

Resilience 2050: 2-Year Process

- **What are our guiding principles?**
 - Goals and Strategies: [BRTB Res #22-6](#) (Nov 2021)
- **How should we prioritize investments?**
 - Project Scoring Methodology: [BRTB Res #22-7](#) (Nov 2021)
- **What might the future bring?**
 - Round 10 Socioeconomic Forecasts of Population, Households and Employment: [BRTB Res #23-1](#) (July 2022)
 - Chapters on regional growth, forecasting and demographic trends ([Chapter 2](#)) and future trends ([Chapter 3](#))
- **How much funding can we expect?**
 - Financial Forecast: [BRTB Res #23-13](#) (January 2023)



Regional Transportation Goals

The BRTB developed the following set of guiding principles for the projects and programs considered in Resilience 2050.

Goals That Address the Basic Functions of Transportation

- Improve Accessibility**
Identify and support multimodal options that promote equity, are resilient and sustainable and enable all individuals to reach their destinations safely and seamlessly.
- Increase Mobility**
Help people and freight to move reliably, equitably, efficiently and seamlessly.

Goals That Address the Conditions or Effects of Transportation

- Improve System Safety**
Reduce the number of crashes, injuries and fatalities experienced by all users of the transportation system toward meeting Zero Deaths Maryland.
- Improve and Maintain the Existing Infrastructure**
Improve the conditions of existing transportation facilities; systematically maintain and replace transportation assets as needed.
- Implement Environmentally Responsible Transportation Solutions**
Pass on to future generations the healthiest natural and human environment possible.
- Improve System Security**
Provide a secure traveling environment for everyone; improve the region's ability to respond to natural and human-caused disasters.
- Promote Prosperity and Economic Opportunity**
Support the vitality of communities and businesses, opportunities for workers and the movement of goods and services within and through the region.

Goals That Address the Transportation Decision-Making Process

- Foster Participation and Cooperation Among All Stakeholders**
Enable all interested and affected parties to participate and cooperate to find workable solutions.
- Promote Informed Decision-Making**
Ensure that adopted transportation policies and performance measures guide the regional decision-making process.



Resilience 2050: 2-Year Process

- **How will we measure progress?**
 - Series of resolutions adopting updated federally mandated performance targets throughout
 - Detailed further in [Chapter 5](#)
- **Project Submittals and Scoring; Cost Estimation**
 - April through October 2022
- **Draft Preferred Alternative**
 - Presented to TC in January 2023 with “fiscal constraint line”
 - 56 of 62 roadway projects; all 36 transit projects
- **Analyses: Conformity, Travel Demand, Environmental Justice, Environmental Mitigation, Strategic Highway Network**
 - February through April 2023
- **Public Involvement Process**
 - Informal comment period in CY 2022 and early CY 2023 for White papers
 - Formal public comment period May 17 – June 20, 2023

Resilience 2050: What are we doing better?

- **Improvements to Project Scoring Methodology**

- Rebalance weighting to double points allocated to safety
- Add transit scoring where previously absent: complete streets, safety and security
- Clarify definitions and make scores less subjective
- Transition to outcomes based scoring – how does the project contribute to creating a complete system
- Clarify/Integrate impacts to EJ populations into scoring
- Increase max technical score for transit projects to 55, with highway max remaining at 50

Table 6 - Technical Scoring Goals, Criteria, and Points

Goal/Criteria	Technical Scoring Points: Transit Projects	Technical Scoring Points: Roadway Projects
Safety*	10	10
Accessibility – Complete Streets*	5	5
Accessibility – Access to Jobs*	10	5
Mobility	10	10
Environmental – Effects on ecologically sensitive lands and culturally significant resources*	5	5
Environmental – Potential for Greenhouse Gas Emissions Reductions	5	5
Security*	5	5
Economic Prosperity	5	5
Total Technical Points	55	50

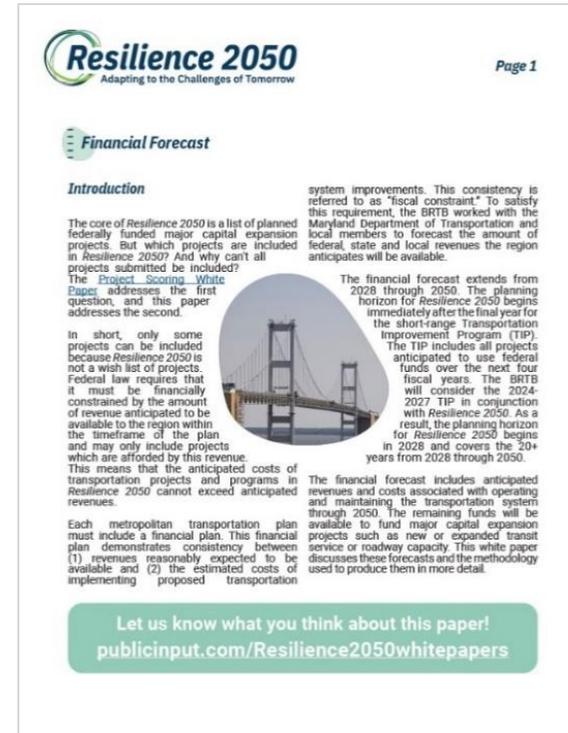
*includes points related to project impacts on EJ populations

Resilience 2050: What are we doing better?

- White Paper Series on LRTP Topics: Monthly releases from February 2022 – February 2023

- Project Scoring
- Traffic Safety
- Freight Movement
- Transit
- Air Quality
- Emerging Technologies
- Active Transportation
- Socioeconomic Forecasting
- Demographic Trends
- Financial Forecast
- Climate Change and Resilience

- Informed improved demographic trends (Chapter 2) and factors and trends (Chapter 3) discussions in *Resilience 2050*



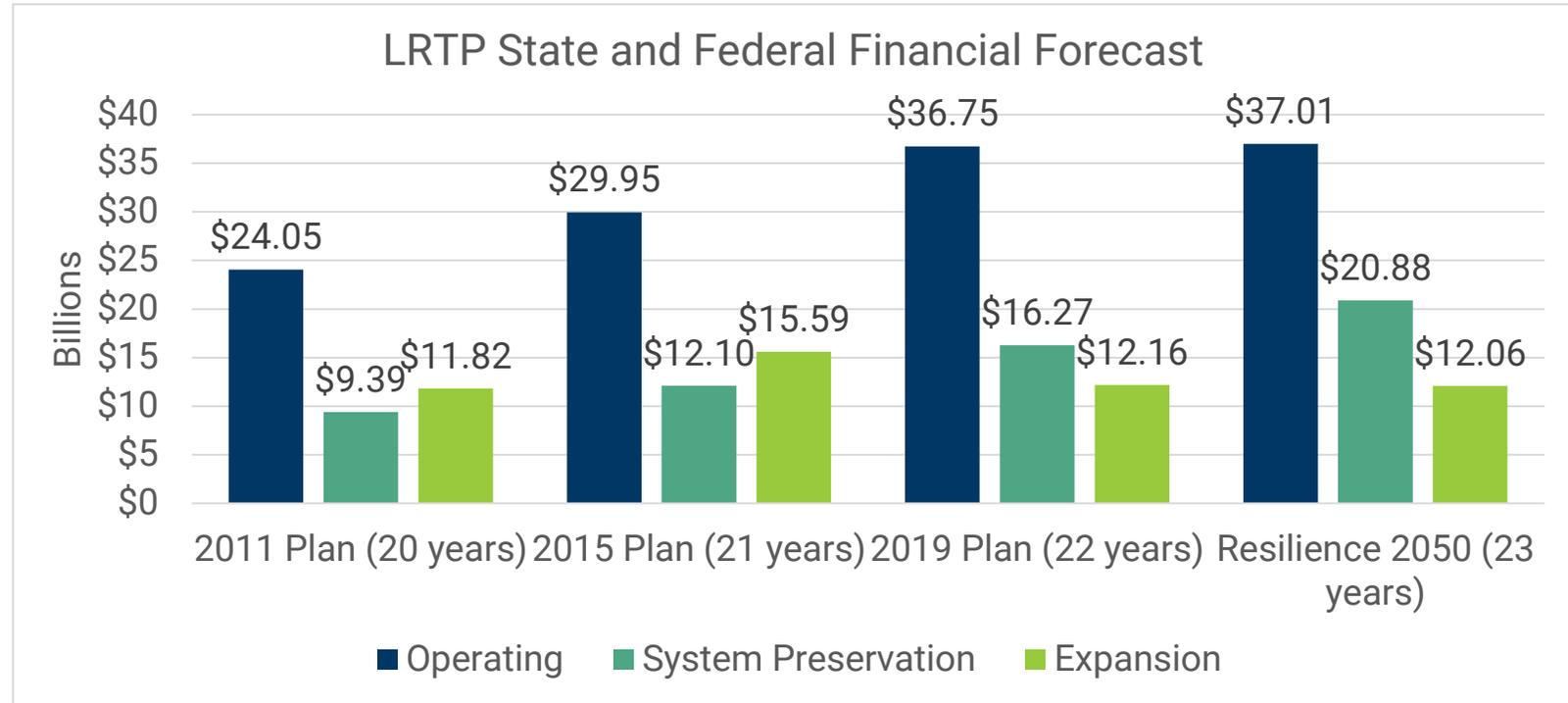
Resilience 2050: What are we doing better?

