



Maryland Transportation Authority

BOARD MEETING

WEDNESDAY, NOVEMBER 29, 2023

MARYLAND TRANSPORTATION AUTHORITY
2310 BROENING HIGHWAY
BALTIMORE, MD 21224

IN-PERSON AND LIVESTREAM



MARYLAND TRANSPORTATION AUTHORITY BOARD MEETING

2310 Broening Highway * Training Room – 2nd Floor * Baltimore, MD 21224

NOVEMBER 29, 2023 9:00 AM

This meeting will be livestreamed on the [MDTA Board Meeting Page](#)

NOTES:

- This is an In-Person Open Meeting being conducted via livestreaming.
- The public is welcomed to watch the meeting at the link above.
- *If you wish to comment on an agenda item please email your name, affiliation, and the agenda item to nhenson@mdta.state.md.us no later than 5:00 p.m. on November 27th. You **MUST** pre-register and attend the meeting in person in order to comment.* Once pre-registered, all pertinent information will be emailed to you.

AGENDA

OPEN SESSION – 9:00 AM

Call Meeting to Order

- | | | |
|---|-----------------|---------|
| 1. <u>Approval</u> – <u>Open Session Meeting Minutes of October 26, 2023</u> | Chairman | 5 min. |
| 2. <u>Approval</u> – <u>Closed Session #1 Meeting Minutes of October 26, 2023</u> | Chairman | 5 min. |
| 3. <u>Approval</u> – <u>Closed Session # 2 Meeting Minutes of October 26, 2023</u> | Chairman | 5 min. |
| 4. <u>Approval</u> – <u>Contract Award</u> <ul style="list-style-type: none">• HB-3001-0000 – Cleaning and Painting of the Hatem Bridge | Jeffrey Davis | 5 min. |
| 5. <u>Update</u> – <u>All Open Contracts</u> – Verbal | Jeffrey Davis | 5 min. |
| 6. <u>Approval</u> – <u>Canton Railroad</u> – Approval of the Canton Railroad Board of Directors | Deb Sharpless | 10 min. |
| 7. <u>Update</u> – <u>Traffic and Revenue Forecast Update</u> – A Review of the Annual Updates to the Traffic and Revenue Forecasts for All Facilities | Chantelle Green | 10 min. |
| 8. <u>Approval</u> – <u>Fiscal Year 2025 Preliminary Operating Budget</u> - Approval of the Preliminary Operating Budget | Jeffrey Brown | 10 min. |
| 9. <u>Approval</u> – <u>Final Fiscal Year 2024-2029 Consolidated Transportation Program (CTP)</u> – Approval of the Six-Year Capital Budget | Jennifer Stump | 10 min. |
| 10. <u>Approval</u> – <u>Debt Policy</u> – Approval to Increase the MDTA's Unencumbered Cash Policy | Allen Garman | 10 min. |
| 11. <u>Approval</u> – <u>Fiscal Year 2024-2029 Financial Forecast</u> – Approval of the Six-Year Financial Forecast | Chantelle Green | 10 min. |
| 12. <u>Update</u> – <u>Bi-Annual Revenue Sufficiency</u> – Review of Revenues as Required by the MDTA Board Operating Policy | Chantelle Green | 5 min. |

**MDTA BOARD MEETING
NOVEMBER 29, 2023, 9:00 AM**

**AGENDA
PAGE 2**

- | | | |
|---|-------------------|---------|
| 13. <u>Update</u> – <u>Independent Auditors’ Report on the Fiscal Year 2023 Financial Statements</u> | Deb Sharpless | 5 min. |
| 14. <u>Update</u> – <u>Fiscal Year 2023 Independent Auditor’s Service Organization Control (SOC) 1 and SOC 2 Reports</u> | Deb Sharpless | 10 min. |
| 15. <u>Update</u> – <u>Bridges and Tunnels Property Insurance Coverage</u> | Deb Sharpless | 10 min. |
| 16. <u>Update</u> – <u>Human Resources Committee Update</u> – Verbal | Member Gaines | 10 min. |
| 17. <u>Update</u> – <u>Executive Director’s Report</u> – Verbal | Percy Dangerfield | 10 min. |
| <u>Vote to Adjourn Meeting</u> | | |

TAB 1

MARYLAND TRANSPORTATION AUTHORITY
BOARD MEETING

THURSDAY, OCTOBER 26, 2023
9:00 A.M.

2310 BROENING HIGHWAY, BALTIMORE MD 21224
IN-PERSON & LIVESTREAMED OPEN MEETING

OPEN SESSION

Paul J. Wiedefeld, Chairman

MEMBERS ATTENDING:

Dontae Carroll
William H. Cox, Jr.
W. Lee Gaines, Jr.
Mario J. Gangemi
Cynthia D. Penny-Ardinger
Jeffrey S. Rosen
Samuel D. Snead
John F. von Paris

STAFF ATTENDING:

Tekeste Amare
Percy Dangerfield
Donna DiCerbo
James Harkness
Natalie Henson
Richard Jaramillo
Selena McKissick
Kelly Melhem
Kimberly Millender, Esq.
Sushmita Mitra
Mary O'Keeffe
Acting Colonel Joseph Scott
Deborah Sharpless

OTHERS ATTENDING:

Jerry Jones

At 9:00 a.m. Chairman Paul J. Wiedefeld called the meeting of the Maryland Transportation Authority (MDTA) Board to order. The meeting was held in-person at MDTA Headquarters, 2310 Broening Highway, Baltimore MD 21224 and was livestreamed on the MDTA Board Meeting web page.

APPROVAL – OPEN SESSION MEETING MINUTES OF SEPTEMBER 28, 2023

Upon motion by Member William H. Cox, Jr. and seconded by Member Mario J. Gangemi, the open session meeting minutes of the MDTA Board meeting held on September 28, 2023 were unanimously approved.

APPROVAL – CONTRACT AWARDS

- **MDTA 2021-01 B – Small Business Reserve (SBR) Comprehensive Preliminary Engineering and Final Design Services**

Ms. Donna DiCerbo requested contingent approval from the MDTA Board to execute Contract No. MDTA 2021-01 B – SBR Comprehensive Preliminary Engineering and Final Design Services with SuYash Consulting, LLC in the amount of \$3,000,000.00.

Ms. DiCerbo explained that this project involves the award of one (1) contract to a Small Business Consultant Engineering Firm for Comprehensive Preliminary Engineering and Final Design Services for MDTA. The work shall include but not be limited to structural engineering including analysis, design, and rehabilitation of small and ancillary structures, noise walls, retaining walls and buildings; highway design, traffic engineering and studies, environmental engineering, ITS/electrical, geotechnical engineering, surveys, mechanical and electrical engineering services related to bridge, highway, and facility (building) projects; permitting, right-of-way support; condition inspection; project delivery; cost estimating; development of operation, warranty and maintenance plans; project and program management; planning; construction management and inspections, and "Phase V" services.

Upon motion by Member Mario J. Gangemi and seconded by Member Dontae Carroll, the Members unanimously gave contingent approval to execute Contract No. MDTA 2021-01 B – SBR Comprehensive Preliminary Engineering and Final Design Services.

- **MT-00210859 – Janitorial Services at John F. Kennedy Highway (JFK) and Thomas J. Hatem Bridge (TJH)**

Ms. Donna DiCerbo requested contingent approval from the MDTA Board to execute Contract No. MR-3033-0000 – On-Call Structural Repairs and Miscellaneous Modifications with Brawner Builders, Inc. in the amount of \$12,500,000.00, M.D. Miller t/a The Marksmen in the amount of \$9,000,000.00, and Concrete General, Inc. in the amount of \$8,500,000.00.

Ms. DiCerbo explained that this project is a multi-award contract to provide labor, equipment, materials, etc. necessary to perform miscellaneous structural, concrete, and other types of repairs, upgrades, replacements, and new construction as directed by the Engineer. This work may be required on any portion (bridge, tunnel, highway, building, and all appurtenances) of any of the MDTA's facilities.

Upon motion by Member Mario J. Gangemi and seconded by Member W. Lee Gaines, Jr., the Members unanimously gave contingent approval to execute Community Services Contract No. MR-3033-0000 – On-Call Structural Repairs and Miscellaneous Modifications.

- **KB-3005-0000 – I-695 Repairs and Subgrade Rehabilitation on Sparrows Point Near Bear Creek**

Ms. Donna DiCerbo requested contingent approval from the MDTA Board to execute Contract KB-3005-0000 – I-695 Repairs and Subgrade Rehabilitation on Sparrows Point Near Bear Creek with The Six-M Company, Inc. in the amount of \$33,210,000.00.

Ms. DiCerbo explained that the work to be performed under this Contract is located on I-695 on Sparrows Point near Bear Creek in Baltimore County. The scope of work includes subgrade rehabilitation due to significant settlement and deterioration of a section of roadway located just east of the MD 157 (Peninsula Expressway) underpass. The work also includes repairs to backwalls and approaches of the six bridges crossing Bear Creek, MD 157, and the Tradepoint Atlantic Railroad. The repairs and rehabilitation are needed to prevent further settlement and deterioration and to reestablish as-built conditions.

Upon motion by Member William H. Cox, Jr. and seconded by Member John F. von Paris, the Members unanimously gave contingent approval to execute Contract No. KB-3005-0000 – I-695 Repairs and Subgrade Rehabilitation on Sparrows Point Near Bear Creek.

- **KH-3040-0000 – MD 24 NB Auxiliary Lane – MD 924 through Singer Road Intersection**

Ms. Donna DiCerbo requested contingent approval from the MDTA Board to execute Contract No. KH-3040-0000 – MD 24 NB Auxiliary Lane – MD 924 through Singer Road Intersection with Allan Myers MD, Inc. in the amount of \$17,249,777.00.

Ms. DiCerbo explained that the work to be performed under this contract is located on MD 24 from MD 924 to north of Singer Road in Harford County. An auxiliary lane will be constructed with median widening on NB MD 24. The auxiliary lane will allow NB MD 24 traffic turning onto WB Singer Road to remain left of thru traffic to reduce queuing at the Singer Road intersection as part of the I-95 Northbound ETL extension project.

Upon motion by Member Jeffrey S. Rosen and seconded by Member William H. Cox, Jr., the Members unanimously gave contingent approval to execute Community Services Contract No. KH-3040-0000 – MD 24 NB Auxiliary Lane – MD 924 through Singer Road Intersection.

UPDATE – ANNUAL UPDATE ON FACILITY CONDITION INSPECTIONS

Mr. Tekeste Amare gave an update on the Fiscal Year 2023 Annual Facilities Inspections. He provided a brief overview of the types of inspections that have been completed as well as the Inspection Findings for all structures that were inspected.

UPDATE – EXECUTIVE DIRECTOR’S REPORT

Ms. Mary O’Keeffe gave the Executive Director’s Report. Ms. O’Keeffe gave updates on the following items: the I-695 Repairs and Subgrade Rehabilitation on Sparrows Point in Baltimore County that was approved earlier in the meeting; the October 4th Bay Bridge Reconstruction Advisory Group (BBRAG) quarterly meeting; the progress of the annual MDOT CTP Tour Meetings; the October 21st 2nd Annual BWI Safety Day; and the 2023 Maryland Charity Campaign.

Ms. O’Keeffe also congratulated Deb Sharpless on being re-appointed to serve on the IBTTA’s Board of Directors. Lastly, she let the Board know that the MDTA’s financial outlook has improved and that the Board would be updated at next month’s Board Meeting.

VOTE TO GO INTO 1st CLOSED SESSION

At 9:50 a.m., upon motion by Member Dontae Carroll and seconded by Member William H. Cox, Jr., the Members voted unanimously to move into Closed Session under the Maryland Open Meetings Act. The MDTA Board met in Closed Session under the General Provisions Article, Section 3-305(b)(15) to discuss MDTA’s Cyber Security Updates to include discussions regarding security assessments and deployment of information technology and network security related to the detecting and investigating possible criminal activity; Section 3-305(b)(12) to discuss a pending investigative proceeding of possible criminal conduct related to credit card fraud; Section 3-305(b)(10) and (12) to receive an update on deployment of police staff and resources and other security measures and to discuss pending investigative proceedings involving possible criminal conduct; and Section 3-305(b)(8) to receive a status update on all litigation currently pending against the MDTA.

In attendance for the Closed Session were Chairman Paul Wiedefeld; Members Carroll, Cox, Gaines, Gangemi, Penny-Ardinger, Rosen, Snead, and von Paris in-person; Mary O’Keeffe; Kimberly Millender, Esq.; Acting Col. Joseph Scott; and Natalie Henson. Mr. David Goldsborough and Mr. Percy Dangerfield were in attendance for Agenda Item 5 (To Discuss Cybersecurity) only. Ms. Deb Sharpless and Ms. Chantelle Green were in attendance for Agenda Item 6 (To Discuss an Investigative Proceeding of Possible Criminal Conduct Related to Credit Card Fraud) only.

VOTE TO ADJOURN 1st CLOSED SESSION

At 11:23 a.m., a motion was made by Member William H. Cox, Jr. and seconded by Member W. Lee Gaines, Jr., which was unanimously approved, to adjourn the Closed Session and return to Open Session. There were no actions taken in Closed Session that require ratification.

VOTE TO GO INTO 2nd CLOSED SESSION

At 11:25 a.m., upon motion by Member Jeffrey S. Rosen and seconded by Member William H. Cox, Jr., the Members voted unanimously to move into a 2nd Closed Session under the Maryland Open Meetings Act, the MDTA Board met in Closed Session under the General Provisions Article, Section 3-305(b)(1) to discuss the qualifications of one or more persons to serve in an executive service position.

In attendance for the Closed Session were Chairman Paul Wiedefeld; Members Carroll, Cox, Gaines, Gangemi, Penny-Ardinger, Rosen, Snead, and von Paris in-person; Mary O’Keeffe; Kimberly Millender, Esq.; Acting Col. Joseph Scott; Percy Dangerfield and Natalie Henson.

VOTE TO ADJOURN 2nd CLOSED SESSION

At 11:42 a.m., a motion was made by Member William H. Cox, Jr. and seconded by Member Mario J. Gangemi, which was unanimously approved, to adjourn the Closed Session and return to Open Session.

Upon motion by Member William H. Cox, Jr. and seconded by Member Dontae Carroll, the Members ratified their approval of Mr. Percy Dangerfield as MDTA’s Acting Executive Director.

VOTE TO ADJOURN MEETING

There being no further business, upon motion by Member Mario J. Gangemi and seconded by Member Dontae Carroll, the Members unanimously voted to adjourn the meeting at 11:50 a.m.

The next MDTA Board Meeting will be held on Wednesday, November 29, 2023 at 9:00 a.m. at MDTA, 2310 Broening Highway, Baltimore MD and will be livestreamed on the MDTA Board webpage.

APPROVED AND CONCURRED IN:

Paul J. Wiedefeld, Chairman

TAB 2

CLOSED SESSION MINUTES

VERBAL

TAB 3

CLOSED SESSION MINUTES

VERBAL

TAB 4



Maryland
Transportation
Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:
Dontae Carroll
William H. Cox, Jr.
W. Lee Gaines, Jr.
Mario J. Gangemi, P.E.
Cynthia D. Penny-Ardinger
Jeffrey S. Rosen
Samuel D. Snead, MCP, MA
John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Deputy Director of Procurement Jeffrey Davis, NIGP-CPP, CMPO
SUBJECT: HB-3001-0000, Cleaning and Painting and Miscellaneous Structural Repairs of the US 40 Bridge over the Susquehanna River
DATE: November 29, 2023

PURPOSE

To seek contingent approval to execute Contract No. HB-3001-0000, Cleaning and Painting and Miscellaneous Structural Repairs of the US 40 Bridge over the Susquehanna River.

SUMMARY

The work to be performed under this Contract is located on the Thomas J. Hatem Memorial Bridge, US Route 40, over the Susquehanna River. The scope of work includes replacement of the protective coating system on the structural steel members and performing miscellaneous structural steel repairs on the bridge.

RECOMMENDATION

To provide contingent approval to execute Contract No. HB-3001-0000, Cleaning and Painting and Miscellaneous Structural Repairs of the US 40 Bridge over the Susquehanna River.

ATTACHMENT

- Project Summary



Maryland
Transportation
Authority

AUTHORITY BOARD PROJECT SUMMARY

HB-3001-0000 Cleaning and Painting and Miscellaneous Structural Repairs of the US 40 Bridge over the Susquehanna River

PIN NUMBER 2512
CONTRACT NUMBER HB-3001-0000
CONTRACT TITLE Cleaning and Painting and Miscellaneous Structural Repairs of the US 40 Bridge over the Susquehanna River

PROJECT SUMMARY The work to be performed under this Contract is located on the Thomas J. Hatem Memorial Bridge, US Route 40, over the Susquehanna River. The scope of work includes replacement of the protective coating system on the structural steel members and performing miscellaneous structural steel repairs on the bridge.

SCHEDULE

ADVERTISEMENT DATE 8/3/2023
ANTICIPATED NOTICE TO PROCEED DATE Feb-24
DURATION (COMPLETION DATE) 1/20/2026

MBE PARTICIPATION

OVERALL MBE

AFRICAN AMERICAN

ASIAN AMERICAN

HISPANIC AMERICAN

WOMEN

NATIVE AMERICAN

VSBE

(\$)

**Advertised
GOAL (%)**

**Proposed
GOAL (%)**

16.00%

16.00%

-

0.00%

-

0.00%

-

0.00%

-

16.00%

-

0.00%

1.00%

1.00%

ENGINEER'S ESTIMATE (EE) \$60,504,229.00

BID RESULTS

BID AMOUNT (\$)

% VARIANCE TO EE

BID PROTEST YES ☐ NO ☒

FUNDING SOURCE 100.00% TOLL REVENUE

Blastech Enterprises, Inc.

\$56,861,520.00

-6%

Titan Industrial Services, Inc.

\$57,127,995.20

-6%

Southern Road & Bridge, LLC.

\$57,689,375.00

-5%

Ahern Painting Contractors, Inc.

\$59,667,400.00

-1%

Allied Painting, Inc.

\$61,276,210.00

1%

Saffo Contractors, Inc.

\$64,777,700.00

7%

North Star Painting Company, Inc.

\$67,867,433.00

12%

Abhe & Svoboda, Inc.

\$93,318,007.00

54%

TAB 5

VERBAL

TAB 6



Maryland Transportation Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:
Dontae Carroll
William H. Cox, Jr.
W. Lee Gaines, Jr.
Mario J. Gangemi, P.E.
Cynthia D. Penny-Ardinger
Jeffrey S. Rosen
Samuel D. Snead, MCP, MA
John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Chief Financial Officer Deborah Sharpless
SUBJECT: Canton Development Corporation Board of Directors
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

The purpose of this agenda item is to seek approval from the Maryland Transportation Authority (MDTA) Board for the proposed Canton Development Corporation, Inc. (Canton) Board of Directors and designation of the Chief Financial Officer or designee as proxy to attend the annual stockholders meeting on December 13, 2023, to vote to approve the election of the Canton Board of Directors and Chairman.

SUMMARY

The MDTA is the sole stockholder of Canton. The day-to-day operations of Canton are managed by Mr. Paul Barnes, the President and CEO, with the oversight of a Board of Directors. Per the By-Laws of Canton, the stockholders are to gather annually and elect the members of the Board of Directors.

Mr. Barnes has provided MDTA with proper notice of the upcoming Annual Meeting of stockholders to be held on December 13, 2023. Per the By-Laws, the only matter on which the stockholders have authority to vote is the election of the members to Canton's Board of Directors. Additionally, the By-Laws of Canton permit the stockholders to be represented by a proxy.

ANALYSIS

As the sole stockholder of Canton, the MDTA must vote on the election of Canton's Board of Directors at Canton's Annual Meeting and the selection of the Chairman. The Canton Board, generally, comprises six Directors, including a MDTA board member who serves in an ex officio capacity. The Directors serve three-year terms, and the terms are staggered,

resulting in the election of two Directors each year. At times, a seventh Director has been approved when an individual with outstanding qualifications and interest is identified.

The MDTA recommends the appointment of Charley C. Sung and Thomas E. Huesman. MDTA Board Members Cox, von Paris, and Canton Director Kaufman strongly endorse these appointments. Information regarding their qualifications is included in the attachments. The MDTA also recommends the reappointment of J. Robert Huber, Sr. Member Cox, Canton Director Kaufman, and Canton CEO Barnes strongly endorse the reappointment. Lastly, the MDTA recommends Director Kaufman assume the responsibility of Chairman.

REQUESTED ACTION

Approval of the candidates nominated for appointment to the Canton Board of Directors and appointment of the MDTA's Chief Financial Officer or designee, as proxy, to attend the December 13, 2023, Stockholder Meeting.

ATTACHMENT

- Attachment 1 List of Directors and Summary of Qualification of the Nominated Director of Canton

Attachment 1

Canton Development Company
Canton Railroad Company
Freestate Logistic Services, Inc.

Board of Director	Action	Originally Appointed	Term Expiration
William H. Cox, Jr. (<i>ex officio</i>)	n/a	2017	2024
Lorrie A. Schenning	n/a	2018	2024
Stephen P. Kauffman	n/a	2019	2025
Sarah Klein	n/a	2022	2025
Charley C. Sung	Appoint	2023	2026
Thomas E. Huesman	Appoint	2023	2026
J. Robert Huber, Sr.	Reappoint	2019	2026

Charley C. Sung (*New Director*) - As a first-generation Korean American, managing partner of a successful law firm, and an entrepreneur involved in the establishment of a prominent restaurant and a commercial property management company, , he has acquired a wealth of experience in navigating the complexities of legal practice and business ownership.

Mr. Sung earned his Juris Doctor degree from George Washington University Law School and undergraduate degree from Johns Hopkins University. While in college, his dedication to academic and professional advancement was evident as he assumed the prestigious role of Executive Editor at The George Washington International Law Review and President of the Korean Student Association at Johns Hopkins.

Over the years, he has successfully managed teams, demonstrating leadership by effectively delegating tasks, fostering a collaborative environment, and making tough decisions when necessary. His involvement in founding a major restaurant in Bethesda has provided him with a deep understanding of the intricacies of the hospitality industry. Additionally, Mr. Sung has played a key role in establishing and operating a commercial property management company, SH Property Management Company. This venture has further enhanced his ability to tackle multifaceted issues and make informed decisions that contribute to the overall success of the business.

The skills and experiences gained from these ventures, coupled with his legal background, uniquely position him to make a positive and meaningful contribution to the board. Mr. Sung understands the importance of fostering a collaborative and inclusive environment and is committed to leveraging his diverse perspective to bring fresh insights to the issues at hand.

Attachment 1 (continued)

Thomas E. Huesman (*New Member*) - As the Chairman of the Maryland Motor Truck Association and a current member of the Executive Committee, Mr. Huesman has played pivotal roles in various committees and organizations, including the Greater Baltimore Committee and the Freight Stakeholders Committee in the State of Maryland. His professional background exhibits a wealth of accomplishments and strategic contributions across multiple high-profile positions. He currently serves as the Managing Director at The Fraley Group Corporation in Pasadena, MD, overseeing transportation management in maritime, rail, trucking, and construction consulting. Prior to this role, his tenure as President at the Terminal Corporation in Baltimore involved full Profit & Loss responsibility, daily operational management, and strategic development of marketing and sales plans. His career history includes leadership positions such as Director of Operations at Ocean Petroleum in Newark, Managing Director/Owner at Core Management Services in Houston, General Manager International Marketing at the Maryland Port Administration, and various roles at companies like CSX Transportation, Inc., and United States Lines.

Mr. Huesman brings with him comprehensive knowledge of the Port of Baltimore, encompassing customer and labor issues and a profound understanding of the local political climate. His ability to develop and execute a mission statement to ensure the port's success in international trade and development is noteworthy. His multifaceted experience and commitment to excellence continue to make a substantial impact on the industry, solidifying his position as a respected authority and influential figure within the transportation and maritime sectors. Mr. Huesman holds a Master of Business Administration degree from the University of Baltimore.

J. ROBERT HUBER, SR. (Reappointment) – Elected to serve on the Canton Board of Directors September 2019. Resides in Phoenix, MD. Maryland Department of Transportation - Maryland Port Administration (MDOT MPA) Commissioner. Retired MDOT MPA Executive specializing in real estate leasing, marketing, negotiations, property management, acquisition, and disposal. Served on MDOT MPA Tariff Committee. Former property and insurance underwriter. Bachelor of Science in Business Administration from University of Baltimore. Awarded Real Property Administrator Designation from the Building Owners and Managers Association International.

TAB 7



Maryland Transportation Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:

Dontae Carroll	Cynthia D. Penny-Ardinger
William H. Cox, Jr.	Jeffrey S. Rosen
W. Lee Gaines, Jr.	Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E.	John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Director of Finance Chantelle Green
SUBJECT: Traffic and Revenue Forecast Update
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To brief the Maryland Transportation Authority (MDTA) Board on the annual update to the traffic and revenue (T&R) forecasts for all facilities.

KEY TAKAWAYS

- The current T&R forecast (FY 2023-2029) increases by \$354 million, or 7%, from November 2022. The \$354 million increase in revenue is largely driven by a \$320 million increase in legacy facility revenue and a \$26 million increase in toll administrative revenue.
- Intercounty Connector and I-95 Express Toll Lanes revenue increases by \$7 million, or 1%, throughout the forecast period.

SUMMARY

Each fall, an update to the ten-year traffic and revenue forecast is prepared by independent consultants. The MDTA selected CDM Smith through a competitive process to provide the T&R forecast. The forecast is built on historical data from the MDTA's facilities and national, regional, and State socioeconomic data, such as population, employment, unemployment, real income per capita, real gross domestic product, inflation, and fuel prices. As noted in Table 4-1 of the T&R Report, the forecast also accounts for, among other things, anticipated construction projects, video toll collection and enforcement, and ongoing T&R growth trends following COVID-19.

