summarizes the three MDOT State Highway Administration (MDOT SHA) projects programming HSIP funds. HSIP funds are programmed in three MDOT SHA areawide projects focusing on environmental improvements, resurfacing and rehabilitation, and safety and spot improvements. Areawide projects group together many smaller projects throughout the region that do not affect air quality, otherwise known as exempt projects. The specific project list is not available from MDOT SHA, but Appendix D lists known projects that MDOT SHA will pursue as a part of these areawide projects in FY 2021. The 2021-2024 TIP includes $46 million in federal HSIP funds along with $11.5 million in matching funds for a total of $57.5 million. This investment represents 1.35% of the $4.26 billion programmed in the 2021-2024 TIP.

Table 9. 2021-2024 TIP Projects Programming HSIP Funds

| **Agency** | **Project** | **HSIP Federal** | **HSIP Matching** | **Total TIP Funds** |
|---|---|---|---|---|
| MDOT SHA | Areawide Environmental Projects | $2,400 | $600 | $3,000 |
| MDOT SHA | Areawide Resurfacing And Rehabilitation | $16,880 | $4,220 | $21,100 |
| MDOT SHA | Areawide Safety And Spot Improvements | $26,720 | $6,680 | $33,400 |
| **Funding Total (in $1,000s)** | | **$46,000** | **$11,500** | **$57,500** |

While the FHWA-required highway safety performance measures and targets are focused specifically on implementation of the HSIP, the 2021-2024 TIP includes many other projects identified by project sponsors as supporting the BRTB's highway safety goals. Examples include the provision of bicycle and pedestrian facilities along roadways as well as other cost effective safety countermeasures (e.g. rumble strips, signal phasing, etc.). These projects program a variety of funds including other federal sources, state funds, and local funds.

Appendix B includes a complete table relating 2021-2024 TIP projects to LRTP goals and performance measures.

In addition to TIP investments, the BRTB has lead or participated in the development and completion of several major projects related to safety throughout the Baltimore region in recent years. Most notably among these are the development and implementation of local Strategic Highway Safety Plans (SHSP), the adoption of Complete Streets policies, and the staffing of pedestrian/bicycle coordinators in local Departments of Transportation or Public Works.

In addition, the BRTB is developing/updating a Congestion Management Process, encouraging traffic incident management training for all first responders through the Traffic Incident Management for the Baltimore Region (TIMBR) committee, and promoting use of the MDOT SHA Transportation Systems Management and Operations (TSMO) Strategic Deployment Plan to ensure that safety is considered for all roadway projects. BMC is also supporting non-motorist safety projects including the Look Alive regional pedestrian and bicycle safety campaign and the Maryland Highway Safety Office's Pedestrian Fatality Review.

**Traffic Congestion and Emissions: Performance Measures and Targets**

The Baltimore region is classified as a nonattainment area for the 8-hour ozone standard. As such, the region must work to ensure it maintains conformity with the state's air quality plan. The Congestion Mitigation and Air Quality Improvement (CMAQ) program provides funding for transportation programs and projects that reduce air pollution and mitigate congestion in the transportation system in nonattainment areas.

The FHWA's final rule established three performance measures for state DOTs and MPOs to use to report on traffic congestion to carry out the CMAQ program. This final rule requires state DOTs and MPOs to coordinate and report on a single unified set of performance targets for each of the measures for the urbanized area. These measures are:

1) Annual hours of peak-hour excessive delay (PHED): This measure presents the annual hours of PHED that occur within an urbanized area on the National Highway System (NHS). The threshold for excessive delay is either 20 miles per hour or 60% of the posted speed limit travel time, whichever is greater, and is measured in 15-minute intervals. Peak travel hours are

defined as 6-10 a.m. local time on weekday mornings and either 3-7 p.m. or 4-8 p.m. local time on weekday afternoons.

2) Percentage of non-single-occupancy vehicle (SOV) travel: This measure is the percentage of non-SOV vehicles traveling within an urbanized area, calculated using American Community Survey (ACS) commuting (journey to work) data from the U.S. Census Bureau.