- **Addition of consistent methodology for forecasting local funding:**
 - Local funding projection tool completed with consultant and local jurisdiction staff in 2022
 - Tool can be replicated and improved for future L RTPs:

Time Period	Operating (millions)	System Preservation (millions)	Expansion (millions)	Total (millions)
2028-2032	\$2,829	\$1,223	\$185	\$4,237
2033-2037	\$3,193	\$1,304	\$199	\$4,696
2038-2042	\$3,614	\$1,397	\$215	\$5,226
2043-2047	\$4,104	\$1,506	\$233	\$5,843
2048-2050	\$2,731	\$963	\$150	\$3,844
Total 2028-2050	\$16,471	\$6,393	\$982	\$23,846

Resilience 2050: Financial Trends to Consider...

- **Resilience 2050 state and federal forecast (23 years)**
 - \$37.01 billion operating
 - \$20.88 billion system preservation
 - \$12.06 billion expansion (most projects compete for these funds)



- **Increases for System Preservation; Decreases for Expansion**
 - System preservation **increases** from 21% in 2011 L RTP to 30% in *Resilience 2050*
 - Expansion **decreases** from 26% in 2011 plan 17% in *Resilience 2050*

Resilience 2050: Changes

- **Changes: Draft to Final**
 - Minor corrections for typos and inconsistencies
 - Full layout file of Appendix C now complete (content had been available online in a basic word)
 - Will add full scope of policy and technical scores to Appendix B based on public comment (previously showed combined policy and technical scores)
 - Will add a description of Urban Air Mobility and electric vertical takeoff and landing air taxis per guidance by FAA for MPOs. To be included in Chapter 3 Factors and Trends

Resilience 2050: Public Comment Main Themes

- **100+ Comments from 173 participants**
- **Main themes from comments:**
 - Negative sentiment towards scale of roadway expansion in the preferred alternative, both number of projects and amount of expenditures (56 projects; \$6.883 billion)
 - Concerned with implications of roadway expenditures for:
 - climate change
 - land use and sprawl
 - air quality and public health
 - Positive sentiment toward more transit expansion and increased transit reliability
 - Positive sentiment towards bicycle and pedestrian infrastructure

Resilience 2050: Public Comment by topic

- 50 Comments expressing negative sentiment toward **Roadway Expansion** and/or positive sentiment towards **Transit and Active Transportation** modes
- 24 Comments on **Transit** issues
- 9 Comments on improving **Active Transportation**
- 8 Comments on **Air Quality** issues
- 8 Comments on **Specific Projects**
- 5 Comments on **Induced Demand**
- 3 Comments regarding **Emerging Technologies**
- 2 **Coalition Comments** on a range of issues
- 5 Comments on **other issues**



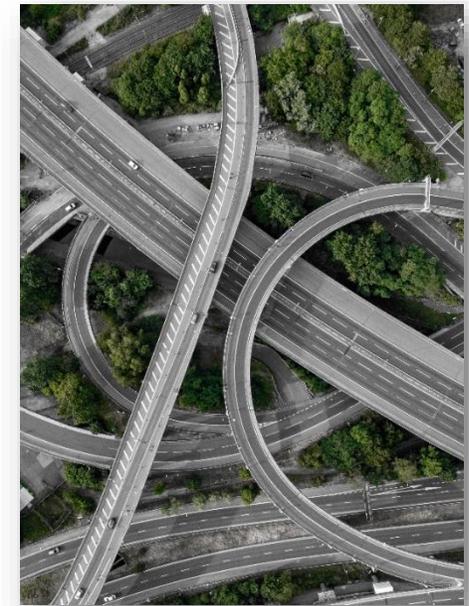
Resilience 2050: Looking Forward

- **Next Steps**

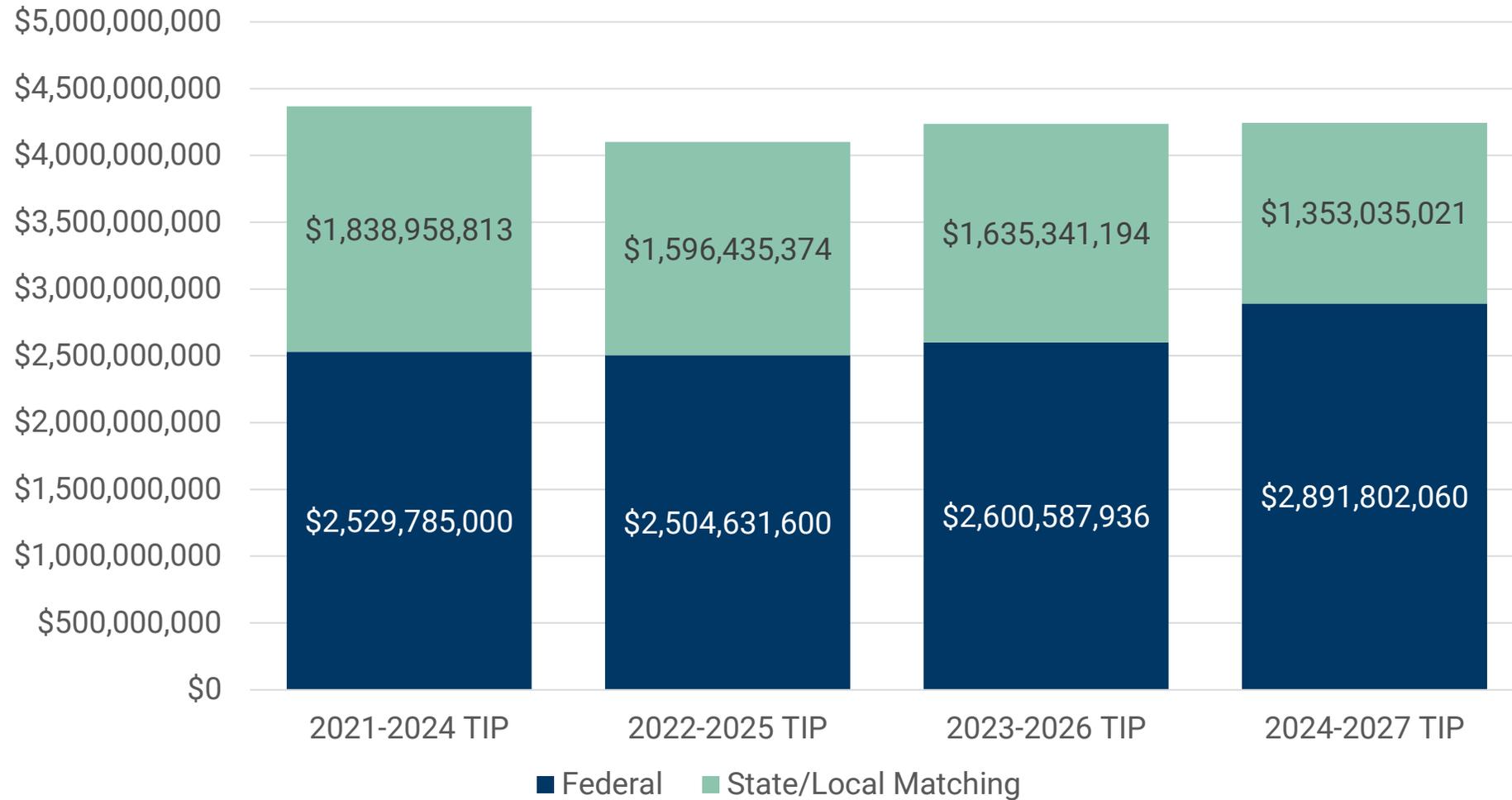
- Today: Consider recommendation of adoption of final LRTP, pending completion of the response to comments
- Next month(s): Transmit to FHWA, FTA and U.S. EPA for review and approval by federal agencies
- Next year(s): Follow the plan: from guiding principles to specific projects
- However...“Nothing is written...”