ATTACHMENTS

- FY 2024 T&R Forecast Update Presentation
- Maryland Transportation Authority FY 2024 Traffic and Toll Revenue Forecast Update, November 2023, prepared by CDM Smith

FY 2024 T&R FORECAST UPDATE

NOVEMBER 2023

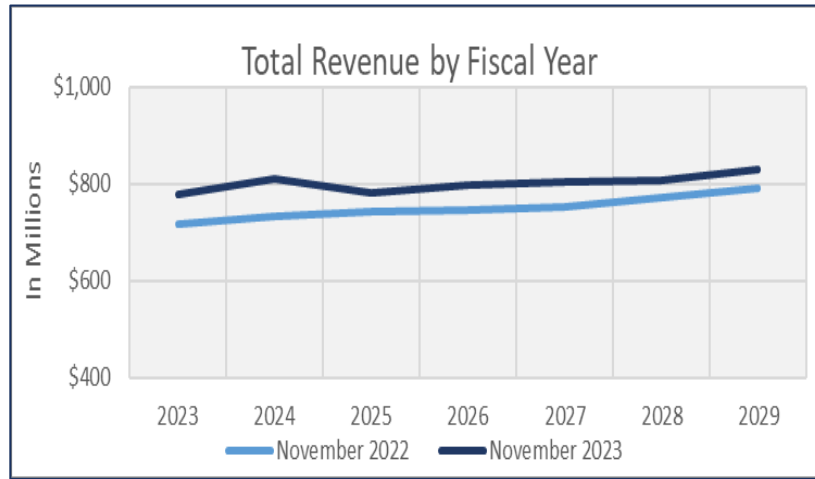
TRAFFIC & REVENUE FORECAST



Summary

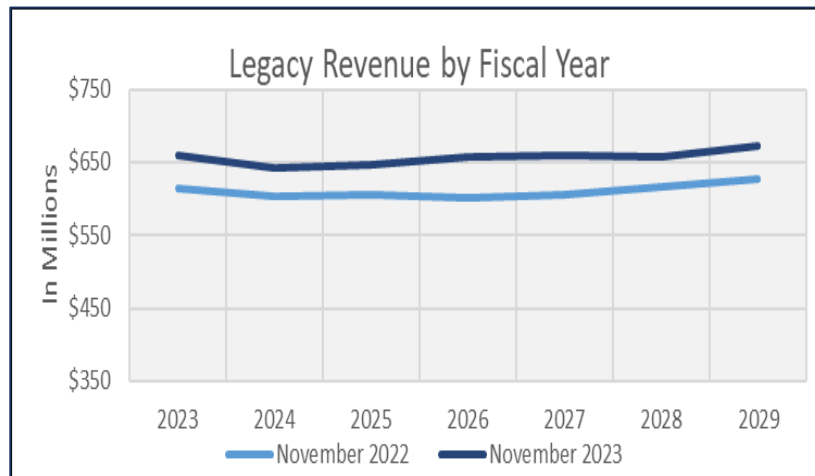
- Investment grade forecast updated annually in October by T&R consultants
- Current forecast totals \$5.61B (FY 2023-2029), up \$354M or 7% from November 2022
 - Total year-over-year revenue generally increases throughout the forecast period

TRAFFIC & REVENUE FORECAST – CHANGES BY FACILITY



In-lane & Toll Administrative Revenue All Facilities

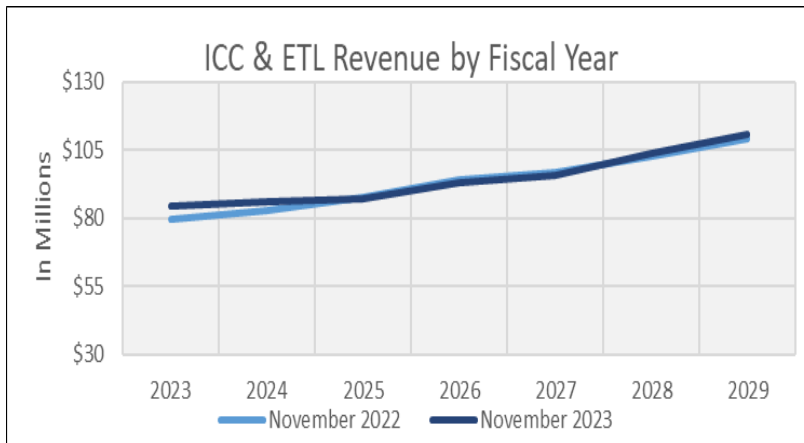
- Benchmarked to recent actuals
- Processing of backlog faster than previously assumed
- Reduced traffic diversion impacts from Legacy Facility construction projects
- Total revenue increase: \$354↑



In-lane Toll Revenue Legacy Facilities

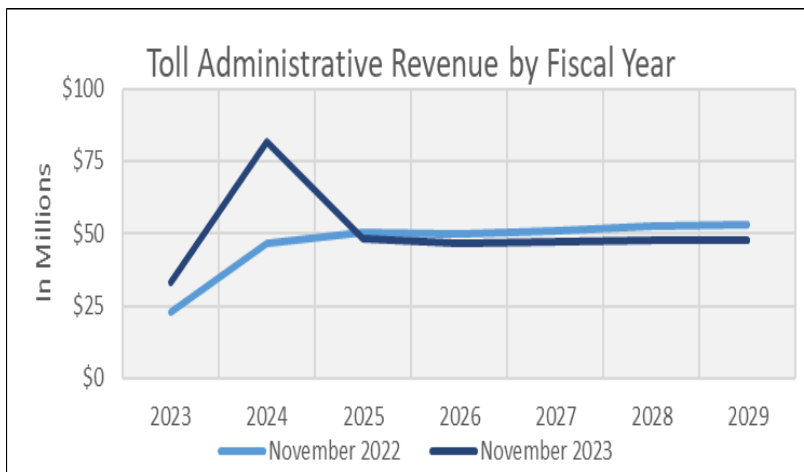
- Increased passenger car *E-ZPass*® transactions
- Traffic diversion reduction for FSK construction projects, compressed BHT AET conversion full impact duration
- Total revenue increase: \$320M↑

TRAFFIC & REVENUE FORECAST – CHANGES BY FACILITY



In-lane Toll Revenue ICC & ETL Facilities

- Revenues reduced in intermediate years due to change in COVID recovery assumptions
- Slight revenue growth expected from I-95 ETL Northbound Extension, particularly in FY 2028 when the full project is open
- Total revenue reduction: \$7M↑



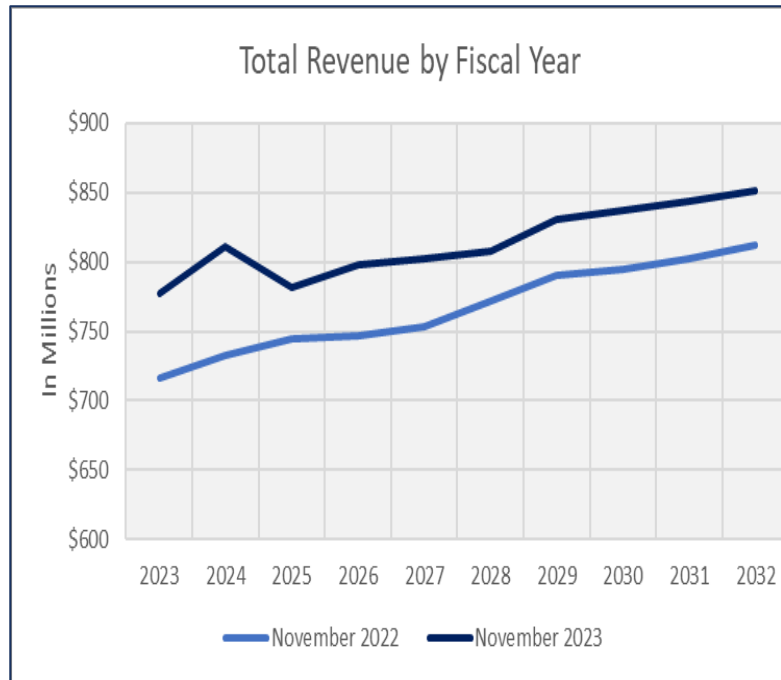
Toll Administrative Revenue

- Bump in FY 2024 from assumptions for civil penalty collections on transactions currently flagged at MVA for non-renewal/suspension
- Projected revenue in remaining years of forecast is slightly lower due to conservative assumption for civil penalty collections in the long-term
- Total revenue reduction: \$26M↑

TRAFFIC & REVENUE FORECAST – FUTURE OUTLOOK

MDTA Official Traffic & Revenue Forecasts

Fiscal Year	November 2022 Forecast	November 2023 Forecast	\$ Change	% Change
\$ in millions				
2023	\$ 716.6	\$ 777.6	\$ 61.0	8.5%
2024	\$ 732.8	\$ 810.8	\$ 78.0	10.6%
2025	\$ 744.1	\$ 782.0	\$ 37.9	5.1%
2026	\$ 746.3	\$ 797.6	\$ 51.3	6.9%
2027	\$ 753.5	\$ 802.7	\$ 49.2	6.5%
2028	\$ 772.3	\$ 807.8	\$ 35.5	4.6%
2029	\$ 789.9	\$ 830.9	\$ 41.0	5.2%
2030	\$ 795.1	\$ 837.5	\$ 42.4	5.3%
2031	\$ 802.3	\$ 844.2	\$ 41.9	5.2%
2032	\$ 812.0	\$ 851.2	\$ 39.2	4.8%
Total	\$ 7,664.9	\$ 8,142.4	\$ 477.5	6.2%



- Increase in revenue compared to November 2022 T&R Forecast
 - \$478M↑
- Some uncertainty remains
 - Video toll collection rates
 - Unpaid backlog transactions currently at MVA for non-renewal/suspension

Maryland Transportation Authority FY 2024 Traffic and Toll Revenue Forecast Update



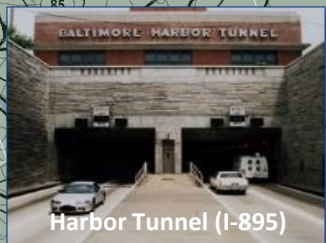
Kennedy Highway (I-95)



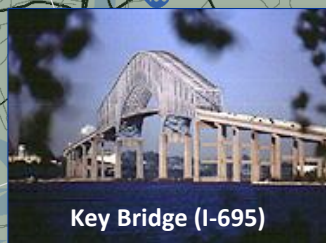
Hatem Bridge (US 40)



Fort McHenry Tunnel (I-95)



Harbor Tunnel (I-895)



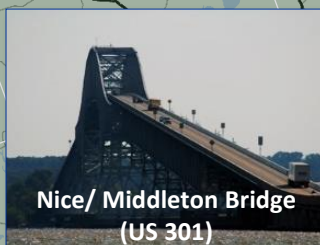
Key Bridge (I-695)



Intercounty Connector (ICC)



I-95 Express Toll Lanes (ETL)



Nice/ Middleton Bridge
(US 301)



Bay Bridge (US 50/301)

FINAL REPORT
November 3, 2023



Maryland
Transportation
Authority

**CDM
Smith**

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Chapter 1

Introduction

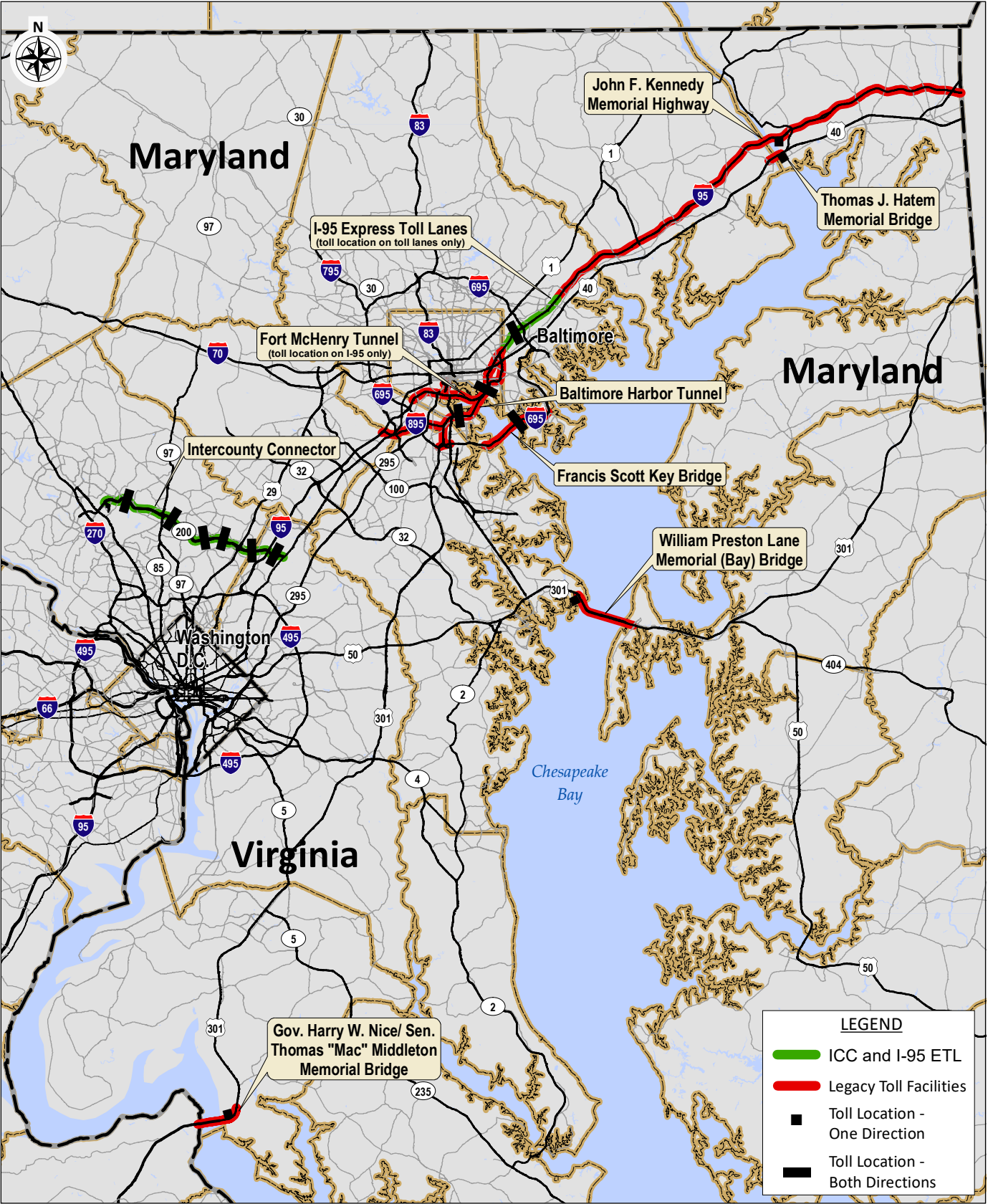
This letter report includes ten-year forecasts through FY 2033 for the seven “Legacy” toll facilities operated by MDTA, for the Intercounty Connector (ICC), and for the I-95 Express Toll Lanes (ETLs). It summarizes the study analysis, including a presentation of historical traffic and revenue trends, relevant socioeconomic conditions and forecasts, and the ten-year forecast results.

1.1 System Description

The nine facilities operated by MDTA are listed below. Collectively, the first seven facilities in the list below are referred to as the Legacy System.

- Thomas J. Hatem Memorial Bridge (Hatem Bridge, TJH)
- John F. Kennedy Memorial Highway, excluding the I-95 Express Toll Lanes (Kennedy Highway, JFK)
- Baltimore Harbor Tunnel (Harbor Tunnel, BHT)
- Fort McHenry Tunnel (Fort McHenry Tunnel, FMT)
- Francis Scott Key Bridge (Key Bridge, FSK)
- William Preston Lane Jr. Memorial Bridge (Bay Bridge, WPL)
- Governor Harry W. Nice Memorial/Senator Thomas “Mac” Middleton Bridge (Nice/Middleton Bridge, HWN)
- Intercounty Connector (ICC/MD 200)
- I-95 Express Toll Lanes (I-95 ETLs)

Figure 1-1 shows the locations of the MDTA Legacy system, ICC, and I-95 ETLs toll facilities and toll gantries in a regional context. As can be implied by the geographic distribution of the different facilities, the MDTA system serves a variety of travel purposes within the regional transportation system and consequently has a diverse mix of traffic classes and payment types.

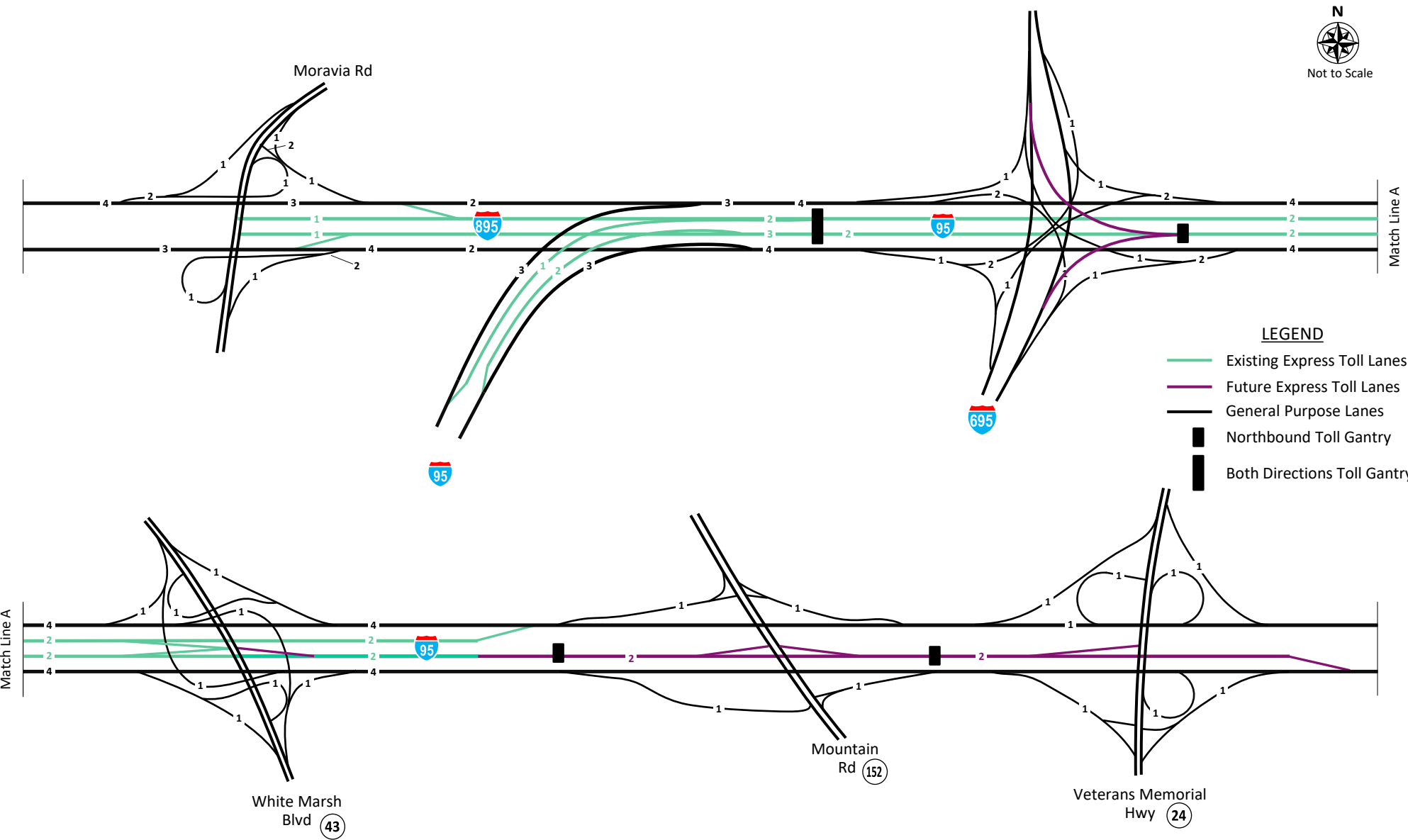


In the north, the Hatem Bridge and the Kennedy Highway form two parallel crossings of the Susquehanna River. The Hatem Bridge carries US 40 over the river and is the oldest of the MDTA's facilities, having been open to traffic since August 1940. The existing structure replaced an older bridge that first opened in 1910. The John F. Kennedy Memorial Highway is a 50-mile segment of I-95 that was opened in November 1963. It currently has one mainline toll plaza located just east of the Susquehanna River. The I-95 ETLs are a separate eight-mile toll facility on the Kennedy Highway between I-895 and MD 43 in Northeast Baltimore. The facility, which opened in December 2014, includes two express toll lanes in each direction in between the general purpose lanes on this segment of I-95. A northern extension of only the northbound I-95 ETL facility is planned to open in phases within the forecasting horizon of this report. The assumed opening dates of this extension are included in the assumptions in Chapter 4. **Figure 1-2** shows the assumed access and tolling points on the I-95 ETL extension.

There are three alternative MDTA toll routes that cross the Baltimore Harbor in the center of the region: the Baltimore Harbor Tunnel (I-895), the Francis Scott Key Bridge (I-695), and the Fort McHenry Tunnel (I-95), which are collectively referred to as the Baltimore Harbor crossings. The oldest of the three Baltimore Harbor crossings is the Harbor Tunnel which opened in November 1957. The Key Bridge was built to alleviate congestion and delays at the Harbor Tunnel and was opened in March 1977. The newest of these facilities, the Fort McHenry Tunnel, is an eight-lane crossing that opened in November 1985.

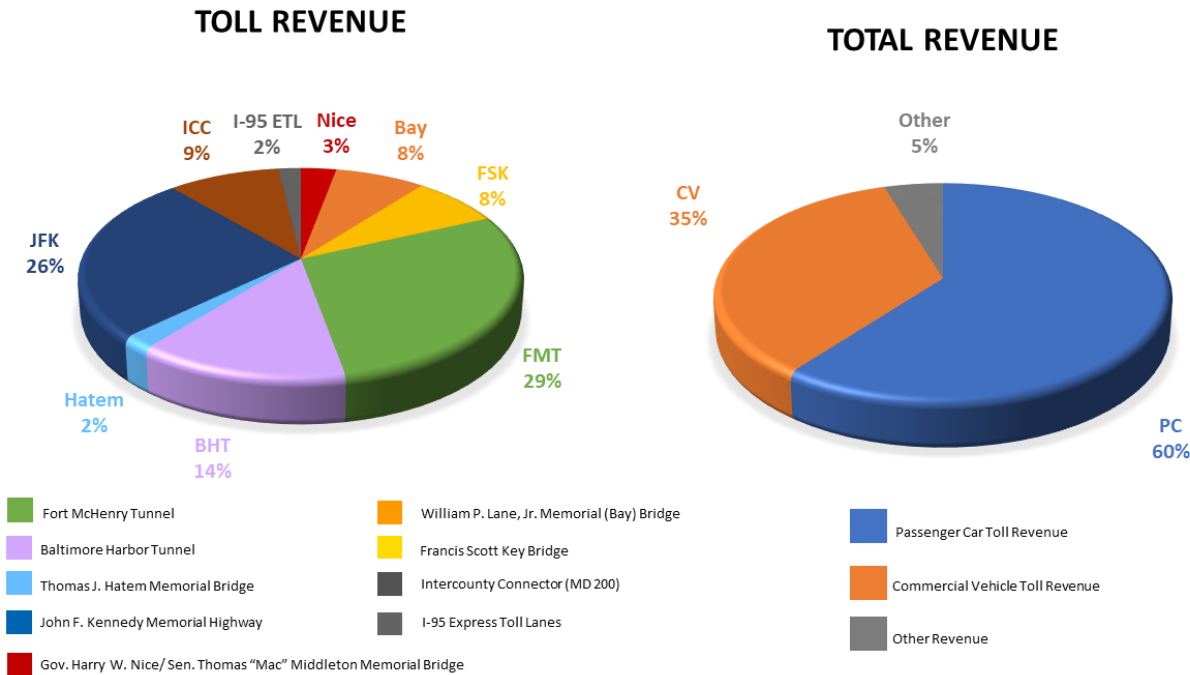
The ICC facility is in the northern Washington D.C. metro region and connects I-370 in the Gaithersburg area to I-95 and US 1 near Laurel. The ICC opened in phases. The initial segment between I-370 and MD 97 opened to traffic in February 2011 and began collecting tolls in March 2011. The segment from MD 97 to I-95 opened to traffic in November 2011 and began collecting tolls in December 2011, and the final segment between I-95 and US 1 opened and began collecting tolls in November 2014.

The southern region contains two facilities which carry US 301 to diverse destinations. The Governor Harry W. Nice Memorial/Senator Thomas "Mac" Middleton Bridge was opened in December 1940, connecting Maryland with Virginia, thereby allowing travelers making regional through-trips to bypass the Washington DC area. The William Preston Lane Jr. Memorial (Bay) Bridge was first opened to traffic in July 1952 and crosses the Chesapeake Bay. Twenty-one years later in June 1973, a parallel span carrying westbound traffic was opened, with the original span carrying eastbound traffic. A Tier 1 National Environmental Policy Act (NEPA) Study, called the Chesapeake Bay Crossing Study, was completed in the spring of this year. The study is considering alternatives to address congestion on the Bay Bridge. A Record of Decision (ROD) on the study and Final Environmental Impact Statement (Final EIS) were approved in April 2022 along with the Selected Corridor Alternative. Final project design and construction will follow final agency decisions based on completion of Tier 2 NEPA Study documents. Currently, there is no timetable for construction of a new crossing.



For context in this letter report, **Figure 1-3** shows the share of MDTA toll revenue by facility and total revenue by type for the most recent full fiscal year. As shown, three quarters of toll revenue is from the Kennedy Highway, Fort McHenry Tunnel, Harbor Tunnel, and Key Bridge, which make up the I-95 corridor and parallel Interstate crossings near downtown Baltimore. Total revenue includes about 35 percent commercial vehicle toll revenue, about 60 percent passenger car toll revenue, and about 5 percent other revenue. Other revenue includes a combination of revenue collected and revenue deductions from unused Commuter Plan and Shoppers Plan trips, transponder fees and sales, the Hatem Bridge E-ZPass program, violation recovery (civil penalties), and commercial vehicle fees and discounts (post-usage discount, high frequency discount, and over-sized permit fees).

Figure 1-3
FY 2023 MDTA Share of Toll Revenue by Facility and Total Revenue by Type



1.2 Toll Rate and Civil Penalty Structure

1.2.1 Standard Toll Rates

Table 1-1 provides the standard Legacy system toll rates and toll collection direction. Toll rates vary by facility, method of payment, and vehicle class. The toll rates are grouped into three categories: Maryland E-ZPass, base toll rates which includes out-of-state E-ZPass and the pay-by-plate payment method, and video payment. Pay-by-Plate was introduced as another payment option for customers on April 29, 2021, which allows customers to pre-register their vehicle's license plate for video payment and receive the prior cash toll rate. A discount for early payment of video tolls was also introduced on April 29, 2021. This allows customers to receive a 15 percent discount (up to \$5.00) when they pay their video tolls before an invoice is mailed. Maryland E-ZPass toll rates apply to drivers who register for an E-ZPass account and receive a

transponder from MDTA. These customers receive a discount compared to the base toll rate customers and can also enroll in discounts like the shopper and commuter rates and programs further described in **Table 1-2**. The base toll rate applies to out-of-state registered E-ZPass and pay-by-plate customers. Video customers pay a 50 percent surcharge over the base toll rate. Cash was a payment option at five of the seven Legacy facilities up until March 17, 2020 when cashless collection was initiated as a safety precaution related to the COVID-19 pandemic. The Hatem Bridge and Key Bridge facilities had already been converted to all-electronic tolling in October 2019. Permanent cashless tolling on these facilities that offered a cash payment option before the pandemic was announced on August 6, 2020.