3) On-road mobile source emission reductions: This measure tracks the total emission reductions attributed to projects funded through the CMAQ program. Total emissions reductions are calculated by summing 2- and 4-year totals of emissions reductions of an applicable criteria pollutant and precursor, in kilograms per day, for all projects funded with CMAQ funds. The applicable pollutants for 8-hour ozone are Volatile Organic Compounds (VOCs) and nitrogen oxides (NOx).

Table 10 summarizes the traffic congestion and emissions performance measures and targets. The BRTB adopted the traffic congestion targets in May 2018 and the emissions target in June 2018.

Table 10. Traffic Congestion and Emissions Performance Targets

| **Measures related to funding under the Congestion Mitigation and Air Quality Improvement (CMAQ) Program** | | | |
|---|---|---|---|
| Measure | 2017 Baseline | 2-year Targets (2018-2019) | 4-Year Targets (2018-2021) |
| Annual per capita hours of peak-hour excessive delay (PHED) | 20.2 hours | <21.8 hours | <22.6 hours |
| Percentage of non-SOV travel | 24.85% | 24.85% | 24.85% |
| Reduction of VOC (kg/day) | 6.19 | 6.59 | 7.87 |
| Reduction of NOx (kb/day) | 83.23 | 88.57 | 123.39 |

Table 11 summarizes the projects programming CMAQ funds. The 2021-2024 TIP includes $190.378 million in federal CMAQ funds along with $46.885 million in matching funds for a total of $237.263 million. This investment represents 5.6% of the $4.26 billion programmed in the 2021-2024 TIP.

MDOT MTA accounts for nearly 93% of CMAQ funds programmed in the TIP, with MDOT SHA accounting for the remainder. MDOT MTA sponsored projects include two projects focused on the overhaul and replacement of transit and rail vehicles as well as funding for ridesharing in the Baltimore region. MDOT SHA sponsored projects include two areawide projects focused on congestion management and safety and spot improvements. As mentioned previously,

Appendix D lists known projects that MDOT SHA will pursue as a part of these areawide projects in FY 2021.

Table 11. 2021-2024 TIP Projects Programming CMAQ Funds

| Agency | Project | CMAQ Federal | CMAQ Matching | Total TIP Funds |
|---|---|---|---|---|
| MDOT MTA | Bus and Paratransit Vehicle Overhaul and Replacement | $156,206 | $39,053 | $195,259 |
| MDOT MTA | Metro and Light Rail Rolling Stock Overhauls and Replacement | $17,488 | $4,372 | $21,860 |
| MDOT MTA | Ridesharing - Baltimore Region | $2,844 | $0 | $2,844 |
| MDOT SHA | Areawide Congestion Management | $6,000 | $1,500 | $7,500 |
| MDOT SHA | Areawide Safety And Spot Improvements | $7,840 | $1,960 | $9,800 |
| **Funding Total (in $1,000s)** | | **$190,378** | **$46,885** | **$237,263** |

## Pavement and Bridge Condition: Performance Measures and Targets

The FHWA's final rule established six performance measures for state DOTs and MPOs to use to assess the performance of the NHS under the National Highway Performance Program (NHPP). These include four measures of pavement condition and two measures of bridge condition.

Pavement condition is based on a calculation using measures of international roughness index (IRI), cracking, and rutting or faulting. Bridge condition is based on National Bridge Inventory (NBI) condition ratings for the bridge deck, superstructure, substructure, and culvert. Pavement sections and bridges are assigned a rating of good, fair, or poor based on the worst score among the rated elements. For example, if the bridge deck is rated poor while the other elements are rated fair, the bridge condition will be rated poor.

The pavement and bridge condition targets adopted by the BRTB are based on projecting current conditions out to the target years, considering planned and programmed maintenance. However, the targets do not necessarily represent what the BRTB would like to accomplish with respect to pavement and bridge conditions. The results of this target setting may be considered as a factor in redirecting funds if deemed appropriate.