Overview of the 2024-2027 TIP

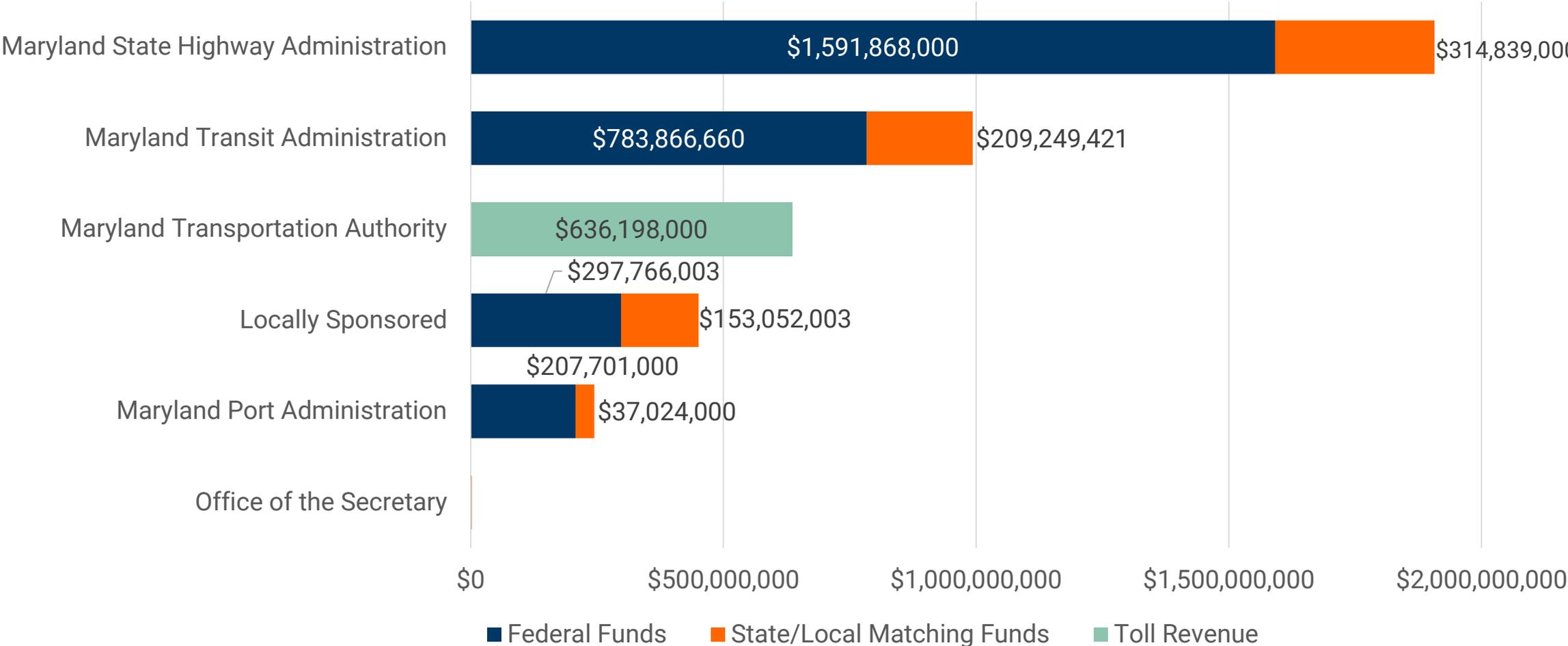
- **143 federally-funded and regionally significant projects**
 - 13 are new projects
- **\$4.24 billion in proposed federal, state, local, and toll funds**
 - \$2.89 billion federal; \$1.35 billion state/local
 - highway, transit, bicycle, and pedestrian projects
 - maintaining, operating and expanding the transportation system
- **Projects support long-range transportation goals**
 - for example: safety, prosperity and economic opportunities and environmental responsibilities
- **Funding limited**
 - Programmed funds cannot exceed what is reasonably expected to be available from local, state and federal sources