Table 1-1
Standard MDTA Legacy System Toll Rates and Toll Collection Direction

Class	Hatem Bridge (Eastbound)	Kennedy Highway (Eastbound)	Harbor Facilities: FMT, BHT, FSK (Both)	Bay Bridge (Eastbound)	Nice/ Middleton Bridge (Westbound)
Maryland E-ZPass Payment Type					
Commuter ¹	\$2.80	\$2.80	\$1.40	\$1.40	\$2.10
Shopper ¹	NA	NA	NA	\$2.00	NA
2-axle	\$6.00	\$6.00	\$3.00	\$2.50	\$5.40
3-axle	\$11.20	\$16.00	\$8.00	\$8.00	\$12.00
4-axle	\$16.80	\$24.00	\$12.00	\$12.00	\$18.00
5-axle	\$48.00	\$48.00	\$24.00	\$24.00	\$36.00
6-axle+	\$60.00	\$60.00	\$30.00	\$30.00	\$45.00
Base Toll Rates: Other E-ZPass Payment Type and Pay-By-Plate Payment Type²					
2-axle	\$8.00	\$8.00	\$4.00	\$4.00	\$6.00
3-axle	\$16.00	\$16.00	\$8.00	\$8.00	\$12.00
4-axle	\$24.00	\$24.00	\$12.00	\$12.00	\$18.00
5-axle	\$48.00	\$48.00	\$24.00	\$24.00	\$36.00
6-axle+	\$60.00	\$60.00	\$30.00	\$30.00	\$45.00
Video Payment Type³					
2-axle	\$12.00	\$12.00	\$6.00	\$6.00	\$9.00
3-axle	\$24.00	\$24.00	\$12.00	\$12.00	\$18.00
4-axle	\$36.00	\$36.00	\$18.00	\$18.00	\$27.00
5-axle	\$63.00	\$63.00	\$36.00	\$36.00	\$51.00
6-axle+	\$75.00	\$75.00	\$45.00	\$45.00	\$60.00

¹Commuter and shopper programs for 2-axle vehicles only. Rates shown are if all trips are used

²ITOLs (video images matched to existing E-ZPass accounts) are charged the base toll rate.

³Customers that pay their video toll before an invoice is mailed are eligible for a 15% discount

Table 1-2 provides a description of the other MDTA Legacy system discount toll rate programs available to Maryland E-ZPass customers. The programs available for two-axle vehicles aim to provide discounts for drivers who use the MDTA facilities frequently. Commuter plans are available for the Baltimore Harbor crossings, the Nice/Middleton Bridge, and the Bay Bridge. These plans allow customers to complete a set number of trips within a 45-day period at a fixed price on specific facilities. Specific details of the commuter programs are shown in **Table 1-2**. In addition to the commuter plan at the Bay Bridge, there is a shopper plan that allows drivers to take ten trips Sunday through Thursday for \$20 over a 90-day period on the Bay Bridge. The Hatem Bridge has two plans offered: Hatem Plan A and Hatem Plan B. Both plans provide unlimited trips for a flat annual fee of \$20 and vary slightly in account setup and associated fees.

Two discount plans are offered for commercial vehicles with five-or-more axles: the post usage discount and supplemental rebate plan. The post usage discount reimburses business accounts a percentage of monthly tolls in the range of 10 to 20 percent based on the toll amount accrued in a 30-day period. The supplemental rebate program provides a similar structure for individual accounts by providing a discount in the range of 10 to 20 percent for accounts that make more than 60 trips per month. Also listed in **Table 1-2** are the Baltimore Harbor Tunnel Childs Street ramp and Key Bridge Broening Highway Turnaround tolls which are a lower toll rate for three-or-more axle vehicles using specific ramps near the Harbor Tunnel and Key Bridge

Tolls on the ICC differ from the Legacy system in that they're assessed on particular interchange-to-interchange movements, as shown in **Table 1-3**. The ICC is a cashless facility with E-ZPass, Pay-by-Plate or video payment options. This table provides the two-axle E-ZPass toll rates, which vary from \$0.40 to \$3.86 depending on the length of the trip and time of day. Higher toll rates are assessed on weekdays during the Peak Periods, which are 6:00 to 9:00 AM and 3:00 to 7:00 PM, compared to the Overnight (11:00 PM to 5:00 AM) and Off-Peak (all other hours) time periods. Tolls differ on the weekends for the Overnight and Off-Peak periods. E-ZPass toll rates are higher for commercial and recreational (boat and camper) vehicles based on the number of axles. Unlike toll rates on the Legacy system, E-ZPass rates are the same on the ICC for customers holding their accounts through MDTA and through other agencies. All video toll customers pay a 50 percent surcharge over the E-ZPass rate with a minimum of \$1 and maximum of \$15 above the E-ZPass rates. Pay-by-Plate customers pay a rate in between the video toll and E-ZPass customers.

Table 1-2
Other MDTA Legacy System Discount Toll Rate Programs and Rates

Program	Details
Baltimore Region Commuter Discount Plan	For E-ZPass Maryland accounts holders driving two-axle vehicles . The Baltimore Regional Plan is \$70 for 50 trips on the Fort McHenry Tunnel, Harbor Tunnel, Key Bridge, Kennedy Highway, or Hatem Bridge. Two "trips" are deducted for each crossing of the Kennedy Highway and Hatem Bridge. Plans end after 45 days or when all of the trips are used, whichever comes first.
Nice Bridge Commuter Discount Plan	For E-ZPass Maryland accounts holders driving two-axle vehicles . The Nice bridge plan is \$52.50 and offers 25 trips. The plans ends after 45 days or when all of the trips are used, whichever comes first.
Bay Bridge Commuter Discount Plan	For E-ZPass Maryland accounts holders driving two-axle vehicles . The Bay Bridge Plan is \$35.00 and offers 25 trips. The plan ends after 45 days or when all of the trips are used, whichever comes first.
Bay Bridge Shopper Discount Plan	For E-ZPass Maryland accounts holders driving two-axle vehicles . The Bay Bridge Shopper plan is \$20.00 for ten two-axle trips that can be used Sunday through Thursday. The plan ends after 90 days or when all of the trips are used, whichever comes first.
Hatem Bridge Discount Plan A	An E-ZPass account with transponders valid only at the Hatem Bridge. This plan applies only to two-axle vehicles , and includes unlimited trips. This plan is subject to a flat annual fee of \$20.00. There are NO account fees, prepaid toll deposits or account statements.
Hatem Bridge Discount Plan B	This discount plan is attached to a normal Maryland E-ZPass account. This plan applies only to two-axle vehicles , and includes unlimited trips. This plan is subject to a flat annual fee of \$20.00. Account fees apply as with the normal Maryland E-ZPass account.
Post Usage Discount Plan	Business accounts operating five-or-more-axle vehicles qualify for an E-ZPass post-usage discount based on the tolls paid in every 30-day period, with a 10 percent discount offered for total monthly tolls of \$150.00 to \$1,999.99, 15 percent for total monthly tolls of \$2,000.00 to \$7,500.00 and 20 percent for total monthly tolls of over \$7,500.00.
Supplemental Rebate Plan	A supplemental rebate program is offered to five-or-more-axle vehicles with individual transponders making 60 or more trips per month. As of July 1, 2015, a 10 percent discount is offered for five- or more-axle vehicle transponders making 60-79 trips per month, 15 percent for 80-99 trips per month, and 20 percent for 100 or more per month.
Baltimore Harbor Childs Street Ramps and Key Bridge Broening Highway Turnaround Toll	Vehicles with a valid E-ZPass Maryland account and transponder will pay \$2 per axle for 3, 4, 5 and 6+ axle vehicles to use the I-895/Childs Street ramps at the Baltimore Harbor Tunnel and when making the Broening Highway Turnaround on the Key Bridge.

Table 1-3
Intercounty Connector Two-Axle E-ZPass Toll Rates by Movement and Time Period

Entrance	Time Period ¹	Exit						
		I-370 / Shady Grove Rd.	SR 97 / Georgia Ave.	SR 182 / Layhill Rd.	SR 650 / New Hampshire Ave.	US 29 / Briggs Cheney Rd.	I-95	Konterra Dr. / US 1
I-370; Shady Grove Rd.	Peak		\$1.24	\$1.74	\$2.37	\$2.92	\$3.52	\$3.86
	Off-Peak		\$0.96	\$1.35	\$1.83	\$2.26	\$2.72	\$2.98
	Overnight		\$0.40	\$0.56	\$0.75	\$0.93	\$1.12	\$1.23
SR 97 / Georgia Ave.	Peak	\$1.24		\$0.50	\$1.13	\$1.68	\$2.28	\$2.61
	Off-Peak	\$0.96		\$0.40	\$0.87	\$1.30	\$1.76	\$2.02
	Overnight	\$0.40		\$0.40	\$0.40	\$0.53	\$0.72	\$0.83
SR 182 / Layhill Rd.	Peak	\$1.74	\$0.50		\$0.62	\$1.18	\$1.78	\$2.11
	Off-Peak	\$1.35	\$0.40		\$0.48	\$0.91	\$1.37	\$1.63
	Overnight	\$0.56	\$0.40		\$0.40	\$0.40	\$0.56	\$0.67
SR 650 / New Hampshire Ave.	Peak	\$2.37	\$1.13	\$0.62		\$0.55	\$1.15	\$1.49
	Off-Peak	\$1.83	\$0.87	\$0.48		\$0.43	\$0.89	\$1.15
	Overnight	\$0.75	\$0.40	\$0.40		\$0.40	\$0.40	\$0.47
US 29 / Briggs Cheney Rd.	Peak	\$2.92	\$1.68	\$1.18	\$0.55		\$0.60	\$0.94
	Off-Peak	\$2.26	\$1.30	\$0.91	\$0.43		\$0.46	\$0.72
	Overnight	\$0.93	\$0.53	\$0.40	\$0.40		\$0.40	\$0.40
I-95	Peak	\$3.52	\$2.28	\$1.78	\$1.15	\$0.60		\$0.44
	Off-Peak	\$2.72	\$1.76	\$1.37	\$0.89	\$0.46		\$0.40
	Overnight	\$1.12	\$0.72	\$0.56	\$0.40	\$0.40		\$0.40
Konterra Dr. / US 1	Peak	\$3.86	\$2.61	\$2.11	\$1.49	\$0.94	\$0.44	
	Off-Peak	\$2.98	\$2.02	\$1.63	\$1.15	\$0.72	\$0.40	
	Overnight	\$1.23	\$0.83	\$0.67	\$0.47	\$0.40	\$0.40	

¹Time periods are:

Peak Period is defined as 6:00 to 9:00 AM and 4:00 to 7:00 PM on Weekdays (excluding federal holidays).

Off-Peak Period is defined as 5:00 to 6:00 AM, 9:00 AM to 4:00 PM, and 7:00 to 11:00 PM on Weekdays and 5:00 AM to 11:00 PM on Weekends and federal holidays.

Overnight is defined as 11:00 PM to 5:00 AM every day.

The I-95 ETLs are an express lane facility with a single tolling point in each direction. Similar to the ICC, toll rates vary by vehicle type and time period. It is a cashless facility with payment method options of E-ZPass, Pay-by-Plate, or video tolling. As shown previously in **Figure 1-2**, a northbound extension of the I-95 ETLs is also planned to open within the forecasting period.

Table 1-4 provides the toll rates by axle and payment type for the existing section from I-895 to MD 43, as well as the assumed toll rates for the two northbound extension tolling points, which extend through MD 24. Unlike toll rates on the Legacy system, E-ZPass rates are the same on the I-95 ETLs for customers holding their accounts through MDTA and through other agencies. Video toll customers pay a 50 percent surcharge over the E-ZPass rate with a minimum of \$1 and maximum of \$15 above the E-ZPass rates. Pay-by-plate customers pay a rate that is in between video toll and E-ZPass customers.

Table 1-4
I-95 Express Toll Lane Toll Rates

Class	Existing Section (I-895 to MD 43)			Northbound Extension Phase 1 (MD 43 to MD 152)			Northbound Extension Phase 2 (MD 152 to MD 24)		
	Peak	Off-Peak	Overnight	Peak	Off-Peak	Overnight	Peak	Off-Peak	Overnight
E-ZPass Payment Type									
2-axle	\$1.54	\$1.19	\$0.49	\$1.54	\$1.19	\$0.49	\$0.66	\$0.51	\$0.21
3-axle	\$3.08	\$2.38	\$0.98	\$3.08	\$2.38	\$0.98	\$1.32	\$1.02	\$0.42
4-axle	\$4.65	\$3.57	\$1.47	\$4.65	\$3.57	\$1.47	\$1.99	\$1.53	\$0.63
5-axle	\$9.24	\$7.14	\$2.94	\$9.24	\$7.14	\$2.94	\$3.96	\$3.06	\$1.26
6-axle+	\$11.55	\$8.93	\$3.68	\$11.55	\$8.93	\$3.68	\$4.95	\$3.83	\$1.58
Video Payment Type									
2-axle	\$2.54	\$2.19	\$1.49	\$2.54	\$2.19	\$1.49	\$1.09	\$0.94	\$0.64
3-axle	\$4.62	\$3.57	\$1.98	\$4.62	\$3.57	\$1.98	\$1.98	\$1.53	\$0.85
4-axle	\$6.93	\$5.36	\$2.47	\$6.93	\$5.36	\$2.47	\$2.97	\$2.30	\$1.06
5-axle	\$13.86	\$10.71	\$4.41	\$13.86	\$10.71	\$4.41	\$5.94	\$4.59	\$1.89
6-axle+	\$17.33	\$13.39	\$5.51	\$17.33	\$13.39	\$5.51	\$7.43	\$5.74	\$2.36

Time Periods:

Peak Period is defined as southbound from 6:00 to 9:00 AM Mon to Fri, northbound from 3:00 to 7:00 PM Mon to Fri, and both directions from 12:00 to 2:00 PM Sat and 2:00 to 5:00 PM Sun.

Off-Peak Period is defined as southbound from 5:00 to 6:00 AM/9:00 AM to 9:00 PM Mon to Fri, northbound from 5:00 AM to 3:00 PM/7:00 to 9:00 PM Mon to Fri, and both directions from 5:00 AM to 12:00 PM/2:00 to 9:00 PM Sat and 5:00 AM to 2:00 PM/5:00 to 9:00 PM Sunday.

Overnight is defined as 9:00 PM to 5:00 AM every day.

1.2.2 FY 2023 Temporary Business Rule Changes

On March 17, 2020 MDTA implemented systemwide cashless tolling until further notice like most other larger toll agencies in the United States that had the capability to do so. Permanent cashless tolling on all MDTA facilities was announced on August 6, 2020 to provide convenience for motorists, less engine idling for better fuel efficiency and reduced emissions, decreased congestion, and increased safety. Mailing of Notice of Toll Due (NOTD) video invoices was paused in March 2020 but was resumed in the fall of 2020. This resulted in a backlog of NOTD transactions. To assist customers having to pay these backlogged transactions, the MDTA board approved a customer assistance plan on February 24th, 2022 which was effective immediately. This plan included a civil penalty waiver grace period and ceased referring toll bills to the Central

Collection Unit (CCU) and MDOT Motor Vehicle Administration (MDOT MVA) temporarily. The customer assistance plan was terminated on December 14th, 2022.

While all these video invoices have been mailed, not all invoices have been paid after termination of the customer assistance plan. Collection of remaining unpaid backlog transactions are assumed to continue through FY 2024 after referral to CCU and MDOT MVA.

1.2.3 Upcoming Toll Rate Changes

New vehicle class toll rate categories are planned that include lower toll rates. These new classes are motorcycles and certain three and four-axle vehicles, specifically “light” vehicles towing one and two-axle trailers such as those towing watercraft or landscaping equipment. Motorcycles will pay a 50 percent lower toll than current two-axle rates. Three and four-axle light vehicles will pay 25 and 17 percent, respectively, lower toll than current three and four-axle rates. The assumed implementation schedule for the new toll rates is provided in the assumptions in Chapter 4.

Except for the changes listed in the previous paragraph, no other future toll rate changes were assumed in this MDTA system forecast for the forecasting period through FY 2033.

1.2.4 Civil Penalties

Due to the customer assistance plan discussed in 1.2.2, civil penalties were not assessed on unpaid video invoices until after the termination of the customer assistance plan. Assessment of the \$25 civil penalty resumed beginning December 1st, 2022 for all unpaid video transactions, including those from video invoices issued prior to the expiration of the customer assistance plan. Normal civil penalty collection is assumed for FY 2024 and the duration of the forecast period.

1.3 Report Structure

Chapter 2, Historical Traffic and Revenue Trends, provides a summary of historical trends and variations of traffic and revenue on the Legacy bridges, tunnels, and highways operated by the MDTA. Trends in different payment shares are also provided.

Chapter 3, Socioeconomic Review, provides a summary of the econometric modeling analysis that was performed as an input into this annual forecast update. This chapter documents how the modeling was performed and the output from the process.

Chapter 4, Forecasts by Facility, provides a summary of the underlying assumptions and methodology used in the traffic and revenue forecasting process. Also presented in this Chapter are the 10-year traffic and revenue forecasts by facility and vehicle class for each of the MDTA facilities, including forecasted other revenue.

Chapter 5, Total Forecast Results, summarizes the forecasts for the MDTA system.

Chapter 6, Forecast Comparisons, provides a comparison of the updated forecasts to previous forecasts for the MDTA facilities.

Chapter 2

Historical Trends

This chapter includes analysis of historical traffic, revenue, and payment type trends on the MDTA facilities. Analysis of traffic trends on other routes in Maryland is also provided for context. Recent historical data is especially important as an input to developing the updated forecast documented in this report.

2.1 Maryland Vehicle Miles Traveled

Vehicle miles traveled (VMT) trends were reviewed to better understand the general trends in traffic growth nationally and within Maryland. The Federal Highway Administration develops annual estimates of national and state-wide VMT by roadway type, which have been summarized in **Table 2-1** for years 2007 through 2021 for the United States (U.S.) and Maryland. Data was not yet available for 2022.

Total VMT growth trends for both Maryland and the U.S. have been generally similar during the Great Recession impacted years (2007 to 2009) and years following (2009 to 2019). In general, the trends indicate that total national and statewide Maryland VMT growth is similar. However, growth on Maryland's Interstate highways at 0.6 percent per annum has been much lower than the U.S. average of 1.5 percent per annum for the period between 2009 and 2019. Growth in the last decade on the Maryland interstate system is still occurring, albeit at a lower rate than the nation. The percent of total VMT occurring on Interstate routes has remained relatively constant throughout the past 13 years. Approximately 25 percent of national VMT and 30 percent of Maryland VMT are made on interstate routes, which account for 2.5 percent and 3.9 percent of all roads in the nation and Maryland, respectively. In 2020, due to travel restrictions and stay-at-home mandates from the COVID-19 pandemic, interstate VMT in the United States and Maryland declined by 13.1 and 19.1 percent, respectively. In 2021 interstate VMT increased by approximately 13 percent over 2020 levels in both the U.S. and Maryland. The U.S. interstate and total VMT in 2021 were still 1.6 percent below pre-pandemic levels of 2019. Maryland interstate and total VMT recovered to 4.3 and 3.0 percent below 2019 levels.

These trends in VMT since 2007 are different from pre-2007 long-term historical trends (not shown on this table). Before the mid-2000s, VMT had been growing regionally and nationally by about 2 percent per year. In the years following the Great Recession VMT growth was about half of this, at 0.9 percent nationally and 0.8 percent in Maryland. These changes are indicative of changes in travel driven by underlying socioeconomic factors in Maryland and the U.S. Similar to the changes observed after the Great Recession, the potential for long-term changes in travel due to the ongoing COVID-19 pandemic will continue to be closely monitored.

Table 2-1
National and Statewide Trends in Vehicle Miles Traveled

Calendar Year	United States ⁽¹⁾					Maryland				
	Interstate			Total		Interstate			Total	
	VMT (Millions)	Percent Change	Percent of Total	VMT (Millions)	Percent Change	VMT (Millions)	Percent Change	Percent of Total	VMT (Millions)	Percent Change
2007	745,457	-	24.4	3,049,027	-	17,015	-	30.1	56,503	-
2008	725,078	(2.7)	24.2	2,992,705	(1.8)	16,710	(1.8)	30.4	55,023	(2.6)
2009	722,655	(0.3)	24.3	2,975,804	(0.6)	16,965	1.5	30.7	55,293	0.5
2010	729,015	0.9	24.4	2,985,854	0.3	17,040	0.4	30.4	56,126	1.5
2011	725,787	(0.4)	24.4	2,968,990	(0.6)	16,964	(0.4)	30.2	56,221	0.2
2012	735,915	1.4	24.6	2,988,021	0.6	17,054	0.5	30.2	56,475	0.5
2013	745,106	1.2	24.8	3,006,911	0.6	17,064	0.1	30.1	56,688	0.4
2014	756,374	1.5	24.9	3,040,220	1.1	17,057	(0.0)	30.2	56,432	(0.5)
2015	782,111	3.4	25.1	3,109,937	2.3	17,102	0.3	29.7	57,516	1.9
2016	810,264	3.6	25.4	3,188,972	2.5	17,584	2.8	29.7	59,137	2.8
2017	824,910	1.8	25.6	3,227,358	1.2	17,937	2.0	29.9	59,892	1.3
2018	833,803	1.1	25.6	3,255,347	0.9	17,932	(0.0)	30.1	59,629	(0.4)
2019	842,604	1.1	25.7	3,276,482	0.6	18,059	0.7	30.0	60,136	0.9
2020	732,078	(13.1)	25.1	2,917,383	(11.0)	14,604	(19.1)	28.9	50,592	(15.9)
2021	815,183	11.4	25.9	3,146,281	7.8	16,545	13.3	29.2	56,601	11.9
Average Annual Percent Change										
2007 to 2009		(1.5)			(1.2)		(0.1)			(1.1)
2009 to 2019		1.5			1.0		0.6			0.8
2019 to 2021		(1.6)			(2.0)		(4.3)			(3.0)
2007-2020 VMT Data source: Table VM-2, Highway Statistics 1994-2020, USDOT FHWA Office of Policy Information. 2021 VMT Data source: Monthly Travel Volume Trends Reports, USDOT FHWA Office of Policy Information. 2022 data not available. ⁽¹⁾ Includes Puerto Rico.										

2.2 MDTA Traffic and Revenue Trends

2.2.1 Collected Transactions and Revenue

This section provides a review of the historical collected toll transaction/trip trends and toll revenue trends for each of the seven MDTA Legacy facilities, I-95 Express Toll Lanes (ETLs), and the Intercounty Connector (ICC). Toll revenue is the revenue that is collected by transponder or by various forms of video payment (and formerly by in-lane cash payment) for payment of published toll rates. Other revenue includes a combination of revenue collected and revenue deductions from unused Commuter Plan and Shoppers Plan trips, transponder fees and sales, the Hatem Bridge E-ZPass® program, violation recovery (civil penalties), and commercial vehicle fees and discounts (post-usage discount, high frequency discount, and over-sized permit fees). The historical transaction/trip and revenue trends by facility for passenger cars, commercial vehicles and total traffic are presented by fiscal year in **Table 2-2**, **Table 2-3**, and **Table 2-4**, respectively. The historical transaction/trip and revenue trends for total vehicles by facility are graphically presented in **Figure 2-1**.

Table 2-2
MDTA Passenger Car Historic Collected Transactions and Toll Revenue

Fiscal Year	Hattem Bridge		Kennedy Highway		Harbor Tunnel		Fort McHenry Tunnel		Key Bridge		Bay Bridge		Nice/Middleton Bridge		ICC ⁽¹⁾		I-95 ETL ⁽¹⁾	
	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change
Passenger Car Transactions (in millions)																		
2007	5,286	-	12,874	-	24,891	-	40,945	-	10,970	-	12,409	-	3,112	-	-	-	-	-
2008	5,296	0.2	12,722	(1.2)	24,921	0.1	40,879	(0.2)	11,093	1.1	12,312	(0.8)	3,107	(0.2)	-	-	-	-
2009	4,942	(6.7)	12,794	0.6	24,795	(0.5)	39,851	(2.5)	10,601	(4.4)	11,902	(3.3)	3,097	(0.3)	-	-	-	-
2010	4,890	(1.1)	12,977	1.4	24,553	(1.0)	40,583	1.8	9,953	(6.1)	12,093	1.6	3,134	1.2	-	-	-	-
2011	4,961	1.4	13,565	4.5	25,397	3.4	42,704	5.2	10,587	6.4	12,608	4.3	3,181	1.5	-	-	-	-
2012	4,884	(1.5)	13,154	(3.0)	25,113	(1.1)	41,103	(3.7)	10,048	(5.1)	12,766	1.3	3,100	(2.5)	-	-	-	-
2013	4,391	(10.1)	12,912	(1.8)	23,414	(6.8)	40,116	(2.4)	9,982	(0.7)	11,865	(7.1)	3,071	(0.9)	-	-	-	-
2014	4,779	8.8	12,690	(1.7)	24,325	3.9	38,290	(4.6)	9,427	(5.6)	11,878	0.1	3,040	(1.0)	-	-	-	-
2015	5,064	6.0	13,022	2.6	26,517	9.0	38,353	0.2	9,632	2.2	12,008	1.1	3,095	1.8	-	-	-	-
2016	4,880	(3.6)	13,401	2.9	27,653	4.3	38,876	1.4	10,185	5.7	12,398	3.2	3,172	2.5	-	-	-	-
2017	4,893	0.3	13,745	2.6	26,974	(2.5)	41,381	6.4	10,257	0.7	12,692	2.4	3,209	1.2	31,758	-	8,614	-
2018	4,881	(0.2)	13,576	(1.2)	27,327	1.3	40,546	(2.0)	10,330	0.7	12,631	(0.5)	3,123	(2.7)	33,433	5.3	8,915	3.5
2019	4,869	(0.2)	13,316	(1.9)	20,254	(25.9)	43,955	8.4	11,674	13.0	12,706	0.6	3,104	(0.6)	35,231	5.4	9,331	4.7
2020	4,182	(14.1)	10,669	(19.9)	13,709	(32.3)	38,242	(32.3)	10,793	(7.5)	10,723	(15.6)	2,571	(17.2)	31,850	(9.6)	7,341	(21.3)
2021	2,868	(31.4)	7,287	(31.7)	11,489	(16.2)	25,709	(32.8)	7,490	(30.6)	7,799	(27.3)	1,591	(38.1)	10,947	(65.6)	4,840	(34.1)
2022	4,207	46.7	13,419	84.1	25,065	118.2	38,186	48.5	10,636	42.0	13,580	74.1	3,049	91.7	40,030	265.7	8,321	71.9
2023	4,216	0.2	13,023	(3.0)	27,013	7.8	37,787	(1.0)	11,085	4.2	12,984	(4.4)	2,926	(4.0)	33,132	(17.2)	8,308	(0.2)
Passenger Car Revenue (in millions of dollars)																		
2007	1,119	-	58,915	-	29,926	-	56,924	-	10,805	-	24,652	-	7,154	-	-	-	-	-
2008	1,242	11.1	58,013	(1.5)	30,320	1.3	56,381	(1.0)	10,822	0.2	24,452	(0.8)	7,055	(1.4)	-	-	-	-
2009	1,255	1.0	58,467	0.8	30,840	1.7	55,224	(2.1)	10,512	(2.9)	23,740	(2.9)	7,020	(0.5)	-	-	-	-
2010	1,468	16.9	59,246	1.3	31,141	1.0	57,211	3.6	10,299	(2.0)	24,510	3.2	7,190	2.4	-	-	-	-
2011	1,622	10.5	59,906	1.1	31,856	2.3	58,288	1.9	10,658	3.5	25,105	2.4	7,233	0.6	-	-	-	-
2012	2,354	45.1	67,640	12.9	42,558	33.6	75,089	28.8	13,800	29.5	31,786	26.6	8,589	18.7	-	-	-	-
2013	3,993	69.6	73,602	8.8	46,871	10.1	87,559	16.6	16,450	19.2	36,113	13.6	9,577	11.5	-	-	-	-
2014	5,007	25.4	94,931	29.0	69,466	48.2	114,982	31.3	22,863	39.0	54,346	50.5	14,616	52.6	-	-	-	-
2015	5,113	2.1	97,301	2.5	77,033	10.9	115,294	0.3	24,330	6.4	55,630	2.4	15,198	4.0	-	-	-	-
2016	5,279	3.2	98,677	1.4	80,650	4.7	115,994	0.6	24,474	0.6	35,598	(36.0)	15,156	(0.3)	54,197	-	10,054	-
2017	5,619	6.5	101,363	2.7	80,207	(0.5)	124,262	7.1	25,478	4.1	36,562	2.7	15,419	1.7	58,795	8.5	10,765	7.1
2018	5,215	(7.2)	100,008	(1.3)	81,602	1.7	121,604	(2.1)	25,670	0.8	36,294	(0.7)	14,947	(3.1)	61,320	4.3	11,055	2.7
2019	5,298	1.6	97,883	(2.1)	61,575	(24.5)	132,376	8.9	29,335	14.3	36,714	1.2	14,897	(0.3)	62,688	2.2	11,529	4.3
2020	4,852	(8.4)	77,730	(20.6)	40,715	(33.9)	113,816	(14.0)	26,513	(9.6)	30,174	(17.8)	12,012	(19.4)	51,830	(17.3)	8,820	(23.5)
2021	3,377	(30.4)	52,666	(32.2)	32,941	(19.1)	74,337	(34.7)	18,388	(30.6)	20,418	(32.3)	7,279	(39.4)	18,781	(63.8)	5,873	(33.4)
2022	9,278	174.7	103,954	97.4	83,449	153.3	125,465	68.8	30,784	67.4	43,499	113.0	16,577	127.8	74,373	296.0	10,631	81.0
2023	6,652	(28.3)	99,059	(4.7)	87,269	4.6	120,463	(4.0)	30,822	0.1	39,486	(9.2)	15,169	(8.5)	62,638	(15.8)	10,443	(1.8)

⁽¹⁾ Data for the ICC and I-95 ETL are presented beginning in FY 2017 for trips and FY 2016 for revenue due to vehicle class availability in data reporting. ICC transactions reported are trips.