Table 12 summarizes the six required performance measures and targets for pavement and bridge condition. The BRTB adopted these measures and targets in October 2018.

Table 12. Pavement and Bridge Condition Performance Measures and Targets

| Measure | Baseline | 2-Year Targets (2018-2019) | 4-Year Targets (2018-2021) |
|---|---|---|---|
| % of NHS interstate pavement in good condition (2016 baseline) | 63.8% | 60.0% | 60.0% |
| % of NHS interstate pavement in poor condition (2016 baseline) | 0.4% | 2.0% | 2.0% |
| % of NHS non-interstate pavement in good condition (2016 baseline) | 29.7% | 30.0% | 30.0% |
| % of NHS non-interstate pavement in poor condition (2016 baseline) | 8.6% | 7.0% | 8.0% |
| % of NHS bridges by deck area in good condition (2017 baseline) | 29.7% | 20.0% | 20.0% |
| % of NHS bridges by deck area in poor condition (2017 baseline) | 5.0% | 3.0% | 5.0% |

Table 13 summarizes funds programmed in the 2021-2024 TIP for projects related to pavement condition. Projects are categorized as interstate or non-interstate NHS for consistency with the required performance measures and targets. Project scopes vary and include many elements that do not affect pavement condition. As a result, only a small portion of the funds listed may be utilized to improve pavement condition. The year of operation for each project is listed in parenthesis after the project name.

In addition to the projects listed in Table 13, MDOT SHA's areawide projects for resurfacing and rehabilitation, safety and spot improvements, and urban reconstruction program funds applicable to pavement condition, though not all of the funds will contribute to improved pavement condition and those that do may not be used on the NHS. Known FY 2021 areawide projects are listed in Appendix D. These areawide TIP projects program $485.072 million in federal funds along with $121.268 million in matching funds for a total of $606.34 million. $224.832 million of the federal funds in these projects are programmed under the National Highway Performance Program.

Table 13. 2021-2024 TIP Projects Related to Pavement Condition

| Agency | Project Name (Year of Operation) | Federal | Matching | Total TIP Funds |
|---|---|---|---|---|
| **NHS Interstate Projects** | | | | |
| MDOT SHA | I-695: I-70 to MD 43 (2024) | $253,545 | $0 | $253,545 |
| MDOT SHA | I-695: US 40 to MD 144 (2021) | $0 | $27,877 | $27,877 |
| | **NHS Interstate Subtotal (In $1,000s)** | **$253,545** | **$27,877** | **$281,422** |
| **Non-Interstate NHS Projects** | | | | |
| Anne Arundel County | MD 2: US 50 to Baltimore Annapolis Boulevard (TBD) | $0 | $1,256 | $1,256 |

| | | | | |
|---|---|---|---|---|
| Anne Arundel County | MD 3: Saint Stephens Church Road to MD 175 (TBD) | $0 | $1,269 | $1,269 |
| Baltimore City | Belair Road Complete Streets (2025) | $6,840 | $1,710 | $8,550 |
| Baltimore City | Madison Street Rehabilitation from North Milton Avenue to Edison Highway (2025) | $5,520 | $1,380 | $6,900 |
| Baltimore City | MLK Boulevard and Howard Street Intersection Improvements (2023) | $4,560 | $1,140 | $5,700 |
| Baltimore City | Patapsco Ave. from Magnolia Ave. to Patapsco River Bridge (2028) | $280 | $70 | $350 |
| Baltimore City | Pennington Ave. Rehabilitation from Birch St. to East Ordnance Rd (2026) | $7,720 | $1,930 | $9,650 |
| Howard County | Dorsey Run Road: MD 175 to CSX Railroad Spur (2024) | $0 | $11,785 | $11,785 |
| MDOT SHA | MD 140: Garrison View Road to Painters Mill Road - Phase 1 (2020) | $0 | $536 | $536 |
| MDOT SHA | MD 140: Painters Mill Road to Owings Mills Boulevard - Phase 2 (2025) | $0 | $688 | $688 |
| MDOT SHA | MD 30 Business: North Woods Trail to CSX Railroad (Hampstead Community Safety & Enhancement) (2021) | $47 | $70 | $117 |
| MDOT SHA | MD 32: Linden Church Road to I-70, Capacity & Safety Improvements (2022) | $64,076 | $861 | $64,937 |
| MDOT SHA | MD 32: MD 108 to Linden Church Road (2019) | $0 | $169 | $169 |
| MDOT SHA | MD 45: Padonia Road to Wight Avenue (2021) | $1,313 | $8,021 | $9,334 |
| **Non-Interstate NHS Subtotal (In $1,000s)** | | **$90,356** | **$30,885** | **$121,241** |
| **Funding Total (In $1,000s)** | | **$343,901** | **$58,762** | **$402,663** |