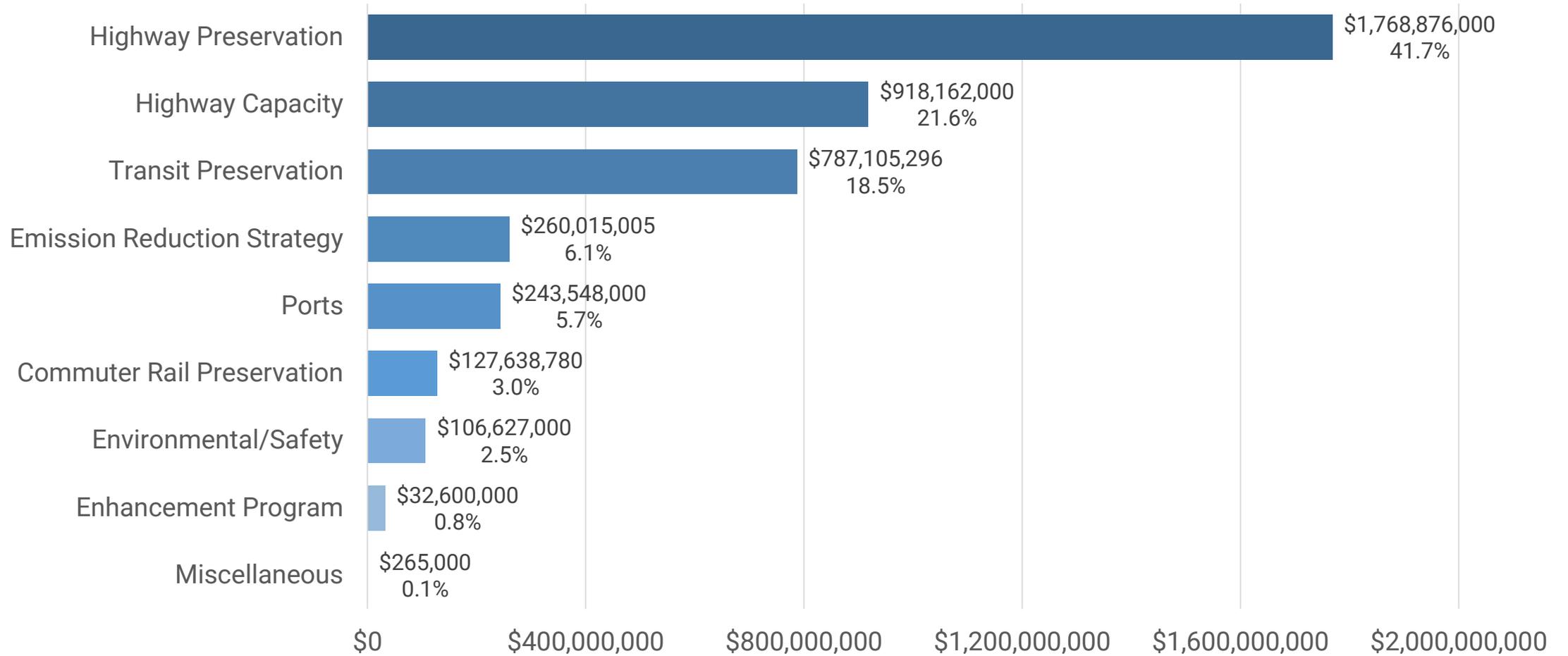
Funding in the 2024-2027 TIP



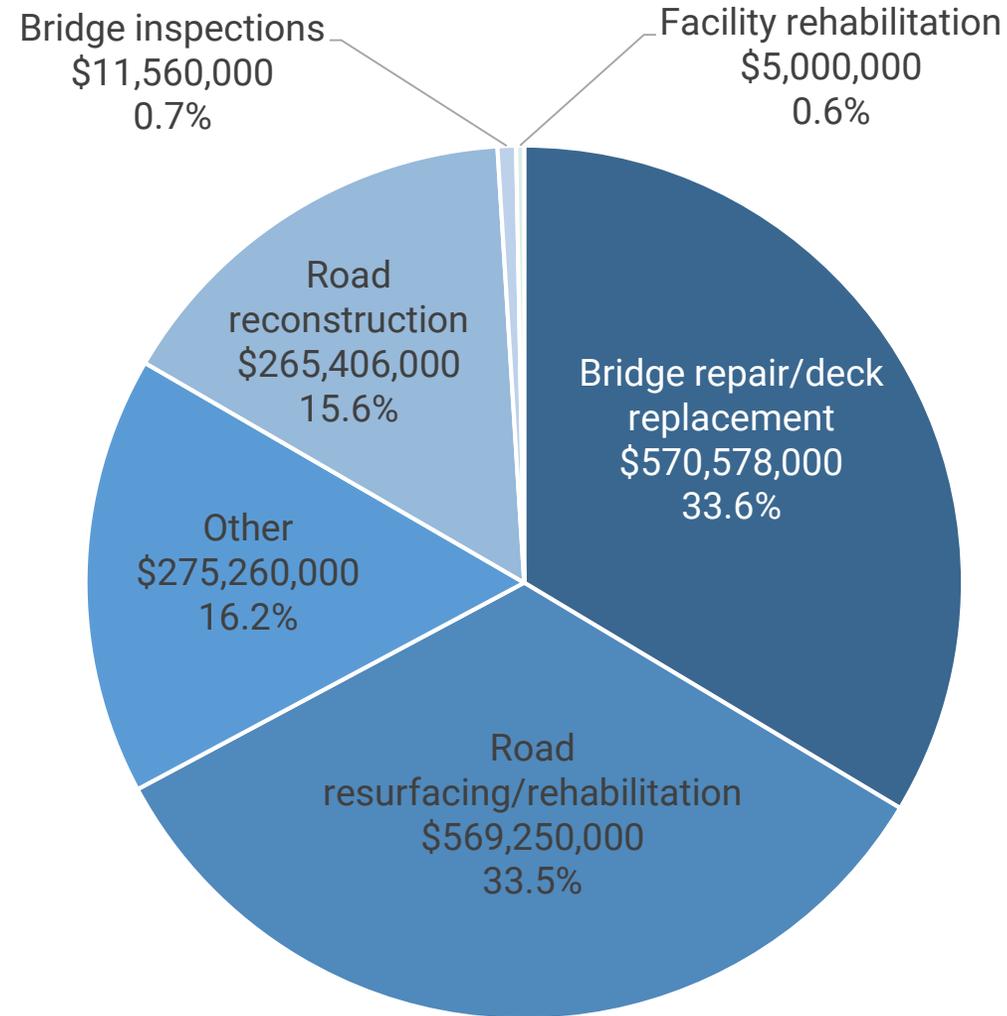
Funding in the 2024-2027 TIP



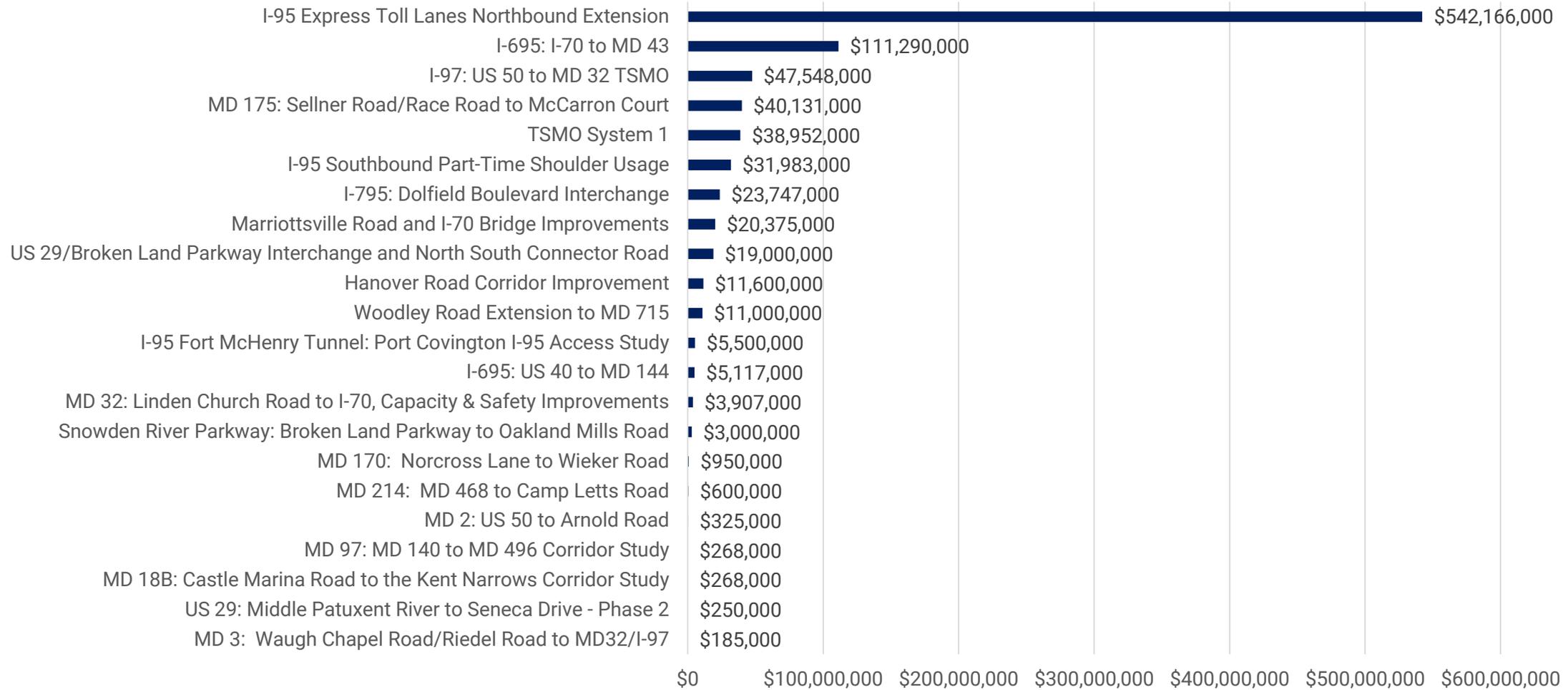
Funding by Category in the 2024-2027 TIP



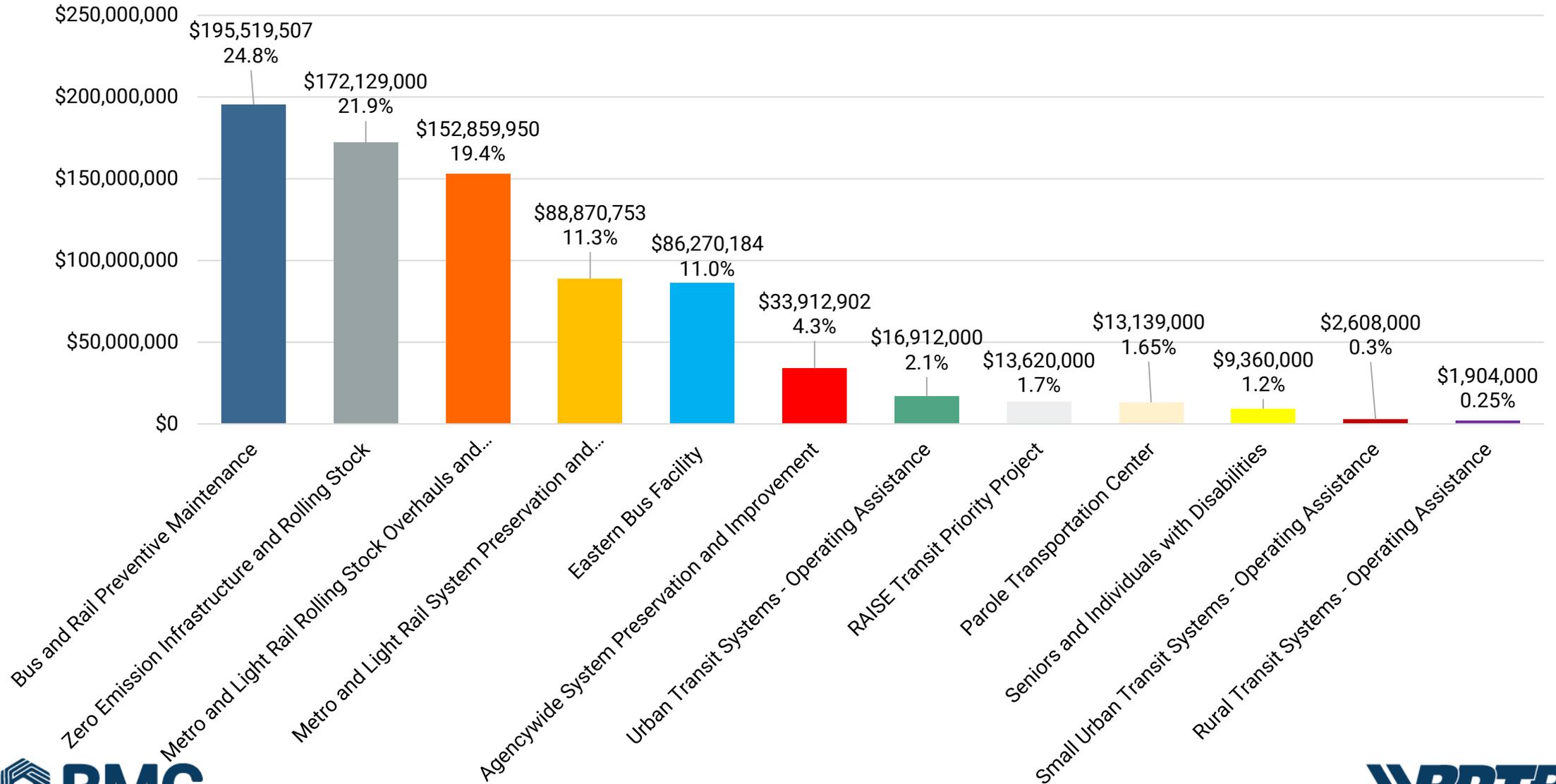
Breakdown of Highway Preservation Funds



Breakdown of Highway Capacity Funds



Breakdown of Transit Preservation Funds



2024-2027 TIP Public Involvement and MDOT MTA Program of Projects

FTA Fund Source	FY2024-FY2027 Federal	FY2024-FY2027 Matching	FY2024-FY2027 Total
5307C: Capital requests in urbanized areas including bus purchases, replacements and preventive maintenance	\$319,499,553	\$77,509,139	\$397,008,692
5307O: Operating assistance in urbanized areas	\$9,760,000	\$14,611,000	\$24,371,000
5310: Mobility of seniors and individuals with disabilities	\$6,740,000	\$2,620,000	\$9,360,000
5311O: Operating assistance in nonurbanized areas	\$952,000	\$952,000	\$1,904,000
5337: State of Good Repair funds including preventive maintenance and MARC improvements	\$225,384,150	\$58,845,287	\$284,229,437
5339F: Bus and Bus Facilities Formula funds	\$6,180,126	\$1,544,032	\$7,724,158
CMAQ: Congestion Mitigation and Air Quality	\$137,324,831	\$44,688,958	\$182,013,789
Totals	\$705,840,660	\$200,770,416	\$906,611,076