Table 2-3
MDTA Commercial Vehicle Historic Collected Transactions and Toll Revenue

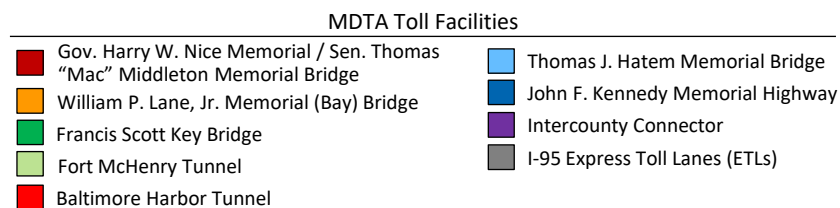
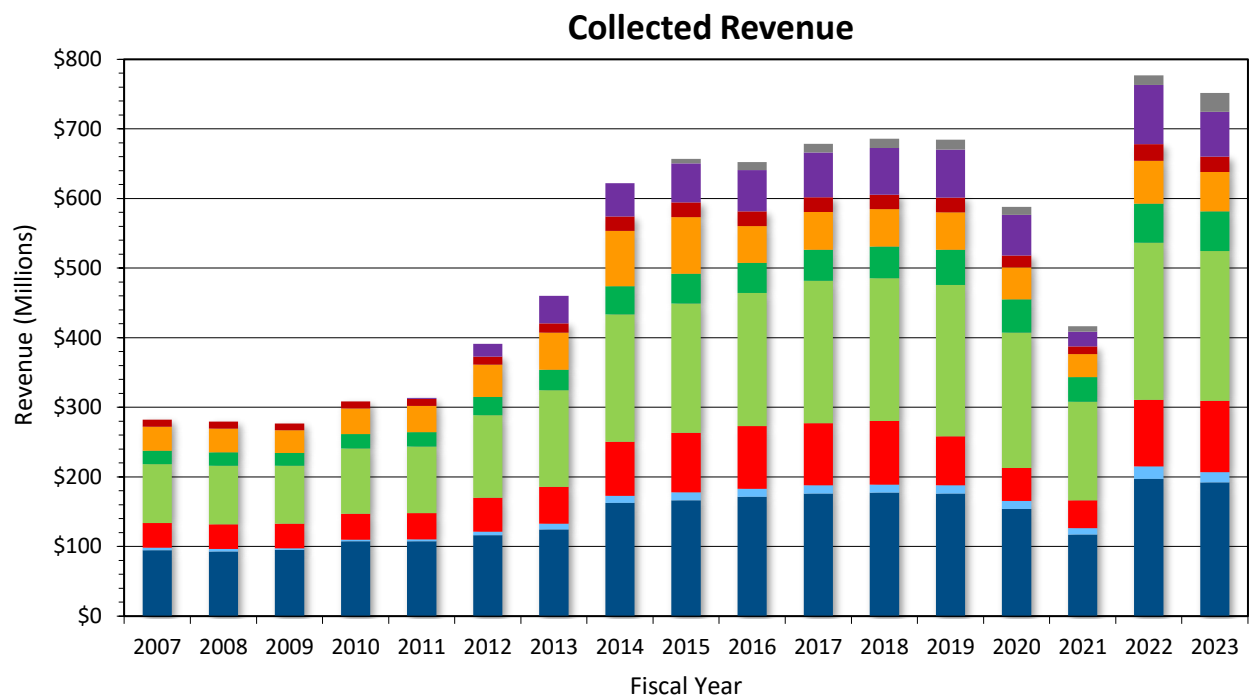
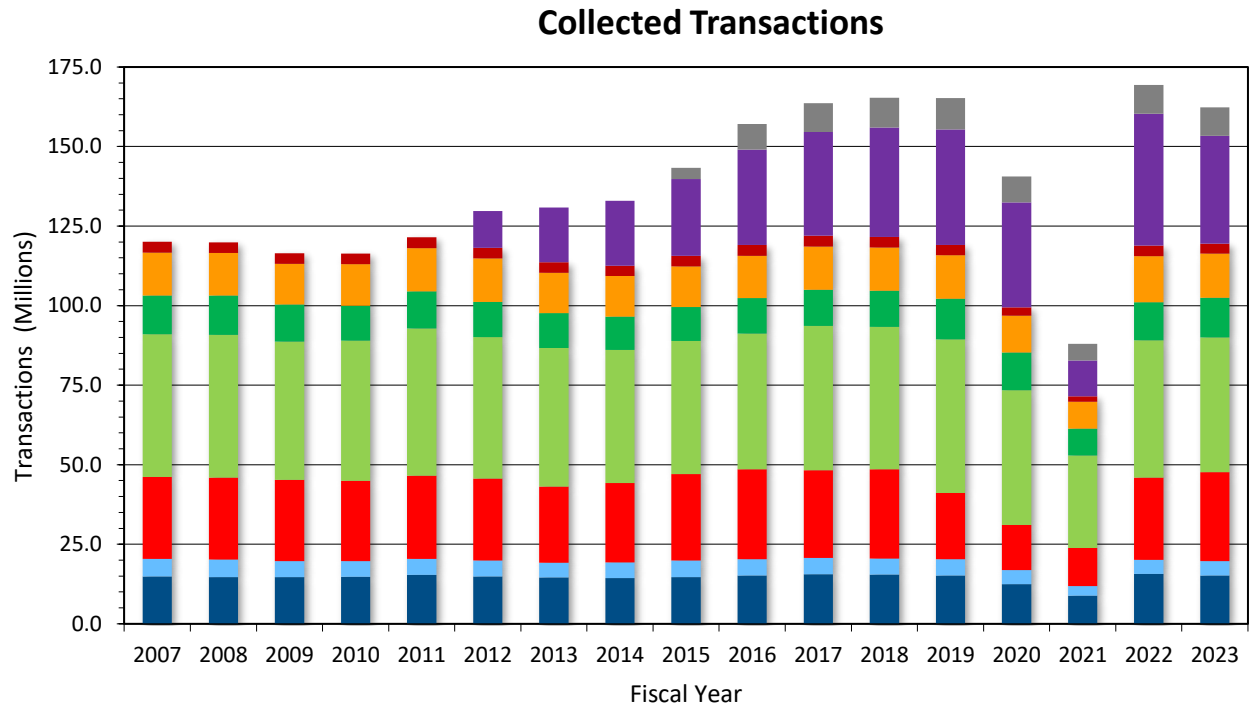
Fiscal Year	Hattem Bridge		Kennedy Highway		Harbor Tunnel		Fort McHenry Tunnel		Key Bridge		Bay Bridge		Nice/Middleton Bridge		ICC ⁽¹⁾		I-95 ETL ⁽¹⁾	
	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change
Commercial Vehicle Transactions (in millions)																		
2007	0.276	-	1.966	-	0.849	-	3.909	-	1.233	-	1.086	-	0.306	-	-	-	-	-
2008	0.260	(5.6)	1.930	(1.8)	0.850	0.1	3.950	1.1	1.250	1.3	1.058	(2.5)	0.284	(7.3)	-	-	-	-
2009	0.098	(62.1)	1.848	(4.2)	0.739	(13.1)	3.595	(9.0)	1.087	(13.0)	0.850	(19.7)	0.250	(12.0)	-	-	-	-
2010	0.103	4.9	1.773	(4.1)	0.672	(9.0)	3.480	(3.2)	1.006	(7.5)	0.901	6.0	0.220	(12.1)	-	-	-	-
2011	0.110	6.3	1.810	2.1	0.720	7.1	3.590	3.2	1.060	5.4	0.950	5.4	0.220	0.1	-	-	-	-
2012	0.150	36.6	1.670	(7.7)	0.637	(11.6)	3.420	(4.7)	1.000	(5.7)	0.900	(5.3)	0.190	(13.6)	-	-	-	-
2013	0.172	15.0	1.670	-	0.558	(12.3)	3.460	1.2	0.940	(6.0)	0.871	(3.2)	0.190	-	-	-	-	-
2014	0.169	(1.8)	1.687	1.0	0.568	1.6	3.586	3.6	0.993	5.6	0.881	1.1	0.203	7.0	-	-	-	-
2015	0.182	7.3	1.668	(1.1)	0.580	2.2	3.494	(2.6)	0.995	0.2	0.847	(3.8)	0.211	3.5	-	-	-	-
2016	0.210	15.6	1.762	5.7	0.633	9.1	3.763	7.7	1.010	1.5	0.874	3.2	0.209	(0.6)	-	-	-	-
2017	0.210	(0.2)	1.803	2.3	0.639	0.8	3.999	6.3	1.054	4.4	0.895	2.4	0.210	0.5	-	-	-	-
2018	0.205	(2.3)	1.875	4.0	0.685	7.3	4.174	4.4	1.096	3.9	0.887	(0.8)	0.203	(3.7)	0.968	10.6	0.478	19.5
2019	0.220	7.3	1.889	0.7	0.585	(14.6)	4.292	2.8	1.153	5.2	0.887	(0.1)	0.211	4.0	1.056	9.1	0.538	12.5
2020	0.212	(3.7)	1.830	(3.1)	0.459	(21.5)	4.055	(5.5)	1.142	(0.9)	0.824	(7.1)	0.183	(13.3)	1.096	3.8	0.448	(16.6)
2021	0.185	(12.8)	1.542	(15.8)	0.442	(3.7)	3.328	(17.9)	0.947	(17.1)	0.656	(20.3)	0.123	(32.5)	0.378	(65.5)	0.362	(19.3)
2022	0.268	45.2	2.229	44.6	0.793	79.3	4.888	46.9	1.354	43.0	0.928	41.4	0.252	104.1	1.431	278.4	0.679	87.8
2023	0.252	(6.1)	2.187	(1.9)	0.942	18.8	4.619	(5.5)	1.368	1.0	0.875	(5.8)	0.231	(8.2)	0.992	(30.7)	0.680	0.2
Commercial Vehicle Revenue (in millions)																		
2007	2.699	-	35.704	-	5.183	-	27.761	-	8.437	-	9.741	-	3.277	-	-	-	-	-
2008	2.652	(1.7)	34.695	(2.8)	5.007	(3.4)	27.652	(0.4)	8.586	1.8	9.427	(3.2)	3.024	(7.7)	-	-	-	-
2009	0.811	(69.4)	36.671	5.7	4.770	(4.7)	27.746	0.3	8.051	(6.2)	8.770	(7.0)	2.750	(9.1)	-	-	-	-
2010	1.145	41.2	48.103	31.2	5.869	23.0	36.809	32.7	10.238	27.2	12.284	40.1	2.956	7.5	-	-	-	-
2011	1.197	4.5	47.484	(1.3)	5.995	2.1	37.029	0.6	10.117	(1.2)	12.512	1.9	2.916	(1.4)	-	-	-	-
2012	2.896	142.0	48.370	1.9	6.176	3.0	43.730	18.1	12.020	18.8	14.956	19.5	3.011	3.3	-	-	-	-
2013	3.972	37.2	51.104	5.7	6.203	0.5	51.125	16.9	13.170	9.6	17.263	15.4	3.588	19.1	-	-	-	-
2014	5.168	30.1	67.872	32.8	8.093	30.5	68.147	33.3	17.396	32.1	25.410	47.2	5.781	61.1	-	-	-	-
2015	6.076	17.6	69.234	2.0	8.505	5.1	70.486	3.4	18.645	7.2	25.529	0.5	6.214	7.5	-	-	-	-
2016	6.524	7.4	72.499	4.7	9.222	8.4	75.293	6.8	18.805	0.9	17.193	(32.7)	6.047	(2.7)	5.116	-	1.331	-
2017	6.468	(0.9)	74.448	2.7	9.254	0.3	79.920	6.1	19.464	3.5	17.399	1.2	6.046	(0.0)	5.522	7.9	1.713	28.7
2018	6.368	(1.6)	77.192	3.7	9.786	5.8	83.458	4.4	20.208	3.8	17.136	(94.9)	5.794	(4.2)	6.190	12.1	2.093	22.2
2019	6.874	8.0	78.103	1.2	8.690	(11.2)	85.073	1.9	21.196	4.9	17.030	(0.1)	6.072	4.8	6.627	7.1	2.392	14.3
2020	6.534	(5.0)	76.356	(2.2)	6.794	(21.8)	80.530	(5.3)	21.036	(0.8)	15.823	(7.1)	5.307	(12.6)	6.312	(4.8)	1.931	(19.3)
2021	5.806	(11.1)	64.566	(15.4)	6.906	1.6	67.193	(16.6)	17.360	(17.5)	12.625	(20.2)	3.532	(33.4)	2.532	(59.9)	1.880	(2.7)
2022	8.975	54.6	93.030	44.1	12.226	77.0	100.144	49.0	25.071	44.4	18.117	41.4	7.512	112.7	10.529	315.8	3.459	84.0
2023	8.348	(7.0)	92.890	(0.2)	14.928	22.1	95.041	(5.1)	25.968	3.6	16.948	(5.8)	6.890	(8.3)	7.513	(28.6)	3.513	1.6

⁽¹⁾ Data for the ICC and I-95 ETL are presented beginning in FY 2017 for trips and FY 2016 for revenue due to vehicle class availability in data reporting. ICC transactions reported are trips.

Table 2-4
MDTA Total Traffic Historic Collected Transactions and Toll Revenue

Fiscal Year	Hattem Bridge		Kennedy Highway		Harbor Tunnel		Fort McHenry Tunnel		Key Bridge		Bay Bridge		Nice/Middleton Bridge		ICC ⁽¹⁾		I-95 ETL	
	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change
Total Transactions (in millions)																		
2007	5.561	-	14.840	-	25.740	-	44.854	-	12.203	-	13.494	-	3.418	-	-	-	-	-
2008	5.556	(0.1)	14.652	(1.3)	25.771	0.1	44.829	(0.1)	12.343	1.1	13.370	(0.9)	3.391	(0.8)	-	-	-	-
2009	5.040	(9.3)	14.642	(0.1)	25.534	(0.9)	43.446	(3.1)	11.688	(5.3)	12.752	(4.6)	3.347	(1.3)	-	-	-	-
2010	4.993	(0.9)	14.750	0.7	25.226	(1.2)	44.063	1.4	10.959	(6.2)	12.994	1.9	3.354	0.2	-	-	-	-
2011	5.070	1.5	15.375	4.2	26.117	3.5	46.294	5.1	11.647	6.3	13.558	4.3	3.401	1.4	-	-	-	-
2012	5.034	(0.7)	14.824	(3.6)	25.750	(1.4)	44.523	(3.8)	11.048	(5.1)	13.666	0.8	3.290	(3.3)	-	-	-	-
2013	4.563	(9.4)	14.582	(1.6)	23.973	(6.9)	43.576	(2.1)	10.922	(1.1)	12.736	(6.8)	3.261	(0.9)	17.198	48.7	-	-
2014	4.948	8.4	14.377	(1.4)	24.893	3.8	41.875	(3.9)	10.419	(4.6)	12.759	0.2	3.243	(0.6)	20.476	19.1	-	-
2015	5.246	6.0	14.690	2.2	27.098	8.9	41.847	(0.1)	10.627	2.0	12.856	0.8	3.305	1.9	24.118	17.8	3.483	-
2016	5.090	(3.0)	15.163	3.2	28.287	4.4	42.639	1.9	11.195	5.3	13.272	3.2	3.381	2.3	29.975	24.3	8.048	131.0
2017	5.102	0.2	15.548	2.5	27.612	(2.4)	45.380	6.4	11.311	1.0	13.587	2.4	3.419	1.1	32.634	8.9	9.014	12.0
2018	5.086	(0.3)	15.451	(0.6)	28.012	1.4	44.720	(1.5)	11.425	1.0	13.518	(0.5)	3.325	(2.8)	34.401	5.4	9.393	4.2
2019	5.089	0.1	15.205	(1.6)	20.839	(25.6)	48.247	7.9	12.827	12.3	13.593	0.5	3.315	(0.3)	36.287	5.5	9.868	5.1
2020	4.394	(13.6)	12.499	(17.8)	14.168	(32.0)	42.297	(12.3)	11.935	(6.9)	11.547	(15.1)	2.753	(16.9)	32.946	(9.2)	7.789	(21.1)
2021	3.052	(30.5)	8.829	(29.4)	11.931	(15.8)	29.037	(31.3)	8.437	(29.3)	8.456	(26.8)	1.714	(37.8)	11.325	(65.6)	5.202	(33.2)
2022	4.475	46.6	15.648	77.2	25.858	116.7	43.074	48.3	11.990	42.1	14.508	71.6	3.301	92.6	41.461	266.1	9.000	73.0
2023	4.468	(0.2)	15.210	(2.8)	27.955	8.1	42.406	(1.6)	12.453	3.9	13.859	(4.5)	3.157	(4.4)	34.124	(17.7)	8.988	(0.1)
Total Revenue (in millions of dollars)																		
2007	3.817	-	94.619	-	35.109	-	84.685	-	19.243	-	34.393	-	10.432	-	-	-	-	-
2008	3.894	2.0	92.707	(2.0)	35.328	0.6	84.032	(0.8)	19.408	0.9	33.879	(1.5)	10.079	(3.4)	-	-	-	-
2009	2.066	(46.9)	95.138	2.6	35.610	0.8	82.970	(1.3)	18.563	(4.4)	32.510	(4.0)	9.770	(3.1)	-	-	-	-
2010	2.613	26.5	107.349	12.8	37.010	3.9	94.020	13.3	20.537	10.6	36.794	13.2	10.146	3.8	-	-	-	-
2011	2.819	7.9	107.390	0.0	37.851	2.3	95.316	1.4	20.775	1.2	37.617	2.2	10.149	0.0	1.474	-	-	-
2012	5.250	86.2	116.010	8.0	48.734	28.8	118.819	24.7	25.820	24.3	46.742	24.3	11.601	14.3	18.063	1,125.4	-	-
2013	7.966	51.7	124.706	7.5	53.074	8.9	138.684	16.7	29.619	14.7	53.376	14.2	13.165	13.5	39.586	119.2	-	-
2014	10.174	27.7	162.803	30.5	77.559	46.1	183.130	32.0	40.260	35.9	79.756	49.4	20.397	54.9	48.029	21.3	-	-
2015	11.189	10.0	166.535	2.3	85.538	10.3	185.780	1.4	42.975	6.7	81.159	1.8	21.412	5.0	56.018	16.6	6.146	-
2016	11.803	5.5	171.176	2.8	89.872	5.1	191.287	3.0	43.279	0.7	52.791	(35.0)	21.203	(1.0)	59.312	5.9	11.385	85.3
2017	12.087	2.4	175.811	2.7	89.461	(0.5)	204.182	6.7	44.942	3.8	53.960	2.2	21.465	1.2	64.317	8.4	12.478	9.6
2018	11.582	(4.2)	177.199	0.8	91.388	2.2	205.063	0.4	45.878	2.1	53.429	(1.0)	20.741	(3.4)	67.511	5.0	13.148	5.4
2019	12.172	5.1	175.987	(0.7)	70.265	(23.1)	217.449	6.0	50.531	10.1	53.744	0.6	20.968	1.1	69.316	2.7	13.921	5.9
2020	11.386	(6.5)	154.086	(12.4)	47.509	(32.4)	194.346	(10.6)	47.549	(5.9)	45.997	(14.4)	17.319	(17.4)	58.142	(16.1)	10.751	(22.8)
2021	9.184	(19.3)	117.231	(23.9)	39.847	(16.1)	141.531	(27.2)	35.748	(24.8)	33.042	(28.2)	10.811	(37.6)	21.313	(63.3)	7.753	(27.9)
2022	18.253	98.8	196.984	68.0	95.675	140.1	225.610	59.4	55.855	56.2	61.615	86.5	24.089	122.8	84.903	298.4	14.090	81.7
2023	15.000	(17.8)	191.949	(2.6)	102.197	6.8	215.504	(4.5)	56.790	1.7	56.434	(8.4)	22.059	(8.4)	70.151	(17.4)	13.956	(0.9)

⁽¹⁾ ICC transactions reported are trips.



**HISTORICAL COLLECTED TRANSACTIONS
AND COLLECTED TOLL REVENUE BY FACILITY**

Table 2-5 summarizes the average annual percent change in passenger car and commercial vehicle transactions and revenue trends by facility during the Great Recession years (FY 2007 to 2009) and post-recession years (FY 2009 to 2019) for the Legacy facilities based on the data provided in **Table 2-2** and **Table 2-3**. For all facilities, including the ICC and I-95 ETL, average annual percent change in passenger car and commercial vehicles transactions/trips and revenue are shown for the period from 2017 to 2019 due to data by vehicle class availability for the ICC and I-95 ETLs. FY 2019 to 2023 is shown for all facilities to show the period impacted by the COVID-19 pandemic, cashless conversion, and back-office transition.

Table 2-5
Average Annual Percent Change in Collected Transactions and Revenue by Facility

Fiscal Year	Hattem Bridge	Kennedy Highway	Harbor Tunnel	Fort McHenry Tunnel	Key Bridge	Bay Bridge	Nice/Middleton Bridge	ICC ⁽¹⁾	I-95 ETL ⁽¹⁾
Passenger Car Transactions (in millions)									
2007 to 2009	(3.3)	(0.3)	(0.2)	(1.3)	(1.7)	(2.1)	(0.2)	-	-
2009 to 2019	(0.1)	0.4	(2.0)	1.0	1.0	0.7	0.0	-	-
2017 to 2019	(0.2)	(1.6)	(13.3)	3.1	6.7	0.1	(1.6)	5.3	4.1
2019 to 2023	(3.5)	(0.6)	7.5	(3.7)	(1.3)	0.5	(1.5)	(1.5)	(2.9)
Passenger Car Revenue (in millions of dollars)									
2007 to 2009	14.8	(1.0)	3.8	(3.8)	(3.4)	(4.7)	(2.4)	-	-
2009 to 2019	38.7	13.2	17.9	22.8	27.0	11.1	19.5	-	-
2017 to 2019	(2.9)	(1.7)	(12.4)	3.2	7.3	0.2	(1.7)	3.3	3.5
2019 to 2023	5.9	0.3	9.1	(2.3)	1.2	1.8	0.5	(0.0)	(2.4)
Commercial Vehicle Transactions (in millions)									
2007 to 2009	(40.2)	(3.0)	(6.7)	(4.1)	(6.1)	(11.5)	(9.7)	-	-
2009 to 2019	8.4	0.2	(2.3)	1.8	0.6	0.4	(1.7)	-	-
2017 to 2019	2.4	2.3	(4.3)	3.6	4.6	(0.4)	0.1	9.8	16.0
2019 to 2023	3.5	3.7	12.6	1.9	4.4	(0.3)	2.3	(1.6)	6.1
Commercial Vehicle Revenue (in millions of dollars)									
2007 to 2009	(112.9)	3.4	(10.2)	(0.1)	(5.8)	(12.8)	(21.0)	-	-
2009 to 2019	59.6	19.6	15.5	29.6	25.4	17.2	20.6	-	-
2017 to 2019	3.1	2.4	(3.1)	3.2	4.4	(1.1)	0.2	9.6	18.2
2019 to 2023	5.0	4.4	14.5	2.8	5.2	(0.1)	3.2	3.2	10.1

⁽¹⁾ AAPC for ICC and I-95 ETL transactions/trips and revenue presented beginning FY 2017 due to vehicle class data availability.

As shown in **Table 2-5**, between FY 2007 and FY 2009, the passenger car transactions decreased on all seven legacy facilities. The smallest decrease in passenger car transactions during this period was 0.2 percent per annum on the Harbor Tunnel and Nice/Middleton Bridge. The commercial vehicle transactions decreased significantly between FY 2007 and FY 2009 on all the legacy facilities, with the largest decrease of 40.2 percent per annum on the Hattem Bridge. Following these decreases associated with the Great Recession, continued economic uncertainty and several toll increases resulted in the total Legacy system transactions decreasing by 3.4 percent from 116.5 million in FY 2009 to 112.5 million in FY 2014. Due to the toll increases, the Legacy system revenue grew from about 277 million in FY 2009 to 595 million in FY 2015. Total transactions increased by 2.8 percent in FY 2015 reaching FY 115.7 million, mostly due to the high growth on Hattem Bridge and Baltimore Harbor Tunnel, where transactions increased by 6.0

percent and 8.9 percent respectively, compared to FY 2014. The revenue decreased in FY 2016 by 2.2 percent due to the toll decrease implemented on July 1, 2015. The traffic increases between FY 2015 and FY 2017 on the system were the result of strong economic performance and the FY 2016 toll decrease. This upward trend came to an end in FY 2018, when the system transactions decreased by 0.3 percent. In FY 2019, the transactions decreased further by 2.0 percent, driven especially by the 25.6 drop in transactions on the Baltimore Harbor Tunnel due to construction. Revenue followed a similar trend decreasing by 2.1 percent and 0.7 percent in FY 2018 and FY 2019 respectively. Overall, between FY 2009 and FY 2019, the total legacy system transactions increased by 0.2 percent per annum and revenue increased by 7.8 per annum. Beginning in March 2020, the COVID-19 pandemic caused significant reductions in traffic on the MDTA system. This caused the FY 2020 Legacy system transaction to decrease by 16.4 percent and revenue to decrease by 13.8 percent compared to FY 2019. In FY 2021, ongoing pandemic impacts, back office transition collection issues, and the conversion to cashless tolling have caused a further 28.3 percent decline in transactions over FY 2020. In FY 2022, transactions and revenue increased by 66.3 and 75.0 percent, respectively, over the prior year. This is due to ongoing COVID-19 recovery as well as collections on transactions from previous years due to the business rule changes. In FY 2023, the Legacy system transactions increased by 0.5 percent and revenue decreased by 2.7, a result of fewer transactions collected from prior years after termination of the customer assistance plan.