Table 14 summarizes the funds programmed in the 2021-2024 TIP for bridge projects on the NHS. The programmed funds listed are for various project phases including engineering, right-of-way, and construction. The year of operation for each project is listed in parenthesis after the project name. The 2021-2024 TIP includes a total of $59.896 million in federal funds for these projects along with $16.65 million in matching funds for a total of $76.546 million.

Table 14. 2021-2024 TIP Bridge Projects on the NHS

| Agency | Project Name (Year of Operation) | Federal | Matching | Total TIP Funds |
|---|---|---|---|---|
| Baltimore City | Harford Road Bridge over CSX (2024) | $9,000 | $3,500 | $12,500 |
| Baltimore City | I-83 Concrete Deck Mill and Resurface (2025) | $10,720 | $2,680 | $13,400 |
| Baltimore City | Moravia Road Ramp Bridge over Pulaski Highway (2026) | $960 | $240 | $1,200 |
| Baltimore City | Orleans Street Bridge over I-83 and City Streets (2028) | $512 | $128 | $640 |
| Baltimore City | Wilkens Avenue Bridge Over Gwynns Falls (2024) | $11,040 | $2,760 | $13,800 |
| Baltimore County | Rolling Road Bridge No. B-0358 over Branch of Dead Run (2028) | $400 | $100 | $500 |
| MDOT SHA | I-83: Bridge Replacement over Padonia Road (2022) | $7,728 | $1,004 | $8,732 |
| MDOT SHA | US 1: Bridge Replacement over CSX (2021) | $8,976 | $2,646 | $11,622 |
| MDOT SHA | US 40: Bridge Replacements over Little & Big Gunpowder Falls (2021) | $10,560 | $3,592 | $14,152 |
| **Funding Totals (in $1,000s)** | | **$59,896** | **$16,650** | **$76,546** |

In addition to the projects listed in Table 14, the TIP also includes a number of additional investments in bridges including:

- I-95 Express Toll Lanes Northbound Extension: This Maryland Transportation Authority project will add two express toll lanes on I-95 northbound from north of MD 43 to north of MD 24. The project includes the reconstruction of several overpasses over I-95 and the widening of several bridges

along I-95 northbound. The project is anticipated to be complete in 2026.

• Areawide Bridge Replacement and Rehabilitation: This MDOT SHA TIP project programs funds for major upgrades and maintenance of structures on state highways. The project programs $145.36 million in federal funds along with $36.34 million in matching funds for a total of $181.7 million. These funds include both NHS and non-NHS structures. $85.52 million of the federal funds in this project are programmed under the National Highway Performance Program.

• Local and state bridge projects not on the NHS: The TIP also includes a number of local and state sponsored non-NHS bridge rehabilitation and replacement projects. The 2021-2024 TIP includes $113.503 million in federal funds for these projects along with $60.184 million in matching funds for a total of $173.687 million.