Performance-Based Planning and Programming in the TIP

- Established in MAP-21; Strengthened in FAST Act
- Intent: Gauge progress relative to regionally established goals and strategies, guide future system preservation activities
- **Federal Requirements: MPOs must adopt a series of 25 performance measures and targets**
 - Measures and targets cover transit asset management, transit safety, highway safety, traffic congestion, on-road mobile source emissions, pavement and bridge condition, and travel time reliability
 - Performance measure: Specific metrics the region can use to assess progress towards a goal (e.g. Decrease number of highway fatalities)
 - Performance target: Specific levels to be reached (e.g. Decrease highway fatalities to 121 by 2030)
 - BRTB coordinated with the state on target selection

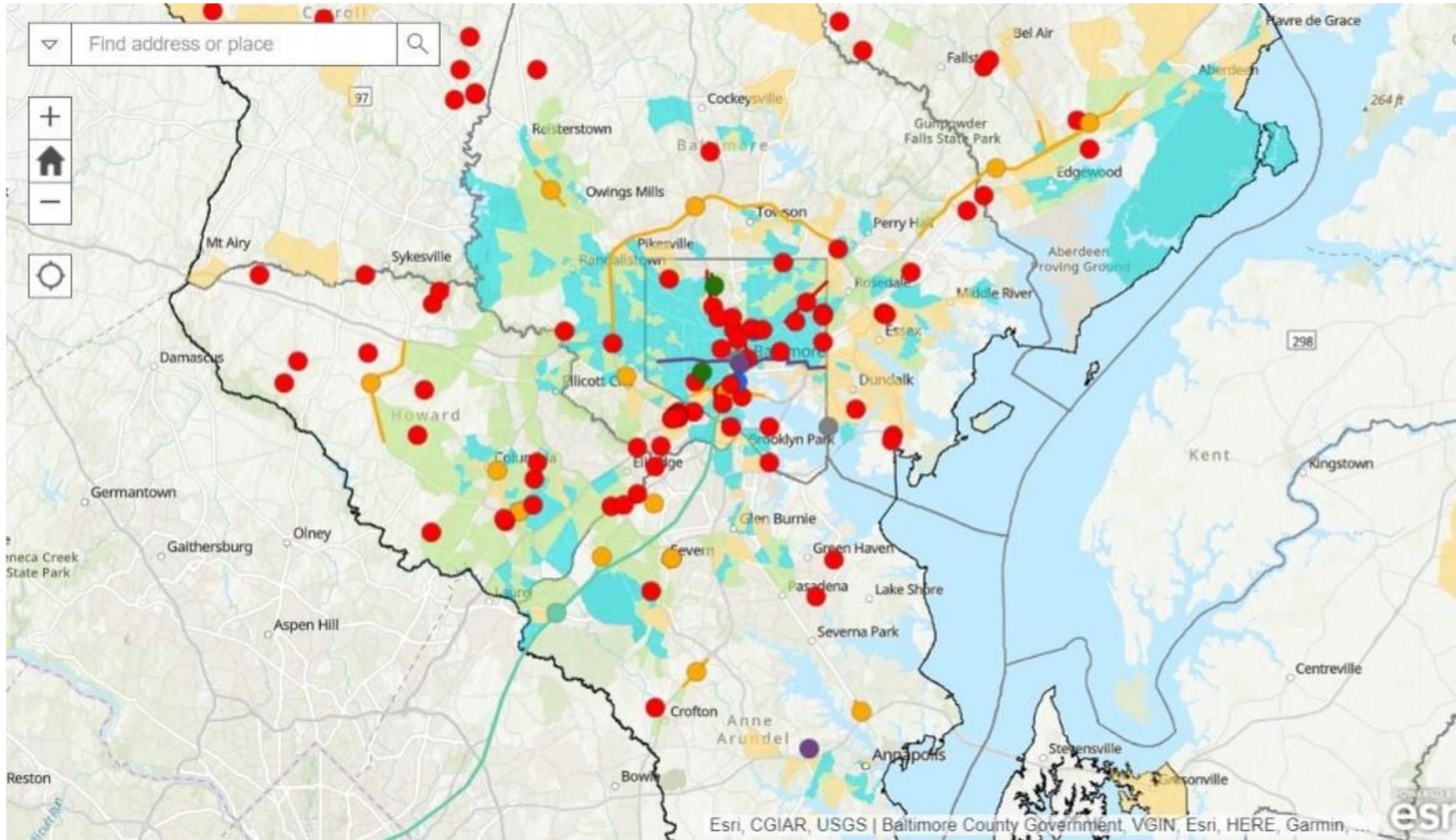
Table 8. 2024-2027 TIP Projects Related to Transit Asset Management

Project	TAM Target	Federal	Matching	Total TIP Funds
MARC Rolling Stock Overhauls and Replacement	Vehicles	\$42,302	\$10,574	\$52,876
Bus and Paratransit Vehicle Overhaul and Replacement	Vehicles	\$78,026	\$19,505	\$97,531
Metro and Light Rail Rolling Stock Overhauls and Replacement	Vehicles	\$118,460	\$34,396	\$152,856

Project Highlights

- Anne Arundel County: Multimodal Transportation Center in Parole
- Baltimore City: W. North Avenue Pedestrian Safety Improvements from Mt. Royal Avenue to Hilton Street.
- Howard County: PRG: Elkridge to Guinness Open Gate Brewery
- MDOT SHA: I-795 Dolfield Blvd. Interchange
- Maryland Port Administration: Masonville Cove Connector Shared-Use Path
- MDOT MTA: Eastern Bus Facility
- MDTA: I-95 Express Toll Lanes Northbound Extension
- Carroll and Harford County Bridges (18)