For the Intercounty Connector, tolling began on the second segment of the ICC from MD-97/Georgia Avenue to I-95 in FY 2012, making FY 2013 the first full fiscal year of I-370 to I-95 operations on the ICC. Trips then increased by 19.1 percent in FY 2014. This was due primarily to facility “ramp-up,” when motorists adjust their travel patterns over time as they become aware of a new facility and the benefits that it offers over their current route of travel. This ramp-up period continued into FY 2015, with a 17.8 percent growth in trips and a 16.6 percent growth in toll revenue. FY 2015 growth also included the opening of the final segment of the ICC in November 2014; a 1.53-mile extension on the eastern end between I-95 and US 1. Trips in FY 2016 grew at a faster rate than FY 2015, which can be attributed in part to the toll reduction implemented on July 1, 2015. Toll revenue for FY 2016 was 5.9 percent higher than FY 2015, which reflects continued robust growth in trips offset in part by the negative revenue impact of the lower tolls. Trips growth for FY 2017 was strong at 8.9 percent. While FY 2018 and FY 2019 had trip growth around 5.5 percent. This strong growth is likely due to increasing regional population and employment as well as the ICC serving as a congestion relief route. As was seen with the Legacy facilities, due to the COVID-19 pandemic, there was a 9.2 decrease in trips and 16.1 percent decrease in revenue in FY 2020 compared to FY 2019. FY 2021 transactions and revenue were 65.6 and 63.3 percent lower than FY 2020, respectively, due to ongoing pandemic impacts, back office transition collection issues, and the conversion to cashless tolling. In FY 2022 transactions and revenue nearly tripled over FY 2021 due to processing of transactions from the previous fiscal years as well as some recovery from COVID-19 traffic impacts. In FY 2023, transactions and revenue decreased by around 17 percent, resulting from lower collections on transactions from prior years after termination of the customer assistance plan.

The I-95 ETLs opened in FY 2015, and FY 2016 was the first full fiscal year of operations. In FY 2017, transactions and revenue on the ETLs increased by 12.0 percent and 9.6 percent, respectively, compared to FY 2016. This was due primarily to facility ramp-up, the phenomenon

that occurs with the opening of a new facility as explained above. This growth continued in FY 2018 and FY 2019, when transactions increased by 4.2 percent and 5.1 percent, respectively, over their previous years. Revenue grew at slightly higher levels than transactions with a 5.4 percent growth in FY 2018 and 5.9 percent growth in FY 2019. Due to COVID-19 pandemic, FY 2020 transactions and revenue decreased significantly by 21.1 percent and 22.8 percent, respectively, compared to FY 2019. Ongoing pandemic impacts, back-office transition collection issues, and the conversion to cashless tolling, caused FY 2021 transactions to be 33.2 percent lower than FY 2020 and revenue to be 27.9 percent lower. In FY 2022, transactions and revenue were 73 and 81.7 percent higher than FY 2021, respectively. Whereas, in FY 2023, transactions decreased by 0.1 percent and revenue decreased by 0.9 percent.

2.2.2 In-Lane Traffic

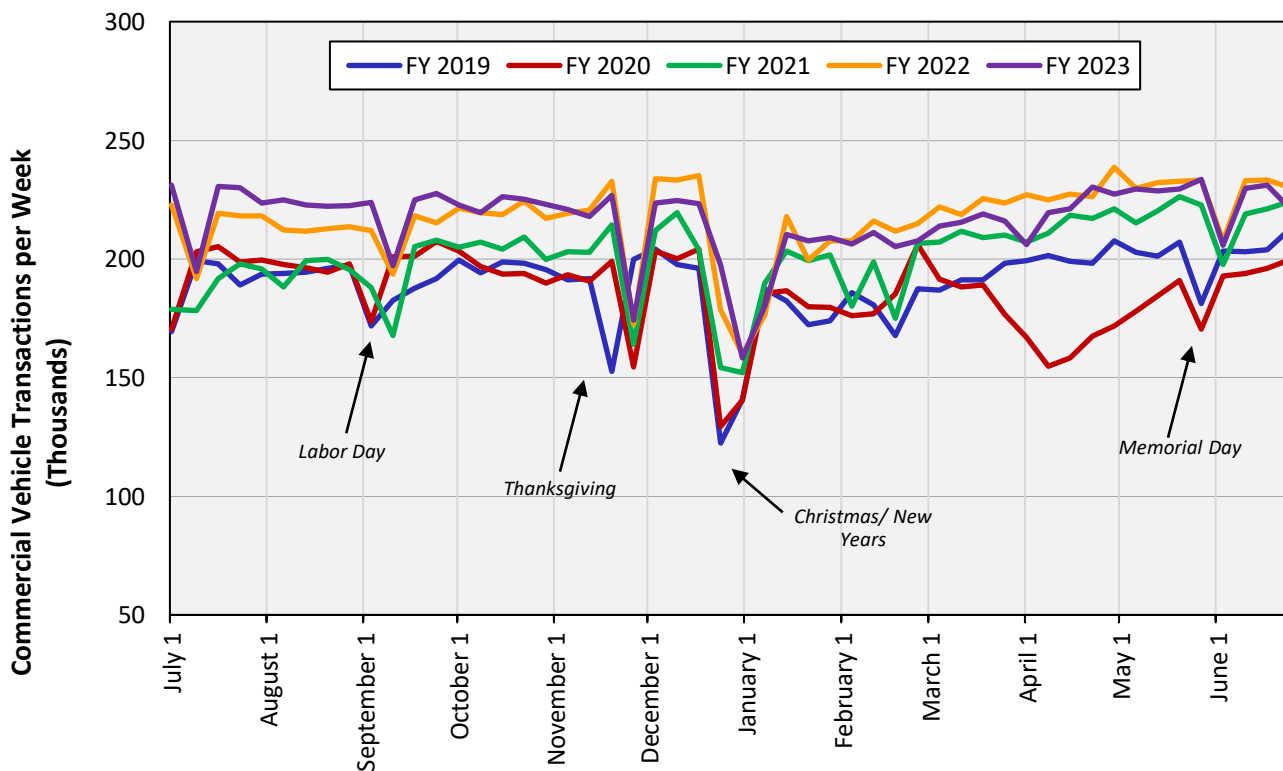
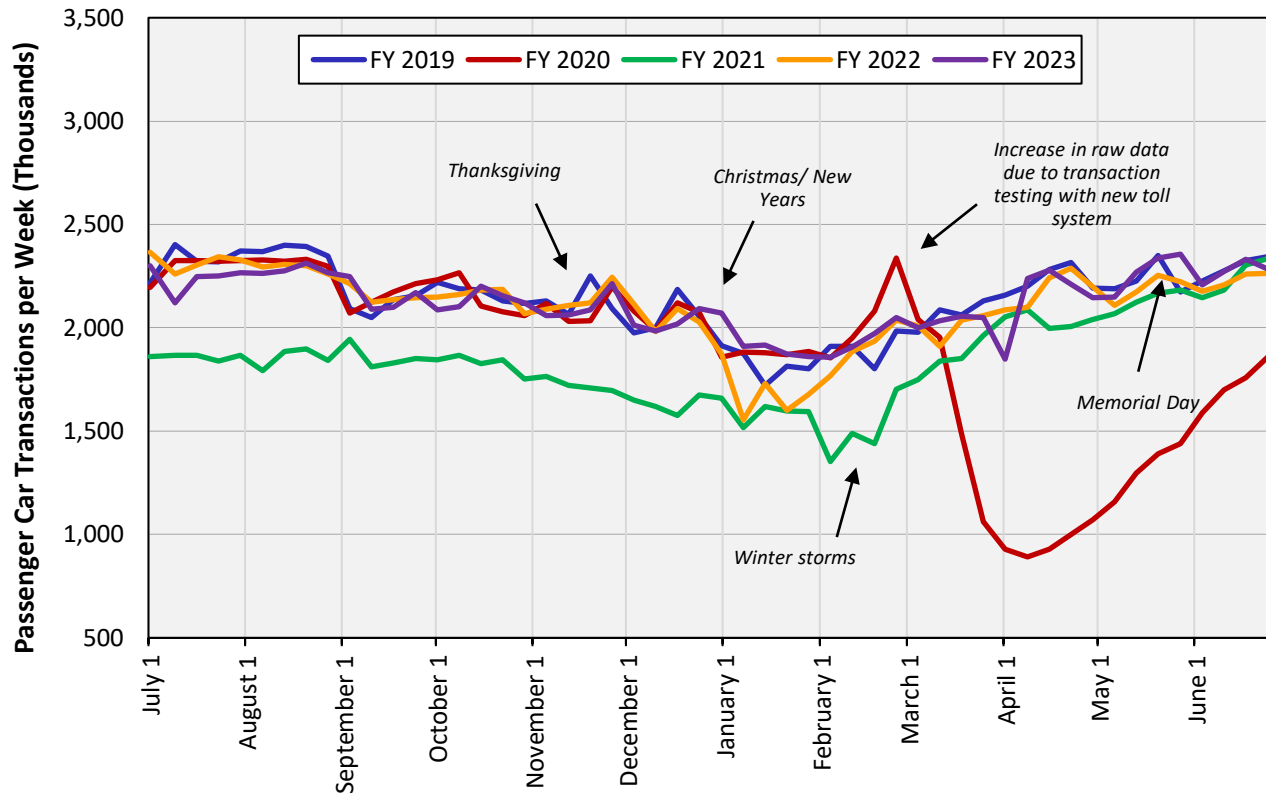
This section provides a brief review of the historical raw in-lane traffic trends for each of the seven MDTA Legacy facilities, I-95 ETLs, and the ICC. Data shown is for traffic at the toll gantry locations. Data for the ICC, which has several toll gantries, is shown as the total in-lane traffic at all toll gantries. This data allows analysis of traffic trends without the impacts of recent collection related challenges. **Table 2-6** summarizes this data annually for FY 2019 through FY 2023 for passenger cars and commercial vehicles.

Considering FY 2020 had just three and a half months of COVID-19 impacted travel, FY 2021 made a strong recovery over FY 2020 particularly on the Kennedy Highway and the Bay Bridge for passenger cars. Due to the completion of construction on the Harbor Tunnel, passenger car traffic has increased significantly over FY 2020 and has pulled some traffic back that had diverted to the Fort McHenry and Francis Scott Key Bridge. Commercial vehicle traffic has made a strong recovery and experienced significant growth over FY 2020 for all Legacy facilities. In FY 2022, all facilities had positive growth over FY 2021 with the Kennedy Highway, Bay Bridge, and Nice Bridge maintaining higher growth than the other facilities. In FY 2023, all facilities had positive growth, excluding the Hatem Bridge and Fort McHenry Tunnel which both decreased by around one percent for total vehicles.

The ICC and I-95 ETLs have not recovered at the same pace as the Legacy facilities due to their larger commuting share of traffic and the congestion relief nature of these two facilities. This sector of traffic dropped significantly as remote working increased during the pandemic. Due to this, the ICC declined by 13.8 percent year-over-year in both FY 2020 and FY 2021 for passenger cars. The I-95 ETLs fared worse in FY 2021 and declined by almost 21 percent, compared to a decline of 17.5 percent in FY 2020. In FY 2022, the ICC and ETLs had positive growth of 24.2 and 34.4 percent, respectively, for passenger cars. Commercial vehicles make up a very small portion of traffic on both of these facilities, but similar to the Legacy facilities they showed less impact due to COVID-19 in FY 2020 and were recovered to 2019 levels between FY 2021 and 2022. In FY 2023, passenger car traffic on the ICC and ETL grew by 7.6 and 0.8, respectively. Similarly, commercial vehicle traffic on the ICC and ETL increased 0.9 and 3.3 percent, respectively. **Figure 2-2** provides a graphical representation of these year-over-year trends for in-lane data from FY 2019 through FY 2023 for the total Legacy System passenger cars and commercial vehicles. **Figure 2-3** and **Figure 2-4** show the same information for the Intercounty Connector and I-95 ETLs.

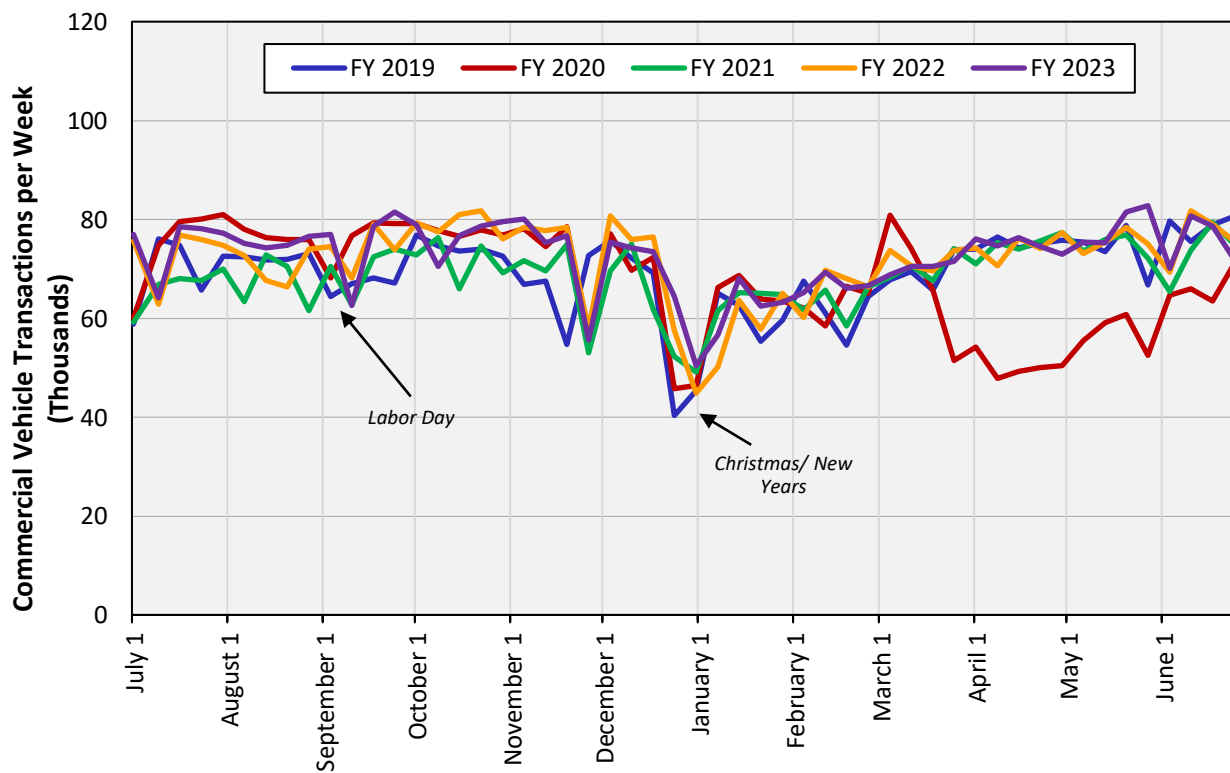
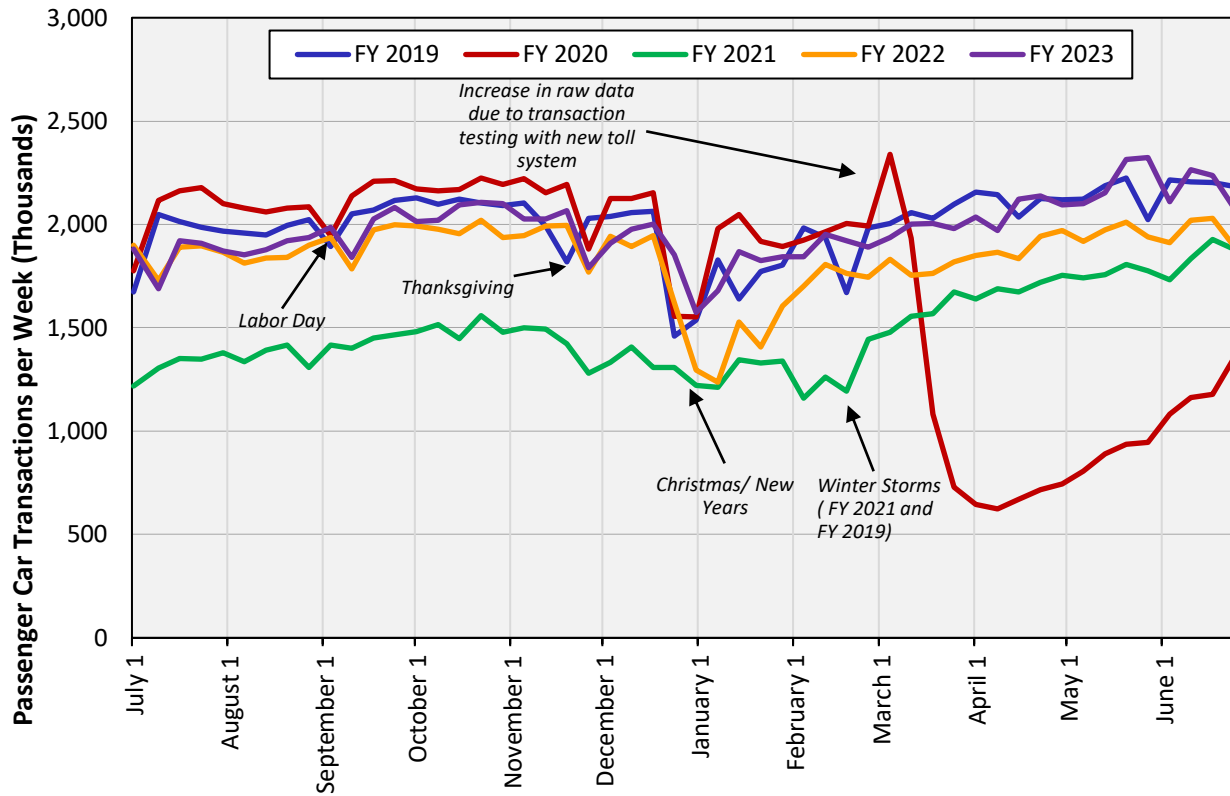
Table 2-6
MDTA In-Lane Traffic by Fiscal Year

Fiscal Year	Hattem Bridge		Kennedy Highway		Harbor Tunnel		Fort McHenry Tunnel		Key Bridge		Bay Bridge		Nice/Middleton Bridge		ICC ⁽¹⁾		I-95 ETL ⁽¹⁾	
	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change	Value	Change
In-Lane Passenger Car Traffic (in millions)																		
2019	4.898	-	13.530	-	20.908	-	44.617	-	11.866	-	12.747	-	3.147	-	104.334	-	9.349	-
2020	4.450	(9.1)	11.367	(16.0)	15.189	(27.3)	40.757	(4.9)	11.821	(0.4)	11.703	(8.2)	2.803	(10.9)	89.920	(13.8)	7.709	(17.5)
2021	4.137	(7.0)	11.472	0.9	17.964	18.3	37.951	(6.9)	10.654	(9.9)	11.510	(1.6)	2.652	(5.4)	77.548	(13.8)	6.100	(20.9)
2022	4.535	9.6	13.445	17.2	26.441	47.2	38.986	2.7	10.936	2.6	12.443	8.1	3.076	16.0	96.283	24.2	8.199	34.4
2023	4.494	(0.9)	13.547	0.8	28.052	6.1	38.502	(1.2)	10.974	0.4	12.674	1.9	3.093	0.6	103.577	7.6	8.263	0.8
In-Lane Commercial Vehicle Traffic (in millions)																		
2019	0.228	-	1.995	-	0.794	-	4.535	-	1.209	-	0.915	-	0.215	-	3.595	-	0.558	-
2020	0.228	(0.3)	2.022	1.4	0.652	(17.8)	4.496	(0.8)	1.247	3.2	0.923	0.9	0.202	(6.4)	3.528	(1.9)	0.490	(12.1)
2021	0.249	9.4	2.210	9.3	0.681	4.5	4.907	9.1	1.305	4.6	0.943	2.2	0.215	6.4	3.588	1.7	0.478	(2.6)
2022	0.270	8.4	2.349	6.3	0.921	35.2	5.156	5.1	1.402	7.4	0.946	0.3	0.265	23.3	3.758	4.7	0.678	41.9
2023	0.259	(4.1)	2.360	0.4	1.051	14.1	5.042	(2.2)	1.447	3.2	0.924	(2.4)	0.247	(6.8)	3.791	0.9	0.700	3.3
Total In-Lane Traffic (in millions)																		
2019	5.126	-	15.525	-	21.702	-	49.151	-	13.075	-	13.662	-	3.363	-	107.930	-	9.907	-
2020	4.677	(8.8)	13.389	(13.8)	15.842	(27.0)	45.253	(7.9)	13.068	(0.1)	12.626	(7.6)	3.004	(10.7)	93.448	(13.4)	8.200	(17.2)
2021	4.386	(6.2)	13.682	2.2	18.646	17.7	42.858	(5.3)	11.959	(8.5)	12.453	(1.4)	2.866	(4.6)	81.136	(13.2)	6.578	(19.8)
2022	4.805	9.6	15.795	15.4	27.362	46.7	44.141	3.0	12.338	3.2	13.390	7.5	3.340	16.6	100.041	23.3	8.877	34.9
2023	4.753	(1.1)	15.907	0.7	29.103	6.4	43.544	(1.4)	12.421	0.7	13.598	1.6	3.340	(0.0)	107.368	7.3	8.963	1.0



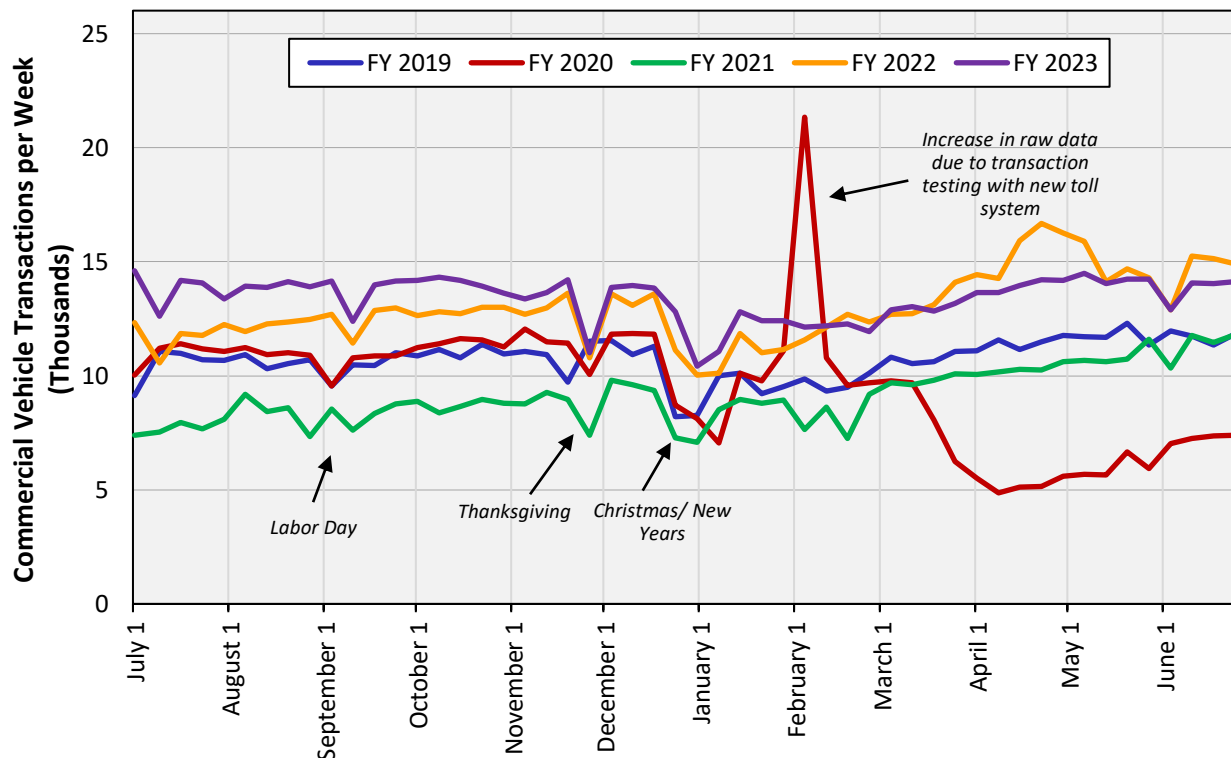
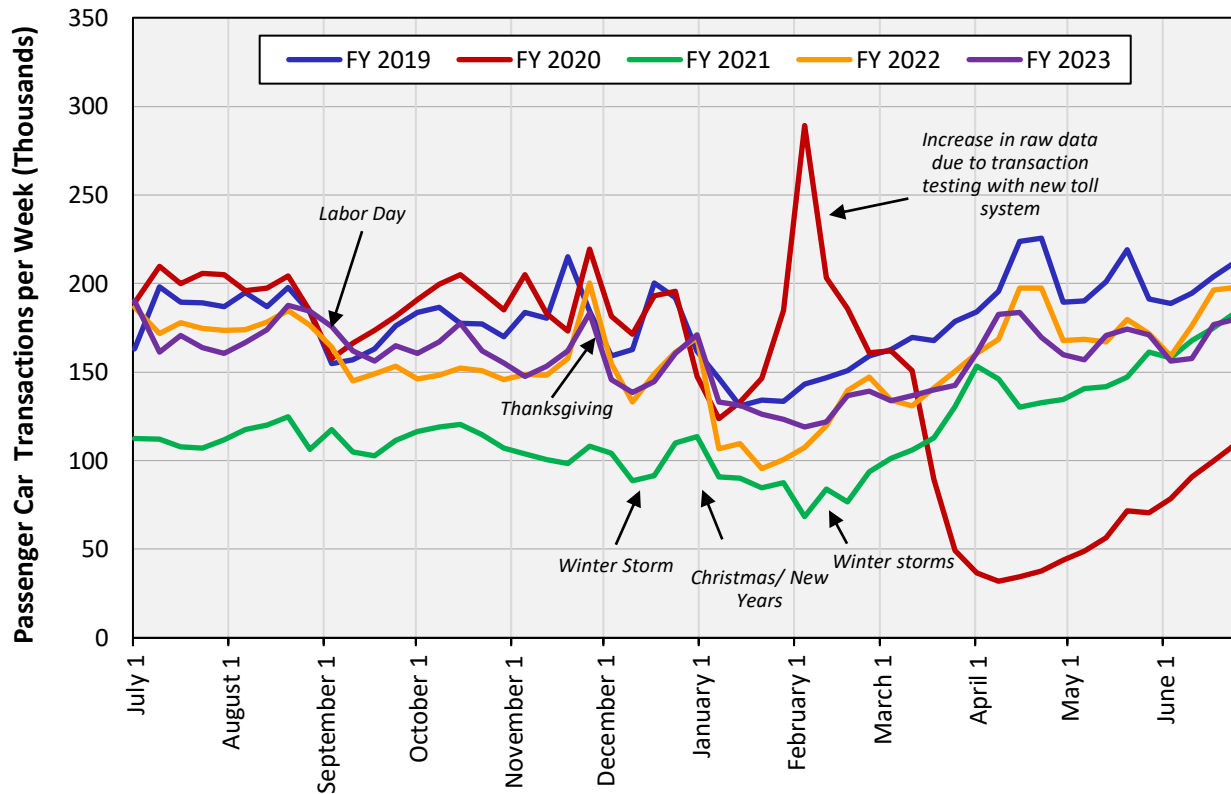
Source: Maryland Transportation Authority E-ZPass Operations, Daily Transactions

TRANSACTIONS PER WEEK BY FISCAL YEAR TOTAL LEGACY SYSTEM



Source: Maryland Transportation Authority E-ZPass Operations, Daily Transactions

TRANSACTIONS PER WEEK BY FISCAL YEAR INTERCOUNTY CONNECTOR



Source: Maryland Transportation Authority E-ZPass Operations, Daily Transactions

TRANSACTIONS PER WEEK BY FISCAL YEAR I-95 EXPRESS TOLL LANES (ETL)

2.3 Historical Traffic on Other Major Highways

In order to better understand regional traffic growth patterns, historical traffic counts on select competing major routes were reviewed dating back to 2007. These roads include interstates and major highways that compete with or complement the MDTA Legacy facilities. The data presented in this section are based on calendar year average annual daily traffic volumes and associated growth rates at each location. Historical average annual daily traffic volumes and annual growth rates on six Maryland State Highway Authority (MSHA) roadways and one Virginia roadway through 2022 are presented in **Table 2-7**.