**Travel Time Reliability: Performance Measures and Targets**

The FHWA's final rule established three performance measures for state DOTs and MPOs to use to assess the performance of the NHS under the National Highway Performance Program (NHPP). These include two measures related to Level of Travel Time Reliability (LOTTR) as well as a Truck Travel Time Reliability (TTTR) Index. The specific performance measures are:

1) Percentage of person-miles traveled on the Interstate System that are reliable

2) Percentage of person-miles traveled on the non-interstate NHS that are reliable

3) Ratio of Interstate System mileage indicating reliable truck travel times

Level of Travel Time Reliability (LOTTR) is defined as the ratio of travel times in the 80$^{th}$ percentile to a "normal" travel time (50$^{th}$ percentile), using data from FHWA's National Performance Management Research Data Set (NPMRDS) or equivalent. Data are collected in 15-minute segments during all time periods between 6 a.m. and 8 p.m. local time. The measures are the percent of person-miles traveled on the relevant portion of the NHS that are reliable. Segments are considered reliable if the 80$^{th}$ percentile travel time divided by the 50$^{th}$ percentile travel time is less than 1.5. Person-miles take into account the users of the NHS, including bus, auto, and truck occupancy levels.

The TTTR index is a measure comparing the time it takes trucks to travel segments of the NHS in congested conditions (as shown by the 95th percentile time) relative to the time it takes to make a trip in "normal" conditions (as shown by the 50th percentile time). For example, say the 95th percentile truck travel time is 56 minutes for a segment of the NHS that normally takes 30 minutes. This translates into a ratio of 56 minutes / 30 minutes, or 1.87.

Table 15 summarizes the travel time reliability performance measures and targets. The BRTB adopted these targets in October 2018.

Table 15. Travel Time Reliability Performance Measures and Targets

| **Measures related to travel time reliability** | | | |
|---|---|---|---|
| Measure | 2017 Baseline | 2-year Targets (2018-2019) | 4-Year Targets (2018-2021) |
| LOTTR (Interstate) measure: Percentage of person-miles traveled on the Interstate System that are reliable | 71.5% | 72.1% | 72.1% |
| LOTTR (non-Interstate) measure: Percentage of person-miles traveled on the non-Interstate NHS that are reliable | 82.0% | not applicable * | 81.7% |
| TTTR Index: Ratio of Interstate System mileage indicating reliable truck travel times | 1.87 | 1.87 | 1.88 |

* For the first performance period only, FHWA does not require state DOTs and MPOs to set a 2-year target for the LOTTR non-interstate measure

There are no federal funding sources tied directly to travel time reliability on Interstate and non-Interstate NHS facilities. However, a number of projects in the TIP have the potential to improve travel time reliability. Example projects include:

- Baltimore City's Traffic Signals and Intelligent Transportation System project (TIP ID 12-1218-07)
- MDOT SHA's implementation of hard shoulder running on I-695 during peak travel periods between I-70 and MD 43 (TIP ID 63-1802-41)
- MDOT SHA's Areawide Congestion Management project (TIP ID 60-9504-04)
- MDTA's I-95 Southbound Part-Time Shoulder Usage project (TIP ID 25-2101-41)

In addition to investments in the TIP, BMC staff are working on the development of an analysis tool for congestion in the Baltimore region. This tool overlays project data from the TIP and *Maximize2045*, the Baltimore region's top 25 bottlenecks, and traffic speed data. Travel time reliability measures will be added in the near future. This tool will be useful in analyzing

the effectiveness of transportation investments in mitigating congestion in the Baltimore region.[5]

**Future Performance Monitoring**

In cooperation with MDOT and its modal agencies, as well as its other state agency partners, the BRTB will continue to monitor how investments in the TIP are influencing the performance of the region's transportation systems. This includes improving the methods utilized to analyze the anticipated effect of TIP investments towards achieving the performance targets discussed in this section. In addition, the BRTB will use the established targets to help in identifying strategies and in making investment decisions about programs and projects.