Interactive Mapping Features

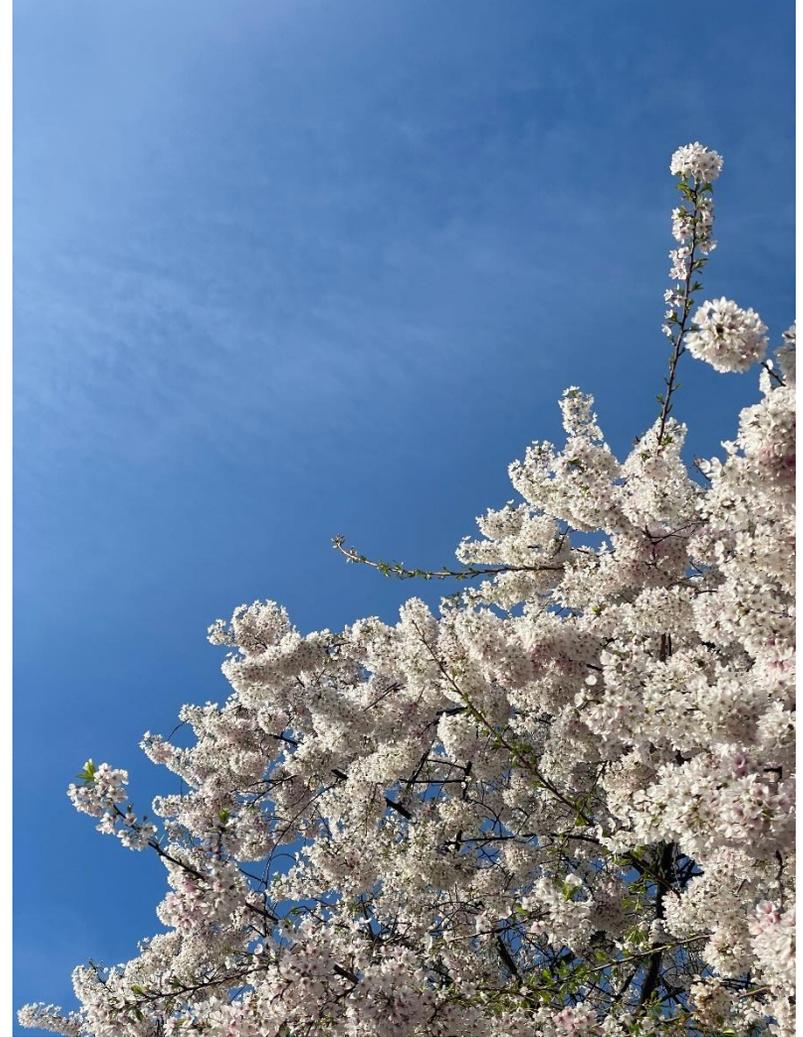


Changes made/to be made to the Draft 2024-2027 TIP

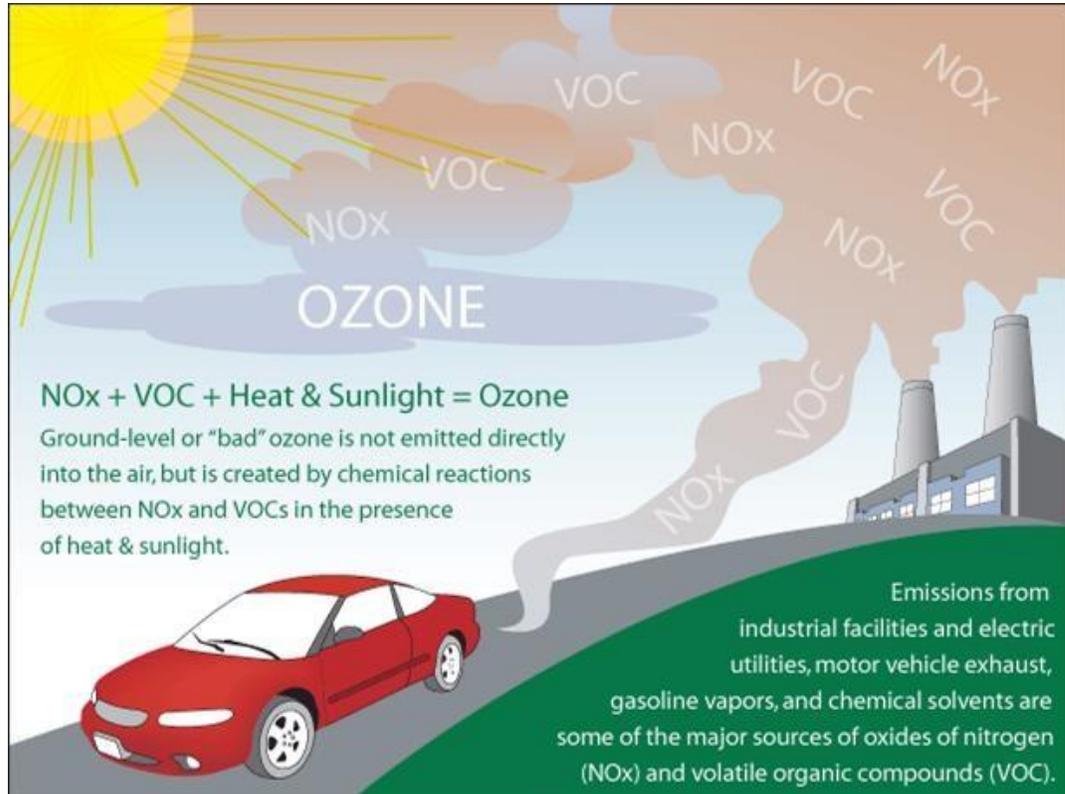
- **Minor updates to several chapters**
 - Table of Contents updated to include a list of tables and exhibits
 - I.B – Updated Self Certification & Resolution information
 - II.A – Updated from future tense to current
 - II.B – Updated public involvement section
- **Minor updates to Appendices**
 - Appendix B – Updated MDOT Financial Reasonableness
 - Appendix C – Self Certification
 - Appendix F – FY 2023-3036 TIP Amendment Log
 - Administrative modification for Trappe Church Road in Harford County
 - Administrative Modification for Magothy Bridge Road in Anne Arundel County
 - Appendix G – Public Participation
 - Appendix H – Added Full Resolution
 - Appendix J – Added Earmark Projects

Air Quality Conformity

- Ensures the projects in *Resilience 2050*, the LRTP and 2024-2027 TIP, do not worsen air quality in the region, or delay the attainment of national ambient air quality standards (NAAQS).
- Requires that transportation emissions do not exceed motor vehicle emission budgets (MVEBs) in the state air quality implementation plan (SIP).
- Ties together transportation planning and air quality planning.



Air Quality Conformity



- Currently the Baltimore region is in nonattainment for the 2015 ozone NAAQS, which is set at 70 ppb.
- Regional Emissions Analysis: Models transportation emissions of NOx and VOC's expected from on-road mobile vehicles.
- Analysis models emissions in particular horizon years assuming existing road and transit network, in addition to TIP and Plan projects.
- All modeled horizon years (2023, 2025, 2035, 2045, 2050) show emissions measuring below SIP budgets.

Conformity Process ICG Milestones

- Methodology Letter (ID specific pollutants, emissions model, model run years) developed by the ICG and sent to federal agencies for review.
- Determine conformity status, either exempt/non-exempt/regionally significant for LRTP and TIP (project-by-project)
- BMC and MDE run EPA-developed emissions model. MDE supplies the official results.
- ICG approves regional emissions analysis results for public review.
- After the public comment period for *Resilience 2050* takes place staff and members review comments.
- Looking to the ICG/TC to recommend approval of conformity document

Public Comment Period: Advertisement

- Comment Period: May 17 - June 20, 2023
- Promotion across 13 print, radio and digital outlets
 - Digital: Minimum of 166,000 impressions
 - All outlets: Potential reach of 1 million impressions through paid promotion
 - Additional impressions through social media
- Earned media in WBAL, WYPR, Maryland Matters and other outlets

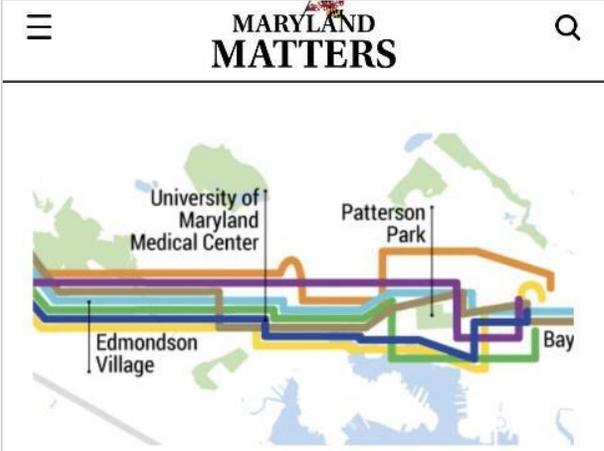


On The Record

Future transit plans; and t

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How's your highway commute? Or – does your bus arrive on time? Is there enough room? The Baltimore Regional Transportation Board has a new plan called 'Resilience 2050: Adapting to the Challenges of Tomorrow,' and wants to know what users think about it. We talk with



MARYLAND MATTERS

University of Maryland Medical Center

Patterson Park

Edmondson Village

Bay

Long-range plan contemplates nearly \$4 billion for Baltimore region transit corridors

Public Comment Period: Meetings and Comments

- One recorded presentation on website
- One virtual and seven in person public meetings
- Comments from individuals and organizations
 - 100+ through email and PublicInput
- Types of comments on the LRTP/TIP/AQ:
 - Negative sentiment for highway capacity expenditures
 - Positive sentiment for transit, particularly in transit capacity for transit-reliant populations
 - Positive sentiment for bicycle and pedestrian improvements



Resilience 2050
Adapting to the Challenges of Tomorrow

These draft plans include \$22.4 billion for transportation projects in the region.

▲ Short-Range Projects
● Long-Range Projects

We want to hear from you!

To learn more, please join us for a virtual meeting:

Wednesday, May 24
12:00-1:00 p.m.