As shown in Table 2-7, the traffic volumes on the northern region MSHA roadway, US 1 (east of Cedar Church Road), followed a more positive trend compared to the northern MDTA facilities, with an average annual growth of 1.1 percent between 2009 and 2019. This compares to a transaction growth of 0.4 percent for passenger cars and 0.2 percent for commercial vehicles during this period on the Kennedy highway. Toll increases implemented during this period would contribute to the more modest growth trends on the MDTA facilities. From 2019 to 2022, US 1 grew at an average annual rate of 0.3 percent, indicating recovery from COVID-19 impacts plus some additional growth.

The historical average annual daily traffic volumes and annual growth rates for the central region MSHA roadways are represented in Table 2-7 by I-95 (N of MD 100), I-97 (N of MD 176) and I-695 (E of MD 146), which are all located in the Baltimore area. Traffic volumes on the MSHA facilities decreased by an average of 2.0 percent in 2008, most likely due to the impacts of the Great Recession, while traffic volumes on the Central Region MDTA facilities did not experience significant effects of the recession until 2009 with volumes decreasing by 2.7 percent. Traffic volume decreases on the central MDTA facilities also occurred in years 2012 and 2013 due to toll rate increases. During the 2009 to 2019 post-recession period, traffic has increased by 0.2 percent on the MDTA facilities and 0.5 percent on the MSHA facilities in the central region. In the period from 2019 to 2022, MDTA facilities fared better in that they decreased by 0.4 percent per year compared to MSHA facilities which decreased by 3.3 percent.

The historical average annual daily traffic volumes and annual growth rates on one southern region MSHA roadway is represented by US 301 (South of MD 234) in Table 2-7. Due to the proximity of the Bay Bridge (US 50) to Virginia, one traffic count location in northern Virginia has also been included in the table. On an average, traffic volumes on the two southern region MDTA facilities (Bay Bridge and Nice/Middleton Bridge) have grown higher than the comparison locations. During the 2009 to 2019 post-recession period, traffic has increased modestly, averaging 0.5 percent per annum on the MDTA facilities and 0.1 percent on the combined MSHA and VDOT facilities. Traffic volume decreases on the southern MDTA facilities occurred in years 2012 and 2013 due to toll rate increases. Following this, both on the MDTA and on the combined Southern Region MSHA and Virginia facilities, traffic has grown at relatively higher levels. Between 2015 and 2017 growth averaged 2.1 percent on the two southern MDTA facilities and 1.6 percent on the MSHA and Virginia roads. Since then, traffic has been flat or declined on both southern region MDTA and MSHA facilities, before declining further in 2020 from the pandemic. However, both facilities recovered plus some additional growth in 2021.

Table 2-7
Average Annual Daily Traffic Trends on Major Highways

Calendar Year	Northern			Central				Southern			
	US 1 E of Cedar Church Rd.		I-95	I-97		I-695	MD 295	US 301		I-95 (Virginia) N of Courthouse Rd	
	Value	Change	N of MD 100	Value	Change	E of MD 146	N of MD 100	Value	Change	Value	Change
2007	11,600	-	191,900	-	102,600	-	91,600	22,500	-	137,000	-
2008	11,100	(4.3)	188,000	(1.9)	100,600	(2.0)	88,900	21,400	(4.9)	133,000	(2.9)
2009	11,300	1.8	192,100	4.5	105,100	1.0	88,900	21,800	1.9	136,000	2.3
2010	10,100	(10.6)	192,900	0.4	105,500	(1.8)	89,400	22,500	3.2	136,000	-
2011	9,900	(2.0)	193,100	0.1	105,600	0.1	93,400	22,100	(1.8)	135,000	(0.7)
2012	9,900	-	191,300	0.6	106,200	0.5	92,600	22,100	-	135,000	-
2013	9,300	(6.1)	193,000	0.9	107,200	(1.5)	92,800	20,800	(5.9)	132,000	(2.2)
2014	9,300	-	192,800	(0.1)	107,100	(0.1)	107,700	20,800	-	131,000	(0.8)
2015	10,100	8.6	207,300	7.5	111,800	7.5	108,500	22,600	8.7	134,000	2.3
2016	11,500	13.9	201,600	(2.7)	108,700	(6.4)	103,300	21,900	(3.1)	136,000	1.5
2017	11,800	2.6	206,400	2.4	111,300	2.4	105,400	22,400	2.3	137,000	0.7
2018	11,700	(0.8)	205,200	(0.6)	121,100	(0.6)	104,500	22,200	(0.9)	136,000	(0.7)
2019	12,600	7.7	180,200	(12.2)	122,000	5.5	104,500	21,800	(1.8)	137,000	0.7
2020	10,971	(12.9)	145,051	(19.5)	98,182	(19.5)	87,223	18,031	(17.3)	127,000	(7.3)
2021	13,032	18.8	164,052	13.1	104,800	13.1	93,880	21,422	18.8	141,000	11.0
2022	12,713	(2.4)	165,533	0.9	105,741	0.9	94,441	20,893	(2.5)	N/A	N/A
Average Annual Percent Change											
2007 to 2009		(1.3)		0.1		(0.5)			(1.5)		(0.4)
2009 to 2019		1.1		(0.6)		0.5			1.6		0.1
2019 to 2022 ⁽¹⁾		0.3		(2.8)		(2.8)			(3.3)		1.4

Source: MSHA and VDOT AADT Reports.

⁽¹⁾ Value shown for I-95 (Virginia) is for the period 2019 to 2021 due to data availability.

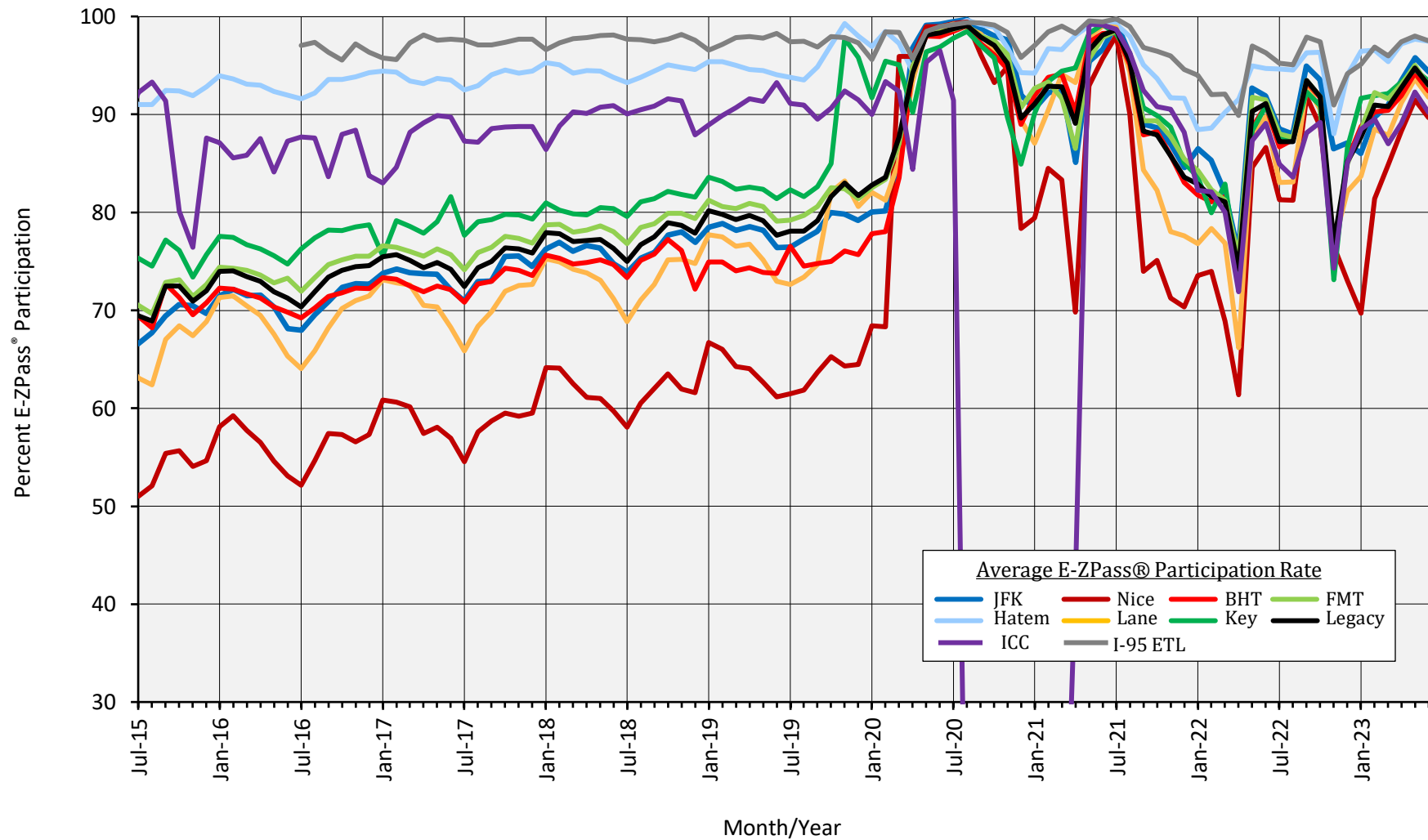
Trends over the past 13-year period for both the MDTA system and the other major highways were used as a reference in assessing the estimated ten-year traffic growth for the traffic and revenue forecasts presented in Chapter 4.

2.4 MDTA E-ZPass® Market Share

In recent years, electronic toll collection has played an increasingly important role in transaction processing for toll agencies across the nation. MDTA collects electronic tolls via E-ZPass®. **Figure 2-5** provides a graphic summary of the E-ZPass® market share for each of the seven Legacy facilities, the total Legacy system, the Intercounty Connector, and the I-95 Express Toll Lanes (ETL) from July 2008 through June 2023 for collected transactions.

From July 2019 to February 2020, E-ZPass® transactions accounted for an average of 80.8 percent of the total Legacy system transactions, an increase of 2.9 percent over the same period in FY 2019. Of these, 66.8 percent were made by Maryland E-ZPass® customers, including in-state E-ZPass® customers, commuter plans, shopper plans and Hatem Bridge plans. Over the same time period, in terms of individual facilities, the Thomas J. Hatem Memorial Bridge had the greatest percentage of E-ZPass® customers at 96.3 percent of total transactions over this time period, primarily due to the Hatem Bridge Toll Plans and its conversion to cashless tolling prior to March. The Governor Harry W. Nice Memorial/Senator Thomas “Mac” Middleton Bridge had the lowest percentage of E-ZPass® transactions during this time period at 64.4 percent. On a total system basis, between July 2019 and February 2020, cash transactions accounted for a combined 17.0 percent of all transactions, a decrease of 3.3 percent over same period in FY 2019. Video transactions accounted for 2.1 percent of all transactions made between July 2019 and February 2020.

On March 17, 2020 MDTA implemented systemwide cashless tolling to prevent the potential spread of COVID-19 during exchanges of cash at toll booths. Additionally, mailing of Notice of Toll Due (NOTD) video invoices was paused until October 2020. Due to these changes and other collection challenges related to the back-office transition, E-ZPass® transactions accounted for 94 percent of all Legacy system transactions in April 2020 and about 98 percent of the total transactions in May and June 2020. The pause of the NOTD invoicing mailings and the back-office transition caused FY 2021 and FY 2022 E-ZPass® trends to be more volatile than previous years. In particular, the ICC shows a significant drop in E-ZPass® marketshare in FY 2021 due to challenges with trip reconstruction related to the back-office transition. By the end of FY 2021 in July, E-ZPass® marketshare for all facilities was returning to levels seen initially after transition to all-electronic tolling. In FY 2022, as more NOTD invoices were mailed and paid from the paused period, the E-ZPass marketshare became volatile again as higher shares of video tolls were being paid. Due to this, the share of E-ZPass declined throughout the fiscal year before rebounding in May and June 2022. In FY 2023, there was a significant drop in E-ZPass marketshare in November 2022 when the customer assistance plan terminated, causing another influx of video transactions being paid. In the second half of the fiscal year, rates rebound to above 90 percent in the final quarter for all facilities.



Note: FY 2021 Intercounty Connector toll revenue collection impacted by delay in trip reconstruction.
 FY 2022 and FY 2023 impacted by video toll collection from delayed NOTDs from business rule changes.

Collected Transaction E-ZPass® Marketshare Trends by Facility

Chapter 3

Corridor Growth Review

3.1 Introduction

Trips on Maryland's tolled facilities are made for many purposes, including commuting, business, commerce, and recreation. Preparing facility traffic forecasts requires evaluating socioeconomic data (SED) that drive trip purposes, such as population, employment, and income. Therefore, historical and projected socioeconomic data are important in developing traffic forecasts. Socioeconomic data are provided by public and private sources for different geographies and time periods. This introduction overviews the socioeconomic data reviewed.

Variables – Include population, employment, unemployment rates, real per capita income, real gross domestic product (GDP), gross regional product (GRP), inflation, and fuel prices.

Geographies – Geographies profiled include national and census divisions (U.S., Mid Atlantic, South Atlantic), as well as Maryland and six sub-state regions, as mapped in **Figure 3-1**.

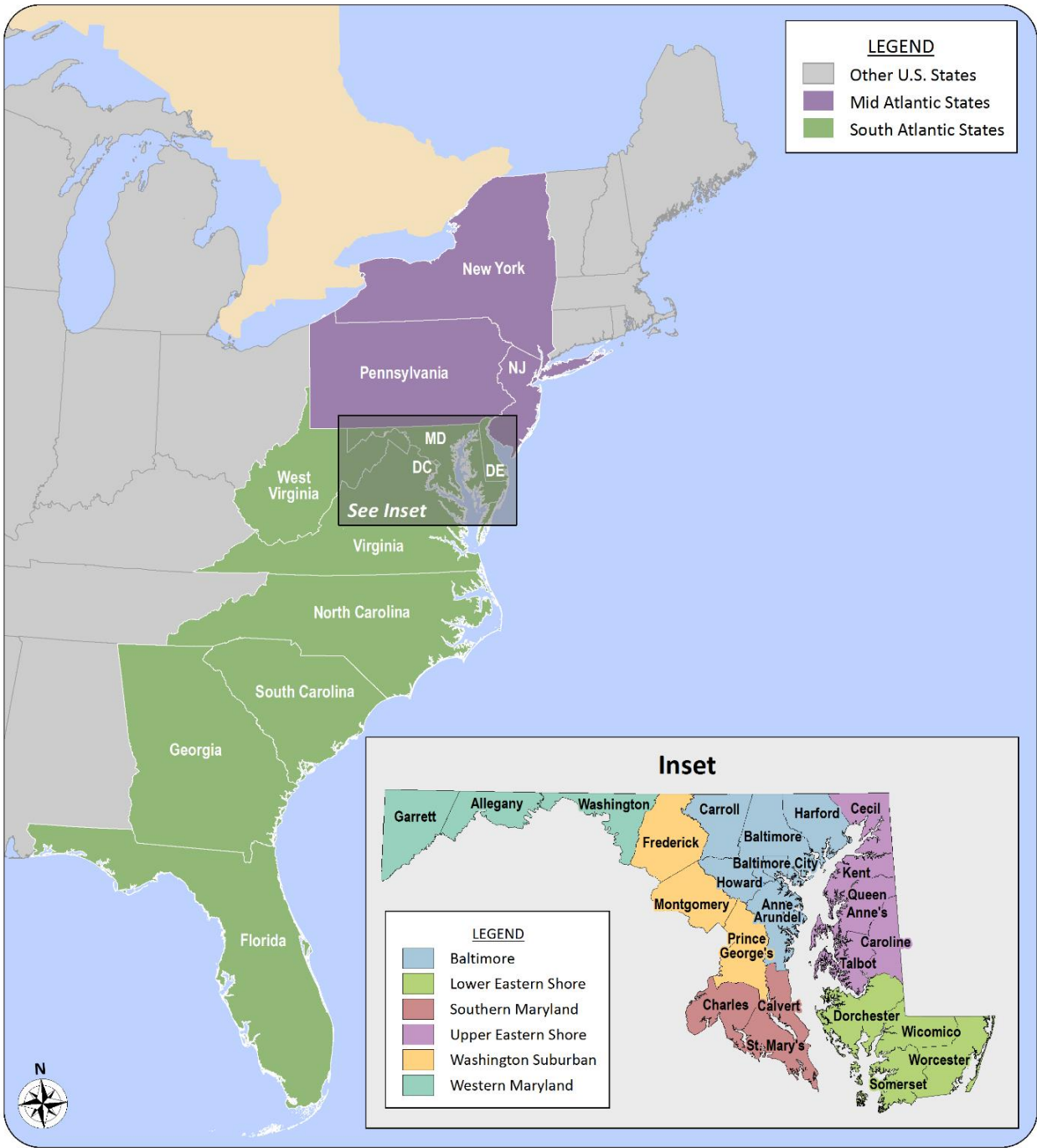
Sources – Government and private sector data sources include:

- United States Bureau of Economic Analysis (BEA)
- United States Bureau of Labor Statistics (BLS)
- Congressional Budget Office (CBO)
- United States Census Bureau (Census)
- Energy Information Administration (EIA)
- Federal Open Market Committee (FOMC)
- Office of Management and Budget (OMB)
- The State of Maryland Department of Planning State Data Center (MD SDC)
- Woods & Poole Economics, Inc., 2023 Complete Economic and Demographic Data Source (WP23)¹

Analysis Horizon – Historical socioeconomic data are presented annually, including annual growth rates, and compound annual growth rates (CAGR) in the preceding decade. Forecasts are provided for the next decade in five-year increments (2022-2027 and 2027-2032), as available.

¹Woods & Poole Economics, Inc. Washington, D.C. Copyright 2023. Woods & Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of CDM Smith.

Figure 3-1
Geographies Profiled



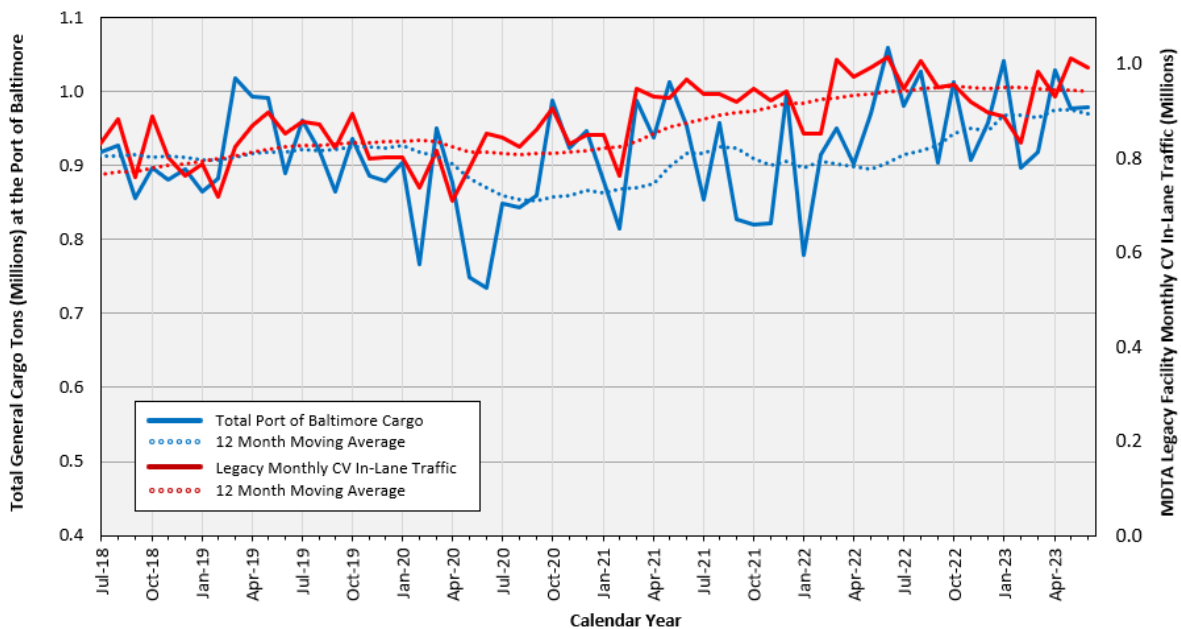
3.2 Recent Growth Trend Explanatory Factors

This section provides local explanatory factors for traffic trends on the MDTA facilities. In particular, this section focuses on the Port of Baltimore cargo which impacts commercial vehicles, and BWI enplanements which impacts trends on the Intercounty Connector,

3.2.1 Port of Baltimore Cargo Trends

Shipping and port activity was impacted by the pandemic. A factor that in the past has been found to be correlated to growth in commercial vehicle transactions on the Legacy facilities, particularly at the Central Region facilities, is cargo activity at the Port of Baltimore. **Figure 3-2** provides a comparison of cargo activity at the port of Baltimore to total Legacy commercial vehicle in-lane traffic from July 2018 through June 2023. The Port of Baltimore showed large initial declines in cargo activity in the few months immediately into the pandemic (April and May 2020). Cargo activity recovered during summer 2020 and returned to more typical levels in the fall. Through the winter of 2021 to 2022, additional declines occurred before recovering to more normal trends in the summer of 2022. Throughout this period and through FY 2023, Legacy commercial vehicle transactions and port activity have been exhibiting similar trends.

Figure 3-2
Comparison of Monthly Port of Baltimore Total General Cargo in Tons and MDTA Legacy Facilities Commercial Vehicle In-Lane Traffic, FY 2018 – 2023

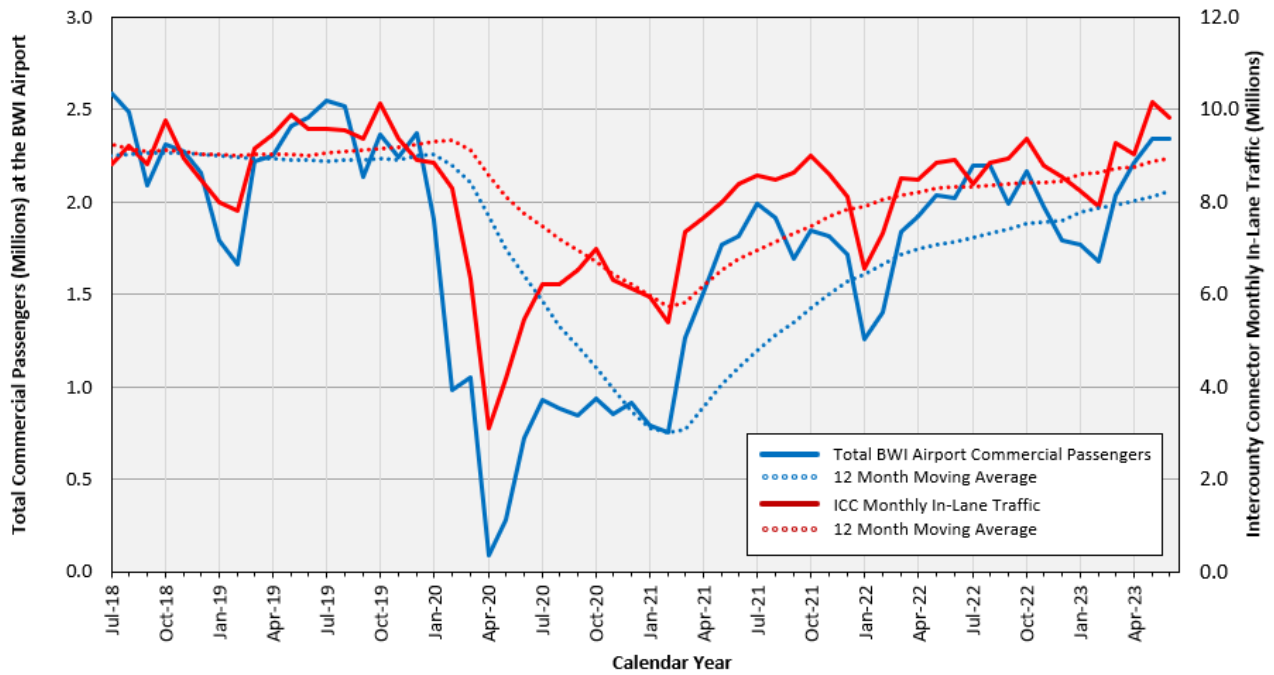


3.2.2 Baltimore/Washington International Airport (BWI) Enplanement Trends

Another transportation metric being tracked in relation to leisure and business travel is airport activity. The Baltimore/Washington International Airport (BWI) enplanement data was analyzed against the Intercounty Connector monthly transactions. **Figure 3-3** shows the total passengers at BWI and the ICC toll transactions from July 2018 through June 2023. When all domestic and international travel was halted in April 2020, enplanements dropped significantly more than toll

transactions. Since that time, travel has steadily increased year-over-year with some dampening occurring in the winter months, which is apparent in both metrics. The monthly in-lane traffic on the ICC has followed the same trend as the enplanement data with the exclusion of July 2022. This shows the heavy impact airport trips can have on ICC trips.

Figure 3-3
Comparison of Monthly Baltimore Washington International (BWI) Airport and MDTA Intercounty Connector In-Lane Traffic, FY 2018 - 2023



Source: Baltimore/Washington International (BWI) Airport

3.3 Socioeconomic Variables

Table 3-1 shows historical and forecast socioeconomic variable sources, terms and release dates.

Subsections 3.3.1-3.3.7 discuss historical and forecast trends for population, employment, unemployment rates, real per capita personal income, real gross domestic/regional product, inflation, and fuel prices. Note that the latest available MD SDC income data are from 2015, which is several years old, although population and employment were recently updated.