For more information on performance measures and targets, please see the System Performance Report in Chapter 5 of *Maximize2045*.[6]

[5] More information on the BRTB Congestion Management Process, including the Congestion Management Process Analysis Tool, is available here: https://www.baltometro.org/transportation/planning-areas/congestion-management-process

[6] More information on *Maximize2045*, including the system performance report, is available here: https://www.baltometro.org/transportation/plans/long-range-transportation-plan/maximize2045

## III. PROGRAM DEVELOPMENT

### A. Integration with Federal, State and Local Programs

The projects contained in the 2021-2024 TIP flow from *Maximize2045* with detailed information extracted from the capital programs of state and local agencies responsible for implementing transportation projects in the region. Project information was provided by these agencies from the 2021-2024 portions of their respective multi-year improvement programs.[7] For a surface transportation project to be eligible for inclusion in the State TIP (STIP), and thus to receive federal aid, it must first be listed in the TIP.

Because the TIP must reflect regional priorities and be consistent with recommendations contained in the LRTP, it is important that a "regional voice" be expressed in the preparation of individual agencies' capital programs. Meetings that take place as part of the effort to produce a short-range element begin to accomplish this. The meetings foster a more fully coordinated project selection process for the TIP, providing for sound technical analysis early in the programming process, full discussion among local and state agencies and avoidance of unrealistic over-programming.

[7] A list of contributing agencies can be found in Appendix A.

## B. Federal Fund Sources for Surface Transportation Projects

Federal regulations require that certain highway and transit projects inside or serving the urbanized area be included in the TIP to gain federal approval. Projects proposed to be funded through the following programs in the current or following fiscal years must be included in the TIP:

- Congestion Mitigation and Air Quality Improvement Program
- FTA Capital and Operating – Sections 5307, 5307 flexed from STBG, 5310, 5311, 5329, 5337, and 5339
- Better Utilizing Investments to Leverage Development (BUILD) grants
- Highway Safety Improvement Program
- Infrastructure for Rebuilding America (INFRA) grants
- National Highway Freight Program
- National Highway Performance Program
- Recreational Trails Program
- Surface Transportation Block Grant Program
- Transportation Alternatives Program

The BRTB endorsement of the TIP is a DOT requirement and is an opportunity for the BRTB to support or oppose proposed projects in the above program categories.[8] Inclusion of these projects in the TIP indicates endorsement by the BRTB for federal funding of the proposed project phase(s).

[8] Endorsement of projects for planning or engineering does not imply any commitment of funds for later phases (right-of-way acquisition, construction).

## IV. EXPLANATION OF TERMS AND SYMBOLS

The TIP covers a four year period. It includes projects for which federal funds are expected to be requested in Fiscal Years 2021, 2022, 2023, and 2024. The full project listing is contained in Chapter VI. A project index is included at the end of the document.

Projects in Chapter VI are listed first by sponsoring agency - Baltimore City and the six counties in alphabetical order, the MDOT Office of the Secretary, and the MDOT modal administrations, included as the Maryland Transportation Authority (MDTA), the Maryland Port Administration (MPA), MTA – Transit, MTA – Commuter Rail, and the State Highway Administration (SHA). Projects implemented by MDOT SHA are broken down further by county in alphabetical order. While a portion of Queen Anne's County is now a part of the Baltimore urbanized area, there are no local or state projects for Queen Anne's County in the 2021-2024 TIP.

Within these groups, projects are listed by category in the following order: commuter rail capacity, commuter rail preservation, enhancement program, environmental/safety, emission reduction strategy, highway capacity, highway preservation, transit capacity, transit preservation, ports and miscellaneous.

The project numbers (TIP ID) printed below each project name show the project's location and type according to the following codes: **AB-CCCC-DD**, where:

**A** Implementing Agency
- 0 - Other State Agencies
- 1 - Local Project
- 2 - Maryland Transportation Authority
- 3 - Maryland Port Administration
- 4 - Maryland Transit Administration (Transit)
- 5 - Maryland Aviation Administration
- 6 - State Highway Administration
- 7 - Maryland Transit Administration (Commuter Rail)
- 8 - Baltimore Metropolitan Council
- 9 - Office of the Secretary

**B** Location / Jurisdiction selected
- 0 - Regional
- 1 - Anne Arundel County
- 2 - Baltimore City
- 3 - Baltimore County
- 4 - Carroll County
- 5 - Harford County
- 6 - Howard County
- 7 - Queen Anne's County
- 8 - City of Annapolis

**CCCC** The first two digits display the fiscal year the project first appeared in the TIP; the last two digits are a unique count of the number of projects for that agency, jurisdiction, and fiscal year.