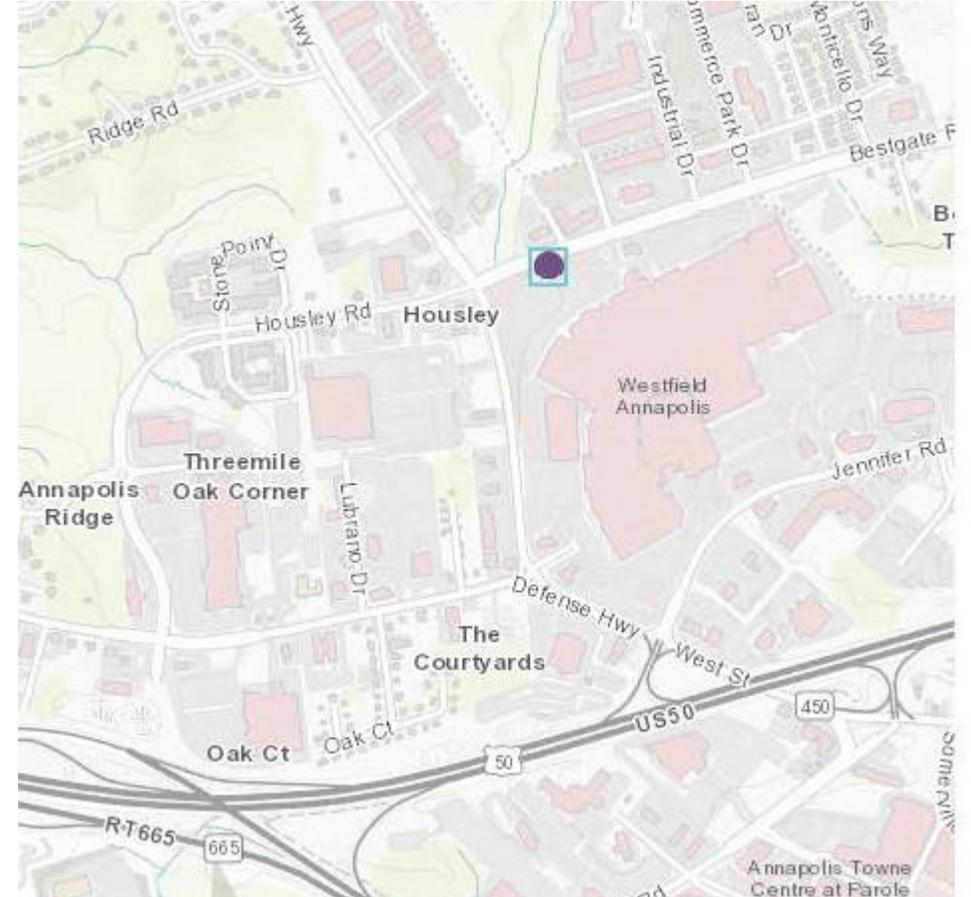
or join any of our in-person meetings in Baltimore City, Bel Air, Ellicott City, Glen Burnie, Stevensville, Towson or Westminster.

Tune in live at:
publicinput.com/Resilience2050

BALTIMORE METROPOLITAN COUNCIL **BRTB**
BALTIMORE REGIONAL TRANSPORTATION BOARD

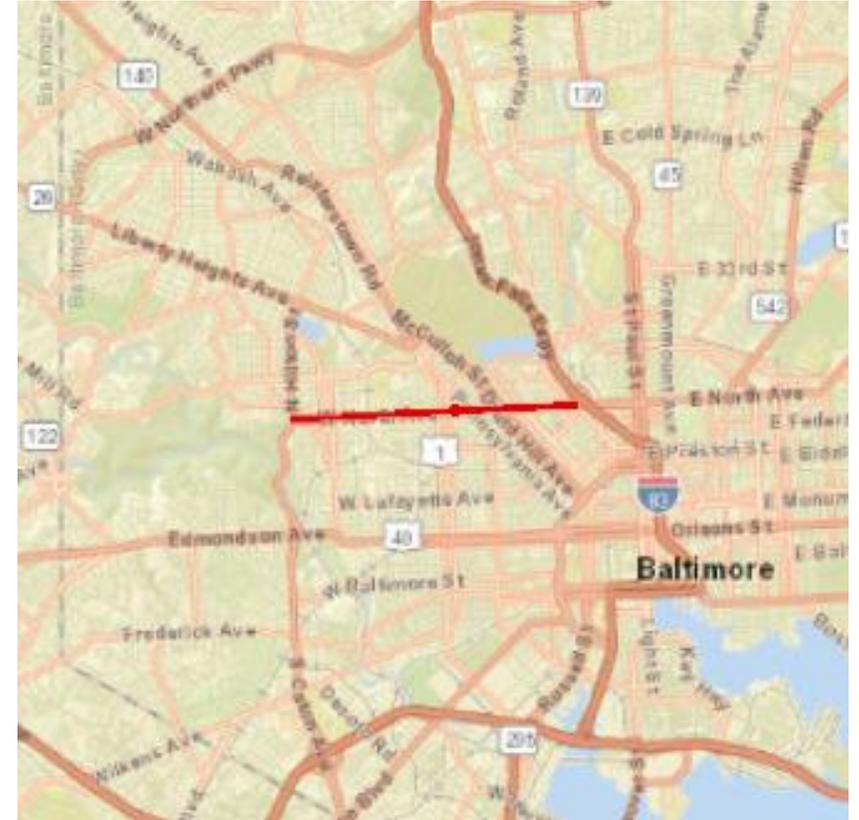
Project Highlights

- **Anne Arundel County: Multi-modal Transportation Center in Parole**
 - Will serve existing local and regional bus service, with possible future connectivity to modes such as bikeshare, carshare, and ridehailing services
 - Location at the Westfield Annapolis Mall
 - TIP Funding: \$15.5 million in local funds
 - Year of Operation: 2025



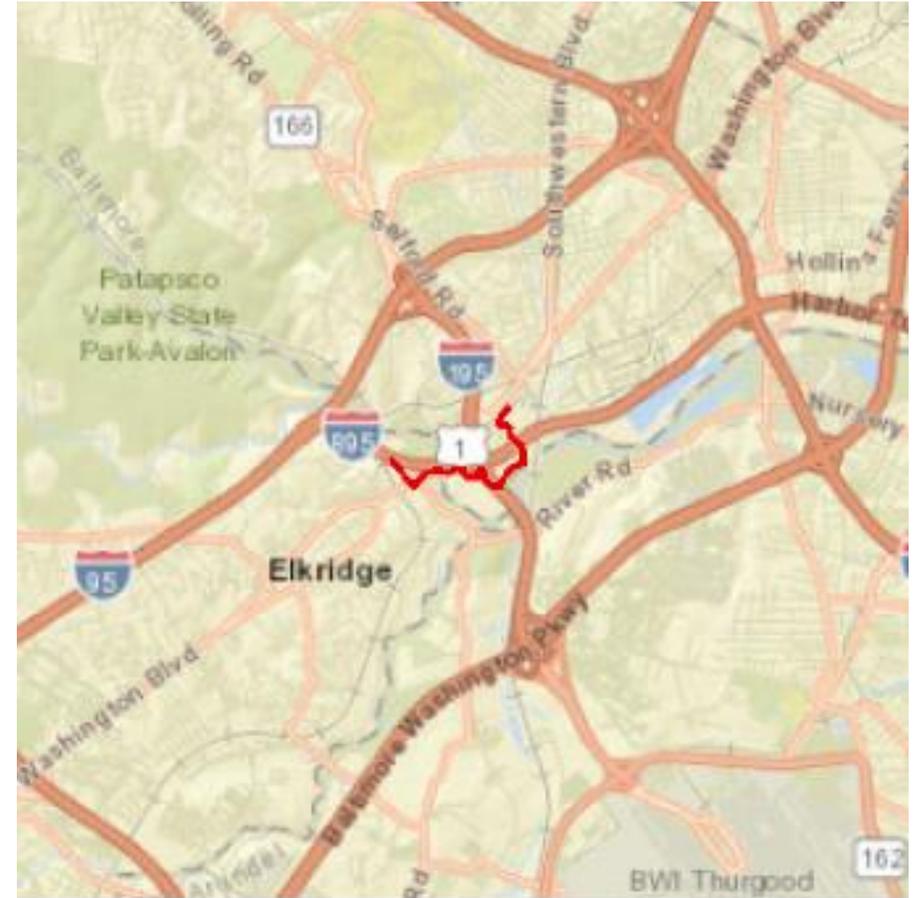
Project Highlights

- **Baltimore City: W. North Ave. Pedestrian Safety Improvements from Mt. Royal Ave. to Hilton St.**
 - 2.6 mile from Mt. Royal Ave to Hilton St.
 - Reconstructs sidewalks, driveways, curb & Gutter, ped signals, crosswalks and lighting
 - Drainage improvements and landscaping
 - Project will make this roadway ADA Compliant
 - Year of Operation: 2030
 - TIP Funding: \$1 million (\$11 million Total)