Table 3-1
Socioeconomic Variables: Terms and Sources

Variable	Term(s)	Historical Data	Forecast Data
Population	Persons	U.S. Census Bureau	Woods & Poole, 2023 MD SDC, Dec. 2022
Employment	Persons	U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics	Woods & Poole, 2023 MD SDC, Oct. 2022
Unemployment	Percentage	U.S. Bureau of Labor Statistics	CBO, Feb. 2023 FOMC, Jun. 2023 OMB, Nov. 2022
Real Per Capita Income	2022\$	Woods & Poole, 2023	Woods & Poole, 2023 MD SDC, Jan. 2015
Real Gross Domestic/Regional Product	2022\$	U.S. Bureau of Economic Analysis, Woods & Poole, 2023	CBO, Feb. 2023 FOMC, Jun. 2023 OMB, Nov. 2022 Woods & Poole, 2023
Inflation	Annual Percentage Change	U.S. Bureau of Labor Statistics	CBO, Feb. 2023 FOMC, Jun. 2023 OMB, Nov. 2022
Fuel Prices	Price per Gallon, Price per Barrel	Energy Information Administration	Energy Information Administration

3.3.1 Population

Historical

Table 3-2 shows U.S. Census Bureau population for 2012 to 2022 (July 1st estimates). National population increased from 313.8 to 333.3 million, equating to 0.6% CAGR; the South Atlantic, which includes Maryland, grew faster at 1.0% annually, and Mid Atlantic growth was almost flat, at 0.2% annually.

Maryland's population grew 278,000, from 5.9 to almost 6.2 million, reflecting a 0.5% CAGR. The most populous sub-state region, Baltimore, grew 0.3% annually while Southern Maryland grew relatively fastest, at 0.8%. Annual growth in Maryland's other regions ranged from a low of 0.1% CAGR contraction in Western Maryland to a high of 0.7% in Washington Suburban.

Population growth has decelerated in Maryland, dropping from 0.8% in 2012 to 0.0% in 2021, and declining 0.2% in 2022, indicating effective plateauing. Baltimore's population decelerated earlier than the state, with effectively no growth since 2015.

Table 3-2
Historical Population

Geography	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'12-'22
Population (Thousands)												
United States	313,831	315,994	318,301	320,635	322,941	324,986	326,688	328,240	331,512	332,032	333,288	19,457
Mid Atlantic	41,185	41,258	41,304	41,307	41,287	41,263	41,217	41,138	42,374	42,138	41,911	726
South Atlantic	61,145	61,729	62,382	63,117	63,907	64,620	65,230	65,785	66,165	66,666	67,453	6,308
Maryland	5,887	5,923	5,957	5,986	6,003	6,024	6,036	6,046	6,173	6,175	6,165	278
Baltimore	2,706	2,720	2,731	2,741	2,745	2,749	2,751	2,750	2,792	2,792	2,784	78
Lower Eastern Shore	211	211	211	211	212	212	213	213	213	215	216	5
Southern Maryland	349	352	355	357	360	363	366	369	374	378	380	30
Upper Eastern Shore	241	241	241	241	241	242	243	243	244	245	247	6
Washington Suburban	2,127	2,147	2,168	2,184	2,194	2,207	2,213	2,220	2,299	2,293	2,287	159
Western Maryland	253	253	252	251	251	251	251	250	251	252	251	-2
Annual Percent Change												
United States	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.5%	0.5%	1.0%	0.2%	0.4%	0.6%
Mid Atlantic	0.3%	0.2%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	3.0%	-0.6%	-0.5%	0.2%
South Atlantic	1.1%	1.0%	1.1%	1.2%	1.3%	1.1%	0.9%	0.9%	0.6%	0.8%	1.2%	1.0%
Maryland	0.8%	0.6%	0.6%	0.5%	0.3%	0.3%	0.2%	0.2%	2.1%	0.0%	-0.2%	0.5%
Baltimore	0.8%	0.5%	0.4%	0.4%	0.1%	0.1%	0.1%	0.0%	1.6%	0.0%	-0.3%	0.3%
Lower Eastern Shore	0.1%	0.1%	0.0%	0.1%	0.2%	0.1%	0.3%	0.4%	-0.1%	0.7%	0.5%	0.2%
Southern Maryland	0.9%	0.9%	0.7%	0.7%	0.8%	0.9%	0.8%	0.8%	1.2%	1.1%	0.5%	0.8%
Upper Eastern Shore	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	0.3%	0.2%	0.7%	0.8%	0.3%
Washington Suburban	1.2%	0.9%	1.0%	0.8%	0.5%	0.6%	0.3%	0.3%	3.6%	-0.3%	-0.3%	0.7%
Western Maryland	-0.2%	-0.2%	-0.3%	-0.3%	0.0%	-0.1%	0.0%	-0.1%	0.4%	0.1%	-0.1%	-0.1%

Forecast

Table 3-3 shows average annual population growth forecasts through 2032 by Woods & Poole (WP23) and the Maryland State Data Center (MD SDC, Dec. 2022).

WP23 projects 0.6% National annualized growth between 2022 and 2032, the same pace as recent decade history. WP23 predicts Mid-Atlantic CAGR of 0.2% and South Atlantic at 0.9%.

Both WP23 and MD SDC project Maryland's population growth at around 0.6%, similar to national projections, and that Southern Maryland will grow relatively faster than other regions, at 1.0%, similar to recent history. In Baltimore and Washington Suburban, the two major metro areas, WP23 projects 0.5% and 0.6% CGAR, respectively. MD SDC projects similarly at 0.5% and 0.7%, respectively. Maryland and sub-regional forecasts from WP23 and MD SDC appear optimistic given actual population growth (plateauing) observed in recent years.

Table 3-3
Forecast Population Growth

	Historical	WP23			MD SDC		
Geography	'12-'22	'22-'27	'27-'32	'22-'32	'22-'27	'27-'32	'22-'32
United States	0.6%	0.7%	0.6%	0.6%	-	-	-
Mid Atlantic	0.2%	0.2%	0.2%	0.2%	-	-	-
South Atlantic	1.0%	0.9%	0.9%	0.9%	-	-	-
Maryland	0.5%	0.6%	0.5%	0.6%	0.6%	0.6%	0.6%
Baltimore	0.3%	0.5%	0.4%	0.5%	0.5%	0.4%	0.5%
Lower Eastern Shore	0.2%	0.5%	0.5%	0.5%	0.8%	0.8%	0.8%
Southern Maryland	0.8%	1.0%	1.0%	1.0%	1.1%	1.0%	1.0%
Upper Eastern Shore	0.3%	0.6%	0.6%	0.6%	0.7%	0.8%	0.7%
Washington Suburban	0.7%	0.7%	0.6%	0.6%	0.7%	0.6%	0.7%
Western Maryland	-0.1%	0.3%	0.3%	0.3%	0.6%	0.6%	0.6%

3.3.2 Employment

Historical

Employment data in **Table 3-4** are from the U.S. Bureau of Economic Analysis (BEA) through 2021, with 2022 derived via applying the Bureau of Labor Statistics' (BLS) 2022/2021 growth. Between 2012 and 2022, employment increased faster than population, but notably declined in 2020 due to COVID-19 (especially in the first half-year). Growth in the South Atlantic was 2.1% CAGR, higher than the Mid-Atlantic (1.0%) and nationally (1.5%). Mid-Atlantic exhibited the relatively steepest employment decline in 2020 compared to the South Atlantic and the Nation.

Historical Maryland growth was 1.0% CAGR from 2012 to 2022, with a decline in 2020 slightly greater than the Nation, at 3.3% versus 3.1%. Growth in the substate regions was relatively close to statewide during the entire preceding decade, with some annual differences, excepting Western Maryland, which actually declined in total since 2012, with the most pronounced decline in 2020 and due to COVID-19.

Table 3-4
Historical Employment

Geography	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'12-'22
Employment (Thousands)												
United States	178,980	182,325	186,234	190,326	193,426	196,394	200,281	201,648	195,302	201,143	207,983	29,004
Mid Atlantic	23,771	24,103	24,507	24,913	25,244	25,503	25,969	26,091	24,605	25,343	26,214	2,443
South Atlantic	34,027	34,673	35,561	36,541	37,359	38,207	39,202	39,666	39,072	40,345	41,956	7,929
Maryland	3,439	3,494	3,538	3,603	3,659	3,697	3,751	3,744	3,621	3,714	3,793	354
Baltimore	1,685	1,712	1,732	1,765	1,790	1,810	1,838	1,836	1,773	1,816	1,849	164
Lower Eastern Shore	116	116	117	118	119	120	121	122	117	122	126	10
Southern Maryland	152	153	155	159	164	165	164	165	164	168	171	19
Upper Eastern Shore	117	120	121	122	124	124	126	126	122	127	131	14
Washington Suburban	1,230	1,253	1,272	1,297	1,321	1,336	1,360	1,355	1,313	1,345	1,377	147
Western Maryland	139	140	140	141	141	141	141	139	132	136	138	-1
Annual Percent Change												
United States	1.6%	1.9%	2.1%	2.2%	1.6%	1.5%	2.0%	0.7%	-3.1%	3.0%	3.4%	1.5%
Mid Atlantic	1.0%	1.4%	1.7%	1.7%	1.3%	1.0%	1.8%	0.5%	-5.7%	3.0%	3.4%	1.0%
South Atlantic	1.4%	1.9%	2.6%	2.8%	2.2%	2.3%	2.6%	1.2%	-1.5%	3.3%	4.0%	2.1%
Maryland	1.3%	1.6%	1.3%	1.8%	1.6%	1.0%	1.5%	-0.2%	-3.3%	2.6%	2.1%	1.0%
Baltimore	1.8%	1.6%	1.2%	1.9%	1.4%	1.1%	1.6%	-0.1%	-3.4%	2.4%	1.8%	0.9%
Lower Eastern Shore	1.1%	0.7%	0.6%	1.0%	0.8%	0.8%	0.7%	0.4%	-3.9%	4.5%	3.3%	0.9%
Southern Maryland	0.1%	1.0%	1.2%	2.4%	3.0%	0.8%	-0.3%	0.6%	-0.8%	2.7%	1.7%	1.2%
Upper Eastern Shore	1.5%	2.1%	1.4%	0.7%	1.6%	0.3%	1.6%	-0.5%	-3.1%	4.2%	2.8%	1.1%
Washington Suburban	0.7%	1.9%	1.5%	2.0%	1.8%	1.2%	1.8%	-0.4%	-3.1%	2.4%	2.4%	1.1%
Western Maryland	1.3%	0.2%	0.1%	0.9%	0.2%	-0.3%	0.1%	-1.1%	-5.5%	3.0%	1.9%	-0.1%

Forecast

Table 3-5 shows employment growth forecasts with 1.3% CAGR nationally through 2032, per WP23, slightly decelerated from the recent historical decade. South Atlantic forecast CAGR (1.5%) is expected to be higher than the U.S. and Mid-Atlantic (1.3%). WP23 forecasts 1.3% CAGR for Maryland, slightly accelerated relative to recent history and on-par with national forecasts.

According to the MD SDC (Oct. 2022), Maryland's employment forecast is 0.8% through 2032; almost half the pace forecast by WP23, but closer aligned with recent history. For Baltimore and Washington Suburban, WP23 projects 1.4% and 1.2%, respectively, with Southern Maryland as the relatively fastest region, at 1.4%. MD SDC regionally forecasts 0.8%, 0.8%, and 1.0%, respectively, again slightly decelerated from the recent decade history.

Table 3-5
Forecast Employment Growth

Geography	Historical	WP23			MD SDC		
	'12-'22	'22-'27	'27-'32	'22-'32	'22-'27	'27-'32	'22-'32
United States	1.5%	1.5%	1.2%	1.3%	-	-	-
Mid Atlantic	1.0%	1.5%	1.0%	1.3%	-	-	-
South Atlantic	2.1%	1.6%	1.4%	1.5%	-	-	-
Maryland	1.0%	1.5%	1.1%	1.3%	0.9%	0.7%	0.8%
Baltimore	0.9%	1.6%	1.2%	1.4%	0.8%	0.7%	0.8%
Lower Eastern Shore	0.9%	1.0%	0.8%	0.9%	0.6%	0.7%	0.7%
Southern Maryland	1.2%	1.4%	1.3%	1.4%	0.9%	1.0%	1.0%
Upper Eastern Shore	1.1%	1.3%	1.2%	1.2%	1.2%	1.1%	1.1%
Washington Suburban	1.1%	1.4%	1.1%	1.2%	0.9%	0.7%	0.8%
Western Maryland	-0.1%	1.1%	0.7%	0.9%	0.6%	0.6%	0.6%

3.3.3 Unemployment

Historical

Figure 3-4 shows annual unemployment rates from 2000 to 2022 from the BLS. Maryland's rate was universally lower than both the Mid-Atlantic and Nation albeit paralleling very closely. In 2020, with the COVID-19 onset, unemployment rates unprecedentedly spiked very quickly, jumping enormously in April 2020, and then steadily declining in the following months. Unemployment rates steadily declined by early 2022 to a relative historical low around 3.5% and remained as such since. On an annualized basis, national unemployment was 3.6% in 2022, with Maryland at 3.2%. So far in 2023, such rates have only marginally changed per month.

Figure 3-4
Historical Unemployment Rates (Macro Geographies)

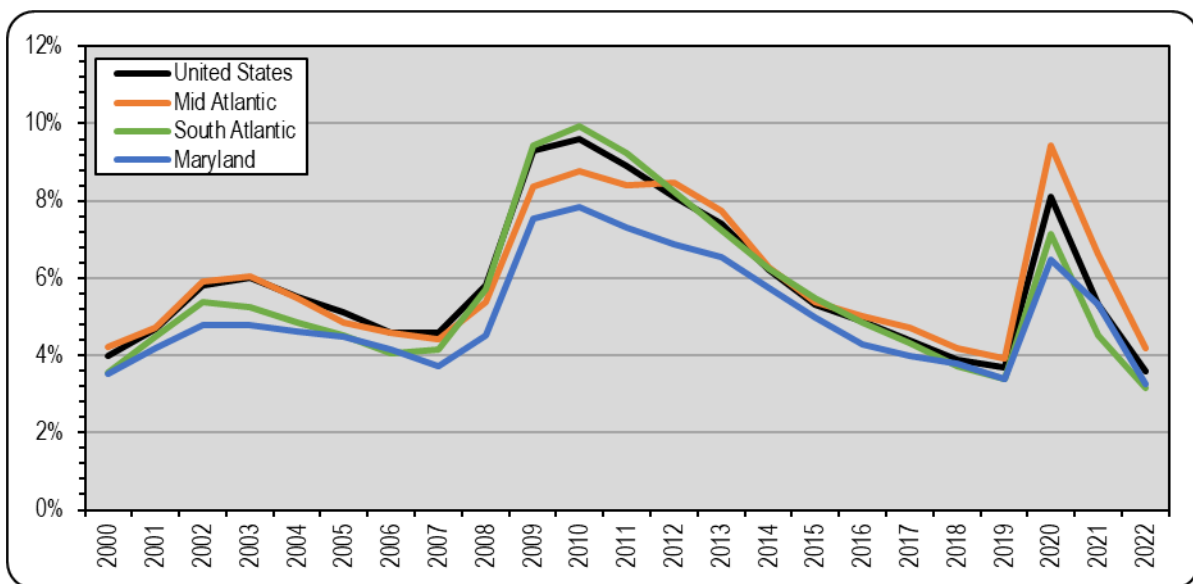
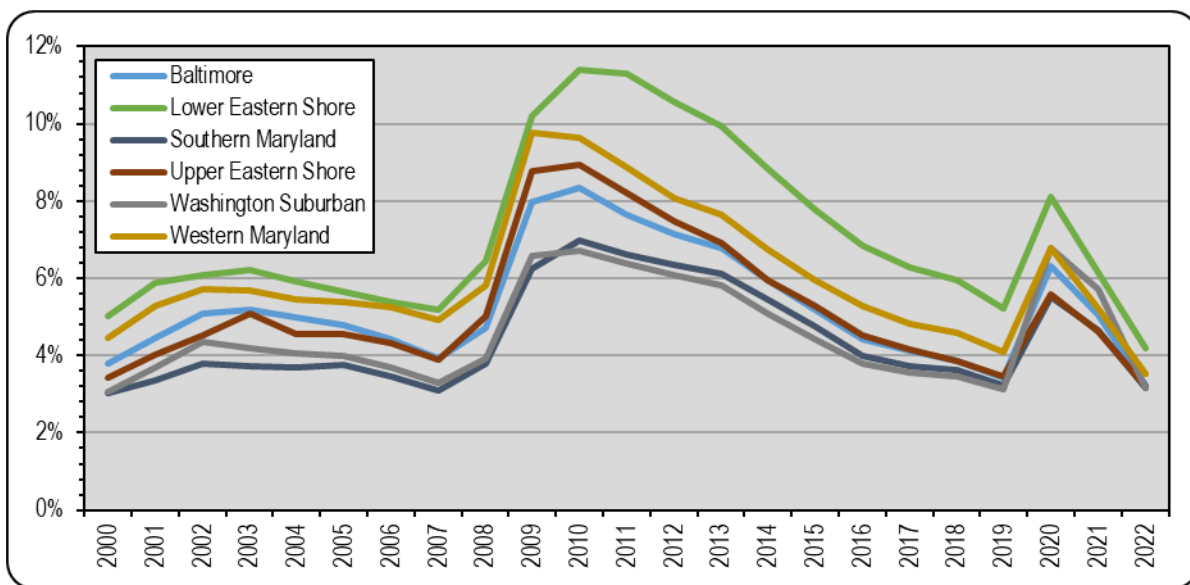


Figure 3-5 shows annual unemployment rates for Maryland's regions. In every year, Southern Maryland and Washington Suburban exhibited lower unemployment rates than elsewhere; unsurprising given the federal (D.C.) jobs concentrated there. Conversely, the Lower Eastern Shore and Western Maryland exhibited relatively higher unemployment rates than elsewhere.

Annual unemployment peaked between 2009 and 2011, during and following the Great Recession, reaching 11.4% in the Lower Eastern Shore, 9.8% in Western Maryland, 8.9% in the Upper Eastern Shore, and 8.3% in Baltimore. In the Washington Suburban region, unemployment peaked at 6.7% while Maryland's statewide rate reached 7.8%. Following those recessionary peak years, unemployment rates steadily declined to historically low levels in 2019. However, similar to the national level, COVID-19 reversed that trend quickly, with extraordinary unemployment rates peaking in the second-and-third quarters of 2020, followed by a steady decline through early 2022, whereby rates have held steadily at relatively low historical levels. On an annual basis, 2022 resulted in unemployment rates ranging between 3.2% and 4.2% for the state regions.

Figure 3-5
Historical Unemployment Rates (Maryland Regions)



Forecast

National unemployment rates in 2020 spiked from COVID-19 and subsequently declined to near-historical lows. Unemployment rate projections from the Congressional Budget Office, the Federal Reserve (FOMC), and Office of Management and Budget expect the annual rates to increase slightly through 2025, mostly expecting responses to the FED FOMC's continued monetary tightening policy (to stem inflation). After 2025, the forecasts are for around 4.0% to 4.5% thereafter, per **Figure 3-6**.

Table 3-6 provides more detail on the short-term unemployment outlook for 2023, 2024, and 2025, sourced from a wide variety of forecasters. The table is organized from most optimistic to most pessimistic forecasts for 2023. Data were compiled in August 2023 with most forecasters publishing data in June or July; the 2023 forecasts range from 3.6% to 4.1%, averaging 3.7% and then to 4.4% in 2024.

Figure 3-6
Forecast U.S. Unemployment Rate

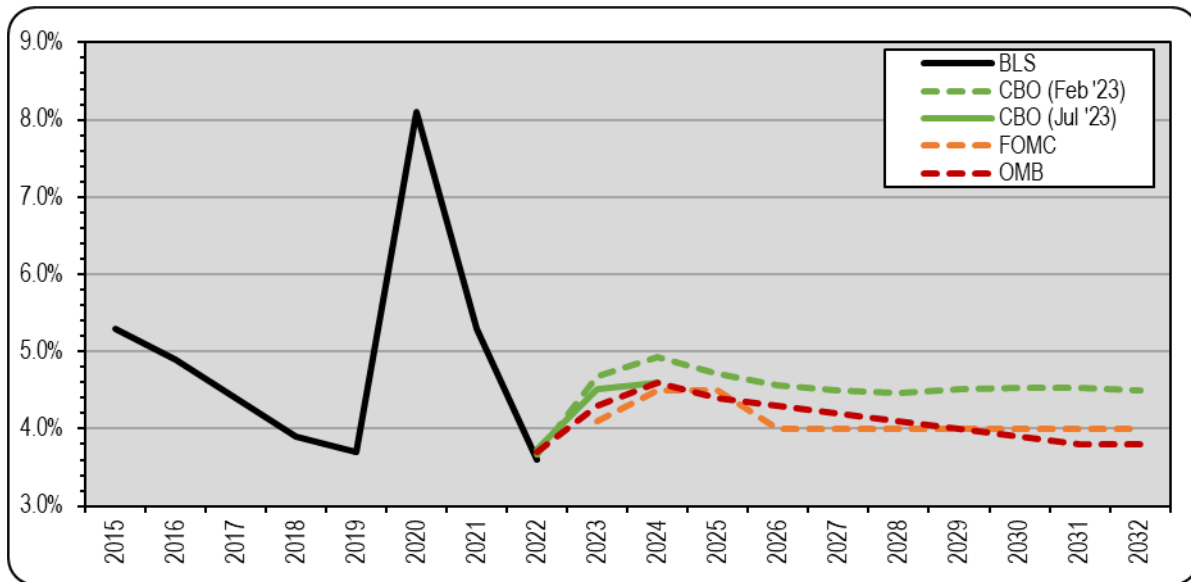


Table 3-6
Short-Term Forecast U.S. Unemployment Rate

Source	Release Date	2023	2024	2025
Wells Fargo Securities Economics Group	July 13, 2023	3.6%	4.4%	#N/A
Conference Board	August 2, 2023	3.6%	4.0%	#N/A
Bank of Montreal (BMO) Capital Markets Economics	August 4, 2023	3.6%	4.4%	#N/A
University of Michigan: Research Seminar in Quantitative Economics (RSQE)	May 19, 2023	3.6%	4.1%	#N/A
Energy Information Administration (EIA): Short-Term Energy Outlook	August 9, 2023	3.6%	4.0%	#N/A
TD Economics	June 15, 2023	3.6%	4.3%	#N/A
Federal Reserve Bank of Philadelphia: Survey of Professional Forecasters*	August 11, 2023	3.6%	4.0%	4.2%
Organization for Economic Cooperation and Development (OECD)	June 7, 2023	3.7%	4.4%	#N/A
ScotiaBank Global Economics	July 20, 2023	3.7%	4.3%	#N/A
National Association of Realtors	July 25, 2023	3.7%	4.1%	#N/A
Congressional Budget Office (CBO)	June 28, 2023	3.7%	4.5%	4.6%
PNC Financial Services Group	June 27, 2023	3.8%	4.8%	5.0%
Office of Management and Budget (OMB)	June 1, 2023	3.8%	4.4%	4.2%
International Monetary Fund (IMF): World Economic Outlook	April 13, 2023	3.8%	4.9%	4.8%
Royal Bank of Canada (RBC) Economics	June 8, 2023	3.9%	4.8%	#N/A
Federal Reserve Bank: Federal Open Market Committee (FOMC)	June 14, 2023	4.1%	4.5%	4.5%
Average		3.7%	4.4%	4.5%

3.3.4 Per Capita Personal Income

Personal income indicates the relative affluence of a region's residents. Real per capita income includes the sum of wages and salaries, other labor income, proprietors' income, rental income of persons, dividend income, personal interest income, and transfer payments, less personal contributions for government social insurance, on a per-person basis. Real (above inflation) increases in per capita income can lead to an increased willingness to pay tolls.

Historical

Historical real personal income per capita, in constant 2022\$², is presented in **Table 3-7**, from WP23. Per capita personal income nationally increased from \$54,742 in 2012 to \$66,967 in 2022, or 2.0% CAGR. In the Mid-Atlantic and South Atlantic, the CAGRs were also 2.0%. Maryland's growth was 1.3%. In Maryland's regions, historical growth was lower than the nation, ranging from 0.8% in Washington Suburban to 1.8% in the Upper Eastern Shore.

While historical growth was relatively slower in Maryland than nationally, the absolute real income per capita was relatively higher. At \$73,933, Maryland's per capita personal income was 10.4% higher than the Nation, and 16.8% higher than the South Atlantic in 2022. The Washington Suburban region, at \$79,014 in 2022, was 18.0% higher than the nation, and Baltimore's \$74,485 was 11.2% higher.

Table 3-7
Historical Real Personal Income Per Capita (2022\$)

Geography	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'12-'22
Total Real Personal Income/Capita (2022\$)												
United States	54,742	54,315	56,001	58,069	58,540	59,733	61,023	62,879	66,062	68,131	66,967	12,226
Mid Atlantic	62,946	62,486	63,911	66,258	67,432	69,172	70,296	72,132	75,506	77,448	77,051	14,105
South Atlantic	52,007	50,932	52,587	54,843	55,471	56,776	57,819	59,749	62,301	64,370	63,316	11,310
Maryland	64,876	63,355	64,097	66,537	68,012	68,557	68,741	69,674	72,603	74,074	73,933	9,057
Baltimore	63,071	62,266	63,458	65,547	66,671	67,402	67,930	69,618	73,198	74,669	74,485	11,414
Lower Eastern Shore	45,877	46,139	47,558	49,960	49,531	50,272	49,638	49,642	52,389	54,157	52,432	6,555
Southern Maryland	62,170	61,047	61,482	63,582	64,411	64,643	64,825	65,997	68,986	70,193	69,663	7,493
Upper Eastern Shore	56,453	56,593	57,531	59,397	60,584	61,610	62,237	64,349	66,932	68,721	67,798	11,345
Washington Suburban	72,734	69,681	69,686	72,756	74,983	75,275	74,988	74,912	77,042	78,568	79,014	6,280
Western Maryland	45,309	44,893	46,146	47,471	48,601	48,735	49,430	50,242	53,408	54,573	52,554	7,246
Annual Percent Change												
United States	2.3%	0.8%	3.1%	3.7%	0.8%	2.0%	2.2%	3.0%	5.1%	3.1%	1.7%	2.0%
Mid Atlantic	2.0%	0.7%	2.3%	3.7%	1.8%	2.6%	1.6%	2.6%	4.7%	2.6%	0.5%	2.0%
South Atlantic	1.2%	2.1%	3.2%	4.3%	1.1%	2.4%	1.8%	3.3%	4.3%	3.3%	1.6%	2.0%
Maryland	-0.1%	2.3%	1.2%	3.8%	2.2%	0.8%	0.3%	1.4%	4.2%	2.0%	-0.2%	1.3%
Baltimore	0.2%	1.3%	1.9%	3.3%	1.7%	1.1%	0.8%	2.5%	5.1%	2.0%	-0.2%	1.7%
Lower Eastern Shore	-0.7%	0.6%	3.1%	5.1%	0.9%	1.5%	-1.3%	0.0%	5.5%	3.4%	3.2%	1.3%
Southern Maryland	-1.0%	1.8%	0.7%	3.4%	1.3%	0.4%	0.3%	1.8%	4.5%	1.7%	0.8%	1.1%
Upper Eastern Shore	0.2%	0.2%	1.7%	3.2%	2.0%	1.7%	1.0%	3.4%	4.0%	2.7%	1.3%	1.8%
Washington Suburban	-0.4%	4.2%	0.0%	4.4%	3.1%	0.4%	-0.4%	-0.1%	2.8%	2.0%	0.6%	0.8%
Western Maryland	0.7%	0.9%	2.8%	2.9%	2.4%	0.3%	1.4%	1.6%	6.3%	2.2%	3.7%	1.5%

² WP23 provides real income per capita in 2012\$, per current BEA data conventions; dollars in inflated to 2022\$ using WP23's PCE index.