**DD** Project Type by Category:

EMISSION REDUCTION STRATEGY (ERS)
- 01 - Ridesharing
- 02 - Park-and-ride lots
- 03 - Bicycle/pedestrian facilities
- 04 - Traffic engineering
- 05 - Fleet improvement
- 06 - System expansion
- 07 - ITS
- 09 - Other (ERS)

HIGHWAY PRESERVATION
- 11 - Road resurfacing/rehabilitation
- 12 - Road reconstruction
- 13 - Bridge repair/deck replacement
- 14 - Bridge inspections
- 19 - Other

ENHANCEMENT PROGRAM
- 21 - Archaeology
- 22 - Acquisition/preservation of easements or sites
- 23 - Rehabilitation/operation of historic transportation structures/facilities
- 24 - Landscaping
- 25 - Bicycle/pedestrian facility
- 29 - Other

ENVIRONMENTAL/SAFETY
- 31 - Noise barriers
- 32 - Lighting, signs
- 33 - Wetland mitigation
- 34 - Scenic beautification, reforestation
- 38 - Environmental other
- 39 - Safety other

HIGHWAY CAPACITY
- 41 - Roadway widening
- 42 - New or extended roadways
- 43 - Bridge widening
- 44 - New bridge/elimination of at-grade crossing
- 45 - Interchange ramp added or widened
- 46 - New interchange

COMMUTER RAIL CAPACITY
- 57 - Commuter rail capacity expansion

COMMUTER RAIL PRESERVATION
- 51 - Operating assistance
- 52 - Operations support equipment
- 53 - Fleet improvement
- 54 - Preservation and improvements
- 55 - Rehabilitation of facilities
- 56 - New rail facilities
- 59 - Other

TRANSIT CAPACITY
- 67 - Transit capacity expansion

TRANSIT PRESERVATION

61 - Operating assistance
62 - Operations support equipment
63 - Fleet improvement
64 - Preservation and improvements
65 - Rehabilitation
66 - New bus facilities
69 - Other

AIRPORTS

71 - Facility maintenance
72 - Facility rehabilitation
73 - Facility expansion
79 - Other

PORTS

81 - Facility maintenance
82 - Facility rehabilitation
83 - Facility expansion
89 - Other

MISCELLANEOUS

99 - Miscellaneous

**Conformity Status** reflects one of two classifications: Exempt (for projects which are exempt from the requirement to determine conformity) or Not Exempt (for capacity type projects evaluated using the travel demand model or evaluated off-model) in accordance with meeting the Clean Air Act Amendments. Wherever possible, local Capital Improvement Program (**CIP**) or state Consolidated Transportation Program (**CTP**) page numbers are provided to assist in finding projects in their respective capital improvement or development programs.

**Year of Operation** indicates when the facility or service will be open to traffic or for public use. For road and bridge projects, the **Functional Class** of the existing facility as specified by the FHWA functional classification system is given. Functional classes are:

- Interstate
- Freeway
- Principal arterial
- Minor arterial
- Collectors, major or minor
- Local

The **Physical Data** line, which pertains to road and bridge projects, indicates the project length in **Miles** and the present/future number of **Lanes**. The **Estimated Total Cost** lists the entire cost of the project since projects in the TIP are often long-term phased projects that extend beyond the four fiscal years covered by the TIP.