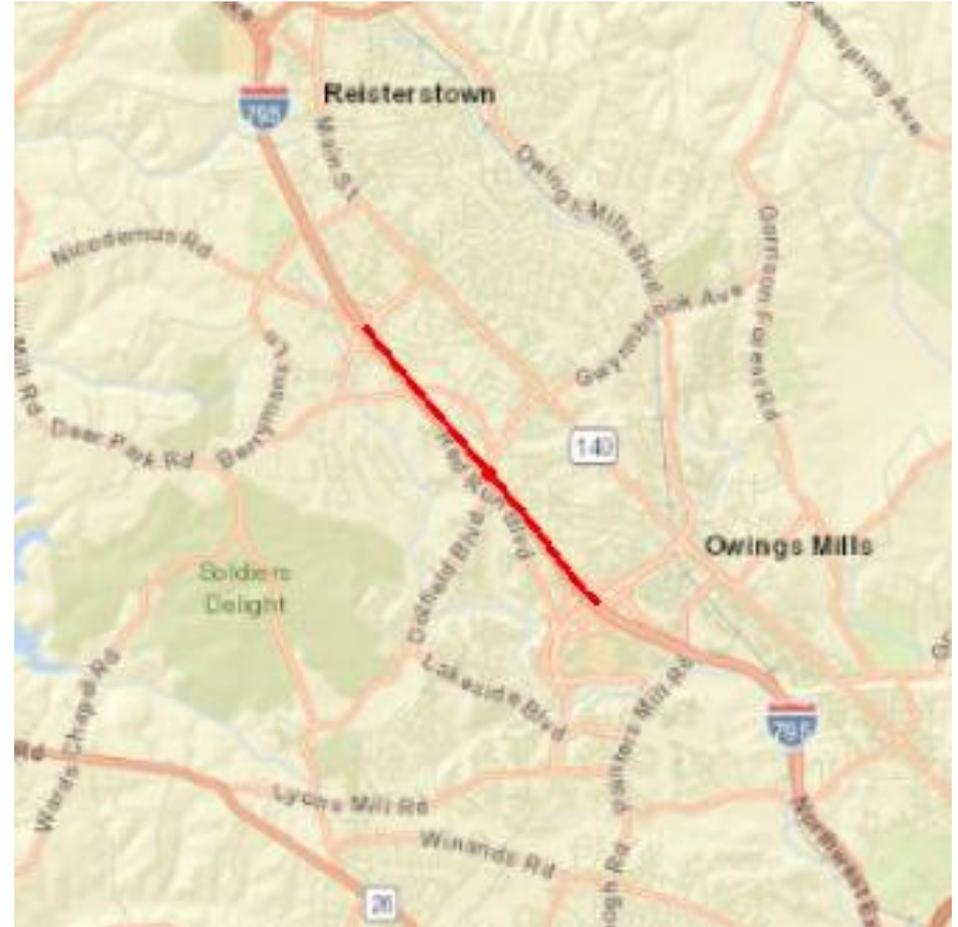
Project Highlights

- **Howard County: PRG: Elkridge to Guinness Open Gate Brewery**
 - Adds 1.5 mile 10-foot wide shared-use path
 - Part of the overall 40 mile PRG
 - TIP Funding: \$1.9 million
 - \$1.25 Howard County grant and \$500,000 from Baltimore County for engineering
 - Year of Operation: 2026



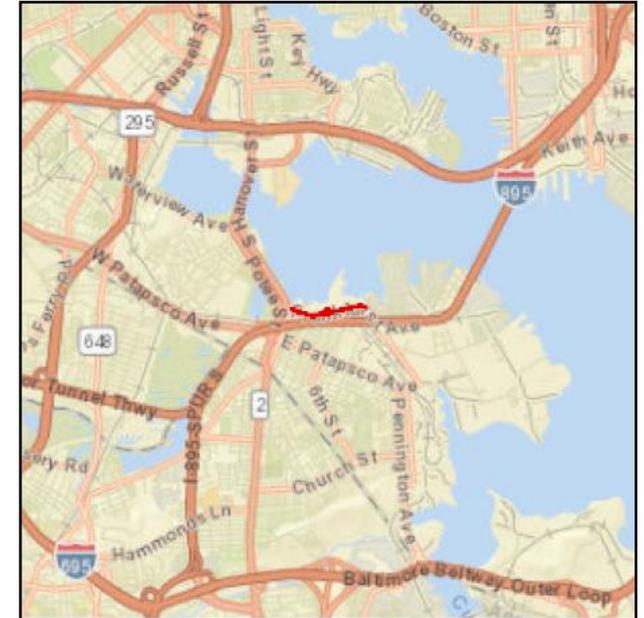
Project Highlights

- **MDOT SHA: I-795 Dolfield Blvd. Interchange**
 - Includes widening of I-795 from Owings Mills Blvd. to Franklin Blvd.
 - Includes TSMO Strategies
 - Will improve access to the planned growth corridor along Red Run Blvd.
 - \$24 million programmed (\$149 Million total)
 - Year of Operation: 2031



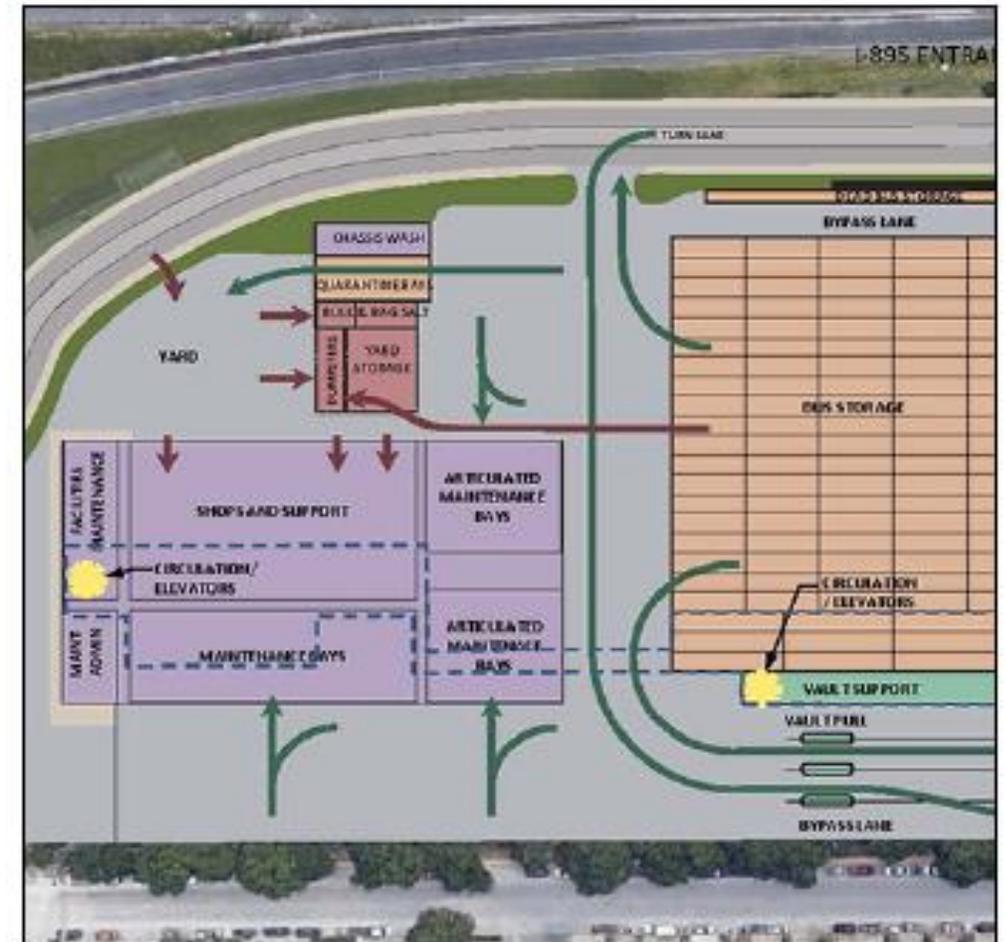
Project Highlights

- **Maryland Port Administration:
Masonville Cove Connector Shared-Use Path**
 - 2 mile trail along Frankfurst Ave. between Masonville Cove and Hanover Street
 - Using Fed. Lands Access Program funding (FLAP)
 - Matching funds from US Fish and Wildlife
 - Links to existing Gwynns Falls Trail
 - Connects over 20 miles of existing trails
 - Year of Operation: 2025



Project Highlights

- **MDOT MTA: Eastern Bus Facility**
 - Upgrades existing facility to an electric bus division
 - 1,100 SF combined maintenance, washing, fueling and bus operations space
 - Parking for 190 buses and 216 employees
 - The Greenhouse Gas Reduction Act requires MTA's vehicles to be zero emission by 2030
 - \$86.3 million funded in TIP (\$162.3 Total)
 - Anticipated completion 2026



Project Highlights

- **Maryland Transportation Authority: I-95 Northbound Extension**
 - Two ETLs from north of MD 43 to north of MD 24 (11.25 miles)
 - Reconstruction of MD 152 and MD 24 interchanges
 - Widening MD 24 from two to three lanes from MD 924 to north of Singer Road (~1 mile)
 - Reconstruction of 5 overpasses over I-95
 - Construction of 5 noisewalls
 - Reconstruction of 5 overpasses
 - TIP Funding: \$542.2 million in MDTA Toll Revenues
 - Year of Operation: 2027