Forecast

Table 3-8 provides real personal income per capita forecasts. According to WP23, national growth is projected at 1.6% CAGR between 2022-2032; the Mid-Atlantic, South Atlantic, Maryland, and sub-state regions are expected to exhibit similar growth patterns, ranging between 1.6% and 1.7%. Maryland's SDC forecasts a relatively slower growth than WP23, with decelerating growth around or below 1.0% CAGR; however, the data are from 2015.

Table 3-8
Forecast Real Personal Income Per Capita Growth

	Historical	WP23			MD SDC		
Geography	'12-'22	'22-'27	'27-'32	'22-'32	'22-'27	'27-'32	'22-'32
United States	2.0%	1.6%	1.6%	1.6%	-	-	-
Mid Atlantic	2.0%	1.8%	1.6%	1.7%	-	-	-
South Atlantic	2.0%	1.6%	1.6%	1.6%	-	-	-
Maryland	1.3%	1.7%	1.5%	1.6%	1.0%	0.8%	0.9%
Baltimore	1.7%	1.8%	1.7%	1.8%	1.1%	0.8%	1.0%
Lower Eastern Shore	1.3%	1.4%	1.5%	1.5%	1.0%	0.9%	0.9%
Southern Maryland	1.1%	1.5%	1.3%	1.4%	1.1%	0.9%	1.0%
Upper Eastern Shore	1.8%	1.4%	1.5%	1.5%	1.1%	0.8%	0.9%
Washington Suburban	0.8%	1.5%	1.4%	1.4%	0.9%	0.7%	0.8%
Western Maryland	1.5%	1.6%	1.5%	1.5%	1.1%	0.9%	1.0%

3.3.5 Gross Domestic/Regional Product

Gross domestic product (national level) and gross regional product (state- and county-level) measure the value of all final goods and services produced within a geographic area and are general indicators of a region's economic activity.

Historical

Historical real gross domestic product (GDP) and gross regional product (GRP), in real 2022\$³, are presented in **Table 3-9**. Real GDP grew at 2.1% CAGR between 2012-2022, and a relatively large 2.8% annual decline in 2020 effectively reset the national economy to 2017 to 2018 levels. However, 2021 rebounded beyond pre-COVID 2019 levels. Growth in the Mid-Atlantic was 2.3%, and the South Atlantic was 1.4% due to the relatively larger COVID-19-related downturn. At 1.0%, Maryland's real GRP historical growth was about half the U.S.

Data in Tables 3-2 and 3-4 showed in 2022, Maryland comprised 9.1% of the South Atlantic's population and 9.0% of employment, respectively. Table 3-9 shows that Maryland accounted for 12.8% of the South Atlantic's real GRP. Within Maryland, the sub-state regions of Baltimore and Washington Suburban accounted for 91.3% of Maryland's real GRP in 2022.

³ BEA provides real GDP and GRP in 2012\$; dollars in inflated to 2022\$ using WP23's PCE index. BEA provided county-level data through 2021; data for 2022 are based on WP23's growth.

Table 3-9
Historical Real Gross Domestic/Regional Product (2022\$)

Geography	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	'12-'22
Gross Regional Product (2022\$ billions)												
United States	19,970	20,337	20,803	21,366	21,722	22,209	22,863	23,388	22,740	24,093	24,589	4,620
Mid Atlantic	3,529	3,574	3,652	3,767	3,860	3,957	4,046	4,138	4,041	4,306	4,419	890
South Atlantic	3,063	3,083	3,127	3,177	3,227	3,258	3,333	3,410	3,254	3,431	3,527	464
Maryland	408.5	410.7	417.2	427.7	442.4	449.9	452.1	452.2	432.9	452.8	453.0	44.4
Baltimore	199.0	202.2	205.4	210.4	217.2	220.9	223.7	226.0	216.0	225.3	235.1	36.1
Lower Eastern Shore	10.2	10.6	11.1	11.6	11.7	11.6	11.5	11.3	10.8	11.6	11.9	1.7
Southern Maryland	19.0	18.8	19.2	19.6	20.5	21.2	20.0	20.1	20.0	20.2	21.1	2.1
Upper Eastern Shore	10.4	10.9	11.0	11.3	11.8	12.2	12.5	12.3	11.6	12.3	12.7	2.3
Washington Suburban	158.0	156.3	158.4	162.7	168.6	171.3	171.5	169.9	162.8	171.1	178.6	20.6
Western Maryland	12.0	11.9	12.1	12.2	12.6	12.8	12.9	12.6	11.9	12.3	12.6	0.6
Annual Percent Change												
United States	2.3%	1.8%	2.3%	2.7%	1.7%	2.2%	2.9%	2.3%	2.8%	5.9%	2.1%	2.1%
Mid Atlantic	0.6%	1.3%	2.2%	3.1%	2.5%	2.5%	2.3%	2.3%	2.3%	6.5%	2.6%	2.3%
South Atlantic	2.9%	0.6%	1.4%	1.6%	1.6%	0.9%	2.3%	2.3%	4.6%	5.4%	2.8%	1.4%
Maryland	0.0%	0.5%	1.6%	2.5%	3.4%	1.7%	0.5%	0.0%	4.3%	4.6%	0.0%	1.0%
Baltimore	0.9%	1.6%	1.6%	2.5%	3.2%	1.7%	1.3%	1.0%	4.5%	4.3%	4.3%	1.7%
Lower Eastern Shore	2.5%	4.5%	4.7%	3.9%	1.0%	0.8%	1.0%	1.6%	4.5%	3.1%	2.1%	1.6%
Southern Maryland	1.6%	0.6%	1.8%	2.2%	4.8%	3.1%	5.3%	0.1%	4.5%	1.1%	4.4%	1.1%
Upper Eastern Shore	0.3%	4.1%	1.2%	3.1%	3.9%	3.3%	2.5%	1.5%	5.6%	6.5%	2.9%	2.0%
Washington Suburban	0.7%	1.1%	1.3%	2.7%	3.7%	1.6%	0.1%	0.9%	4.2%	5.1%	4.4%	1.2%
Western Maryland	0.2%	1.0%	2.2%	0.3%	3.8%	1.5%	0.6%	2.3%	5.9%	3.9%	2.2%	0.5%

Forecast

Table 3-10 provides gross domestic/regional product forecasts. WP23 projects 2.0% annual real growth through 2032 nationally, and for the South Atlantic slightly faster (2.2%), with Maryland's GRP closer to the national 2.0%. Within Maryland, the highest real GRP growth is expected in Baltimore (2.1%), Southern Maryland (2.2%) and Washington Suburban (2.0%).

Table 3-10
Forecast Real Gross Domestic/Regional Product Growth

Geography	Historical	WP23		
	'12-'22	'22-'27	'27-'32	'22-'32
United States	2.1%	2.0%	2.0%	2.0%
Mid Atlantic	2.3%	2.0%	1.8%	1.9%
South Atlantic	1.4%	2.2%	2.2%	2.2%
Maryland	1.0%	2.1%	2.0%	2.0%
Baltimore	1.7%	2.2%	2.1%	2.1%
Lower Eastern Shore	1.6%	1.5%	1.7%	1.6%
Southern Maryland	1.1%	2.2%	2.2%	2.2%
Upper Eastern Shore	2.0%	1.8%	2.0%	1.9%
Washington Suburban	1.2%	2.1%	1.9%	2.0%
Western Maryland	0.5%	1.5%	1.5%	1.5%

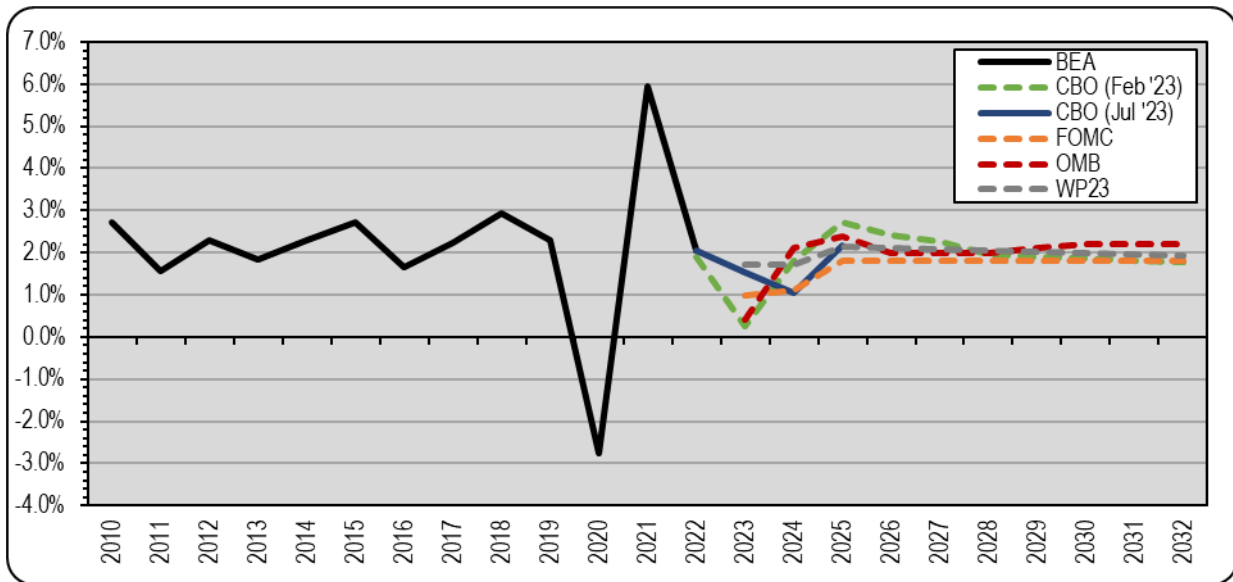
Table 3-11 provides detail on short-term GDP outlook for 2023, 2024 and 2025, sourced from various private and public sector agencies, and is organized from most optimistic to most pessimistic for 2023. As shown, most forecasters expect some decelerated growth in the next couple years, mostly stemming from continued FED FOMC monetary tightening, and some international trade slowdown, with an average of 1.6% in 2023 and 0.8% in 2024.

Table 3-11
Forecast Short-Term Real GDP Growth

Source	Release Date	2023	2024	2025
Bank of Montreal (BMO) Capital Markets Economics	August 4, 2023	2.1%	1.0%	#N/A
Federal Reserve Bank of Philadelphia: Survey of Professional Forecasters*	August 11, 2023	2.1%	1.3%	2.1%
Conference Board	August 2, 2023	1.9%	0.5%	#N/A
Energy Information Administration (EIA): Short-Term Energy Outlook	August 9, 2023	1.9%	1.2%	#N/A
International Monetary Fund (IMF): World Economic Outlook	April 13, 2023	1.8%	1.0%	#N/A
Woods & Poole Economics, Inc.	June 13, 2023	1.7%	1.7%	2.2%
Wells Fargo Securities Economics Group	July 13, 2023	1.7%	0.1%	#N/A
ScotiaBank Global Economics	July 20, 2023	1.6%	0.5%	#N/A
Organization for Economic Cooperation and Development (OECD)	June 7, 2023	1.6%	1.0%	#N/A
Congressional Budget Office (CBO)	June 28, 2023	1.5%	1.0%	2.2%
PNC Financial Services Group	June 27, 2023	1.5%	-0.3%	1.1%
TD Economics	June 15, 2023	1.5%	0.8%	#N/A
National Association of Realtors	July 25, 2023	1.4%	1.7%	#N/A
University of Michigan: Research Seminar in Quantitative Economics (RSQE)	May 19, 2023	1.3%	0.5%	#N/A
World Bank	June 13, 2023	1.1%	0.8%	2.3%
Federal Reserve Bank: Federal Open Market Committee (FOMC)	June 14, 2023	1.0%	1.1%	1.8%
Royal Bank of Canada (RBC) Economics	June 8, 2023	0.9%	0.3%	#N/A
Average		1.6%	0.8%	1.9%

Figure 3-7 shows real GDP historical growth from 2010-2022 and forecasted growth for about the next decade by the CBO, FOMC, OMB, and WP23. In 2023/4, the sources forecast a decelerated growth ranging around 1.5%. After that, all sources forecast a slight acceleration between 2.0% and 3.0% in 2025, and then a continuation of longer-term trends around 2.0% into the future.

Figure 3-7
Forecast Mid-Term Real GDP Growth



3.3.6 Inflation

Comparing inflation rates with future toll policy plans can indicate the relative real cost of tolls over time. For example, if toll rates are unchanged during an inflation period, the real toll costs become relatively less expensive.

Historical

From 2000-2022, the national inflation rate⁴ via the BLS averaged 2.5%, ranging from a high of 8.0% recently in 2022 to a low of -0.4% in 2009. **Figure 3-8** shows that inflation rates in the Northeast,⁵ South,⁶ and Washington DC MSA⁷ closely tracked the U.S. rate. Although inflation was quite high in 2021 and 2022 as a function of COVID-19 related factors (pent up demand, supply chain restrictions, etc.), the FED FOMC has implemented monetary tightening policies aimed at curtaining further inflation, and has had some success as of 2023, with mid-year year-over-year inflation coming down to the mid-3.0% range.

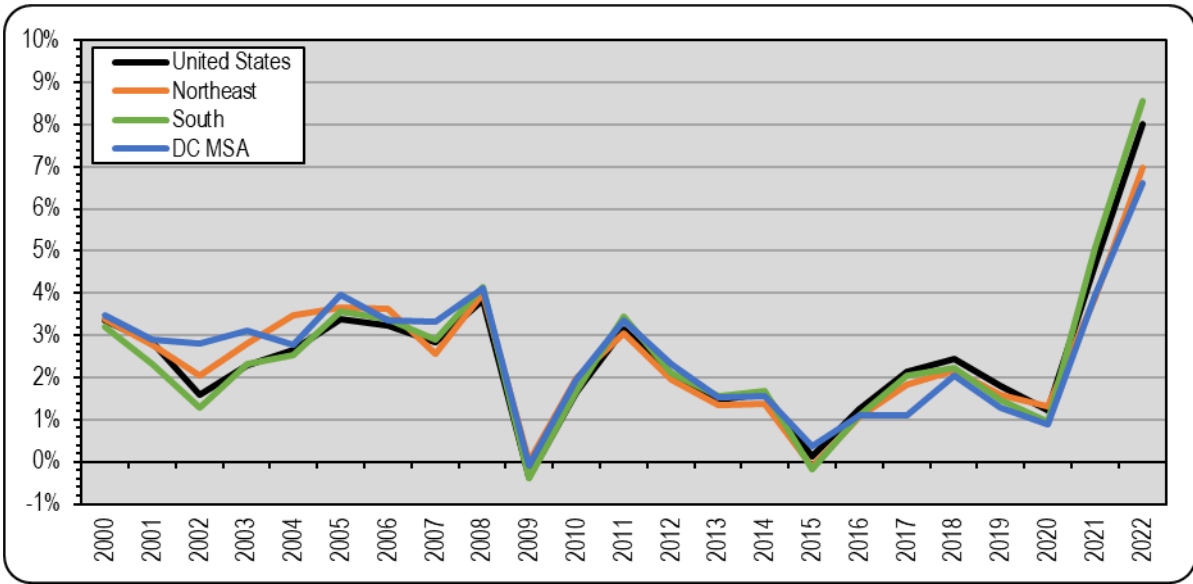
⁴ Measured by the Consumer Price Index for urban consumers (CPI-U).

⁵ Northeast census defined as CT, ME, MA, NH, NJ, NY, PA, RI, and VT.

⁶ South census defined as AR, AL, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV.

⁷ Washington-Arlington-Alexandria, DC-MD-VA-WV Metropolitan Statistical Area.

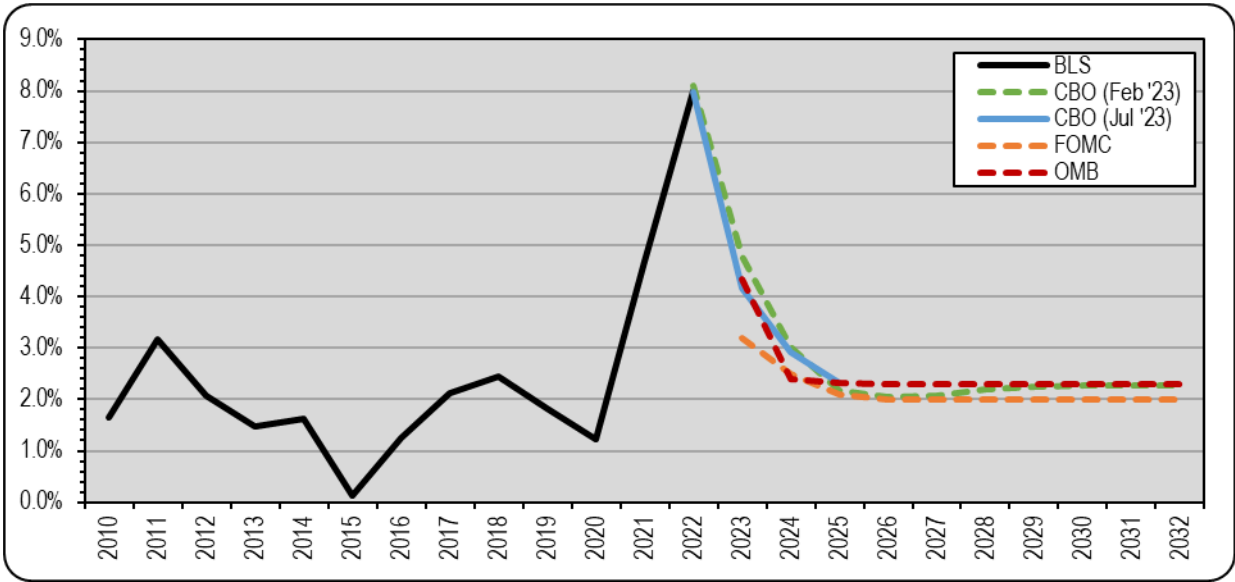
Figure 3-8
Historical Inflation (CPI-U)



Forecast

Figure 3-9 shows the national inflation forecasts by the CBO, FOMC, and OMB. In 2023, the sources expect U.S. inflation around 3.7% and continuously decrease to around 2.1% by 2025. FOMC measures inflation via the Personal Consumption Expenditure (PCE) index, which closely parallels the CPI-U measure. Inflation is thereafter expected to remain at, or close to, the official 2.0% FOMC PCE target rate (that is, monetary policy will work as expected).

Figure 3-9
Forecast Inflation (CPI-U)



3.3.7 Fuel Prices

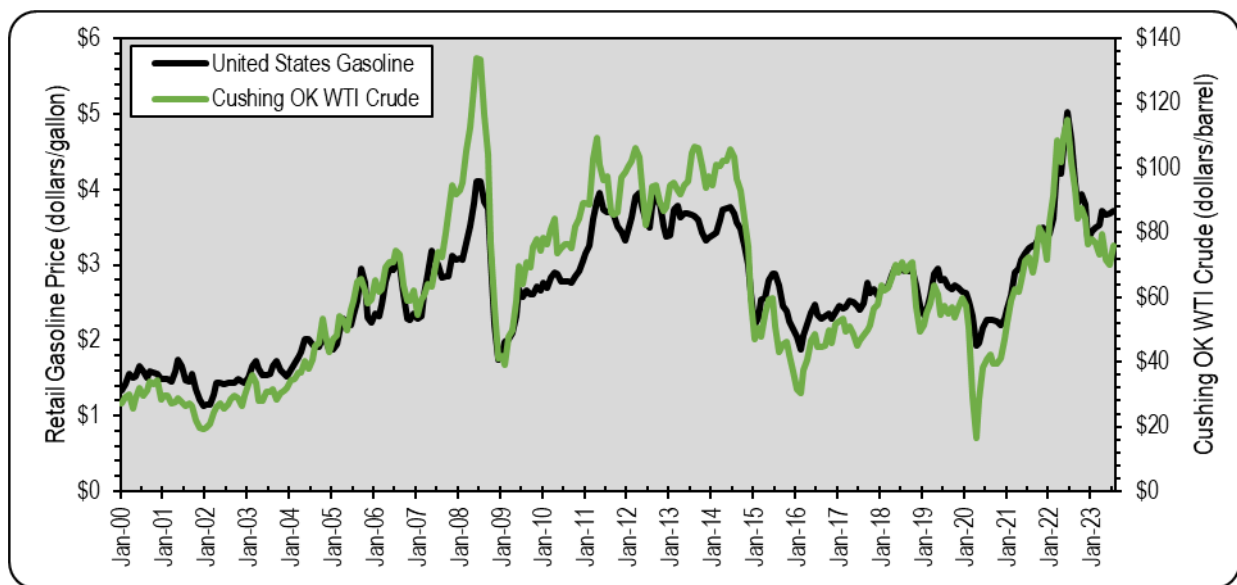
Fuel prices are another important variable related to traffic forecasting. Fuel price increases beyond inflation leads to increasing vehicle operating cost and generally less travel, including less travel on toll facilities. In the reverse, declining fuel prices results in generally more travel. Such divergences and behavioral responses are typically short-lived (within a year).

Historical

Figure 3-10 illustrates the monthly crude oil⁸ and retail gasoline prices⁹ from 2000 to mid-2023. The price data in Figure 3-10 are shown in nominal dollars (i.e., current dollars)¹⁰ and are measured by price per barrel (crude oil) and price per gallon (gasoline).

U.S. gasoline prices ranged from a low of \$1.13 per gallon in December 2001 to a high of \$5.03 per gallon in June 2022. Monthly gasoline since declined to around \$3.75. Retail gasoline prices in the Central Atlantic¹¹ and Lower Atlantic¹² generally tracked national prices, with the Central Atlantic typically 2.1% higher and the Lower Atlantic 2.7% lower.

Figure 3-10
Historical Fuel Prices (Current \$)



Gasoline retail prices generally mirrors crude oil prices since crude oil historically accounted for approximately 50% of gasoline's production costs. Figure 3-10 shows that crude oil ranged from \$16.55 in April 2020 to \$133.88 in June 2008, a with some pronounced volatility in certain months attributable to various reasons (recessions, OPEC, hurricanes, supply/storage shortages, etc.).

⁸ Cushing OK WTI (West Texas Intermediate) spot price per barrel, free on-board delivery.

⁹ Retail price per gallon of unleaded gasoline, all grades, all formulations.

¹⁰ 2000 data are presented in 2000 dollars, 2001 data in 2001 dollars, etc.

¹¹ Central Atlantic includes DE, DC, MD, NJ, NY and PA.

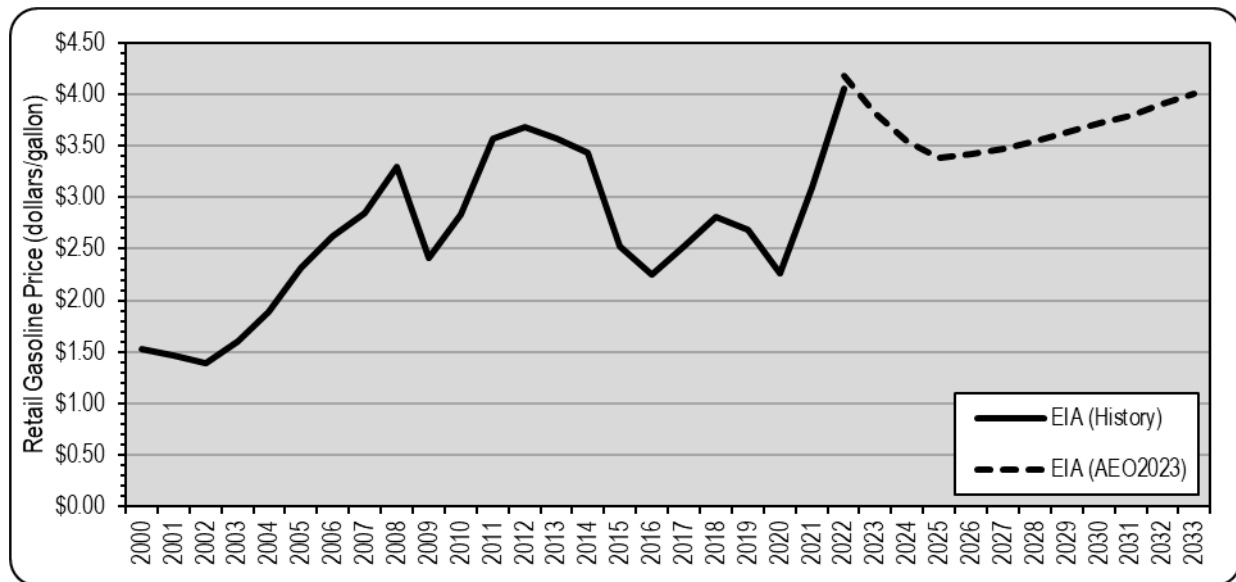
¹² Lower Atlantic includes FL, GA, NC, SC, VA and WV.

Crude oil averaged approximately \$65.00 per barrel in 2018, \$57.00 in 2019, dropping to \$39.00 in 2020, mostly due to the precipitous drop in late-Spring/early-Summer with the onset of COVID-19. In 2021, prices increased to \$68.00 per barrel and in 2022 to \$95.00; as of June 2023, prices are down to \$76.00

Forecast

Figure 3-11 provides national gasoline price forecasts in current dollars. Retail gasoline prices, averaging \$4.06 in 2022 increased notably since 2016; however, the EIA expects prices to steadily reduce through 2025 to \$3.38 and thereafter increase about a dime annually.

Figure 3-11
Forecast Fuel Price (Current \$)



3.4 Risks and Conclusion

COVID-19 significantly impacted the economy and travel. Prior to COVID-19, economic growth was supported by low unemployment, low inflation, and gains in per capita personal income.

Because of the pandemic, some businesses, especially in certain sectors, experienced significant financial hardship and structurally reorganized (especially professional service and other historically office-collated entities). This will continue to impact employment trends, including geographic dispersion. Some impacts related to business activity and employment were mitigated by Federal stimulus programs. The COVID-19 recession and recovery differs from all previous recessions, since it is a public health emergency and not caused by market factors, such as a housing bubble, lax lending standards, or a troubled financial system.

Some supply chains and business structured continue to be impacted (such as professional, financial, and real estate) with other industries generally resuming to pre-COVID operations (such as leisure, hospitality, education, and retail). Pessimistic consumer confidence, which has not recovered at-pace with many other improved macroeconomic factors, such as unemployment

declines, coupled with stubborn inflation, are likely to affect spending patterns for a few more years. International trade has shifted due to demand changes, border restrictions, geopolitics (Russia/Ukraine, China, etc.) and accelerated reshoring and supply-chain redundancy trends.

In the long-term, COVID-related impacts and recovery shifts will be institutionalized. Some industries structurally change. For example, this may include some medical care switching to telehealth and in-person college attendance switching to e-learning permanently. Some population trend changes and impacts may occur including deferral