Also included for road projects is an indication if the project is part of the **National Highway System**. The National Highway System Designation (NHS) was signed into law on November 28, 1995. The NHS designates key road segments that provide improved access to work and markets; to ports, airports, and rail stations; to our national parks; and to bordering countries. Principal contributions of the NHS are to facilitate sustainable economic growth by enhancing intermodal and highway system connections, improving productivity and efficiency of commercial vehicle operations, facilitating the movement of agricultural produce, advancing safety, alleviating congestion, supporting national defense, and improving system performance. Nationally, the total mileage is about 164,000 miles and includes the Interstate Highway System, as well as other roads important to the nation's economy, defense and mobility.

As called for in the Moving Ahead for Progress in the 21st Century Act (MAP-21), Section 1104 expanded the NHS to include urban and rural principal arterials that were not included in the NHS before October 1, 2012.

The project **Description** and **Justification** provide a detailed project scope and reason(s) that the project deserves funding over others. The **Connection to Long-Range Transportation Planning Goals** connects TIP projects to the long-range plan goals and strategies that the project helps the region to achieve.

**Funding Source** indicates the source of federal aid. Project funding source(s) are designated in the funding table on the second page of the project summary. Funding sources are abbreviated as follows:

<u>Federal Highway Administration Funds:</u>

- BUILD Better Utilizing Investment to Leverage Development grants
- CMAQ Congestion Mitigation and Air Quality
- HSIP Highway Safety Improvement Program
- INFRA Infrastructure for Rebuilding America grants
- NHPP National Highway Performance Program (National Highway System, Interstate Maintenance, Bridge (on-System))
- RTP Recreational Trails Program
- STBG Surface Transportation Block Grant Program
- TAC Transportation Alternatives (including Safe Routes to School)

<u>Federal Transit Administration Funds:</u>

- 5307C Section 5307 Urbanized Area Formula Program (funding for capital projects)
- 5307F Section 5307 Flex (STBG funds flexed to Section 5307)

- 5307O Section 5307 Urbanized Area Formula Program (funding for operating projects)
- 5310 Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities Program
- 5311O Section 5311 Nonurbanized Area Formula Program (funding for operating assistance in non-urbanized areas)
- 5329 Section 5329 (State Safety Oversight)
- 5337 Section 5337 (State of Good Repair Formula Program)
- 5339D Section 5339 (Bus and Bus Facilities discretionary grant program)
- 5339F Section 5339 (Bus and Bus Facilities Formula Program)
- CMAQ Congestion Mitigation and Air Quality (flexed to transit becomes 5307)

Project costs in the funding tables represent anticipated funding requests during a particular year by project phase. **All figures are in thousands of dollars.** The abbreviations in the **Phase** column stand for the following:

- PL – Planning: Initial phase of project development where the need and feasibility of a project is documented and scoping is broad and involves the public.
- ENG – Engineering: Engineering projects include preliminary and final design. Engineering funds involving detailed environmental studies and engineering to obtain NEPA are under preliminary design. Design activities following preliminary design involve the preparation of final construction plans and are under final design.
- ROW – Right-of-Way: Funding to provide the necessary land for the project, or to protect corridors for future projects.
- CON – Construction: Funding to build the designed facility.
- OTH – Other[9]: This funding may include permits, inspections, utility costs, and other non-infrastructure costs or in the case of transit, the purchase of capital equipment.

The **Matching Funds** column indicates the state and/or local funds programmed to match the federal funding requested for that fiscal year. In all but a few cases, matching funds are provided by the agency or jurisdiction under which the project is listed.

[9] The 2021-2024 TIP includes $290.37 million for the Other phase including:
- MDOT MTA projects including bus and rail preventive maintenance, section 5310 grants, ridesharing, funding for LOTS agencies, and state safety oversight of light rail and metro ($240.364 million or 82.8% of total)
- MDOT SHA Areawide Congestion Management funds not involving construction such as CHART vehicle purchases ($34 million or 11.7% of total)
- Permits, inspection fees, and local bridge inspection programs ($11.324 million or 3.9% of total)
- Non-infrastructure funds for studies, project delivery services, and research ($4.685 million or 1.6% of total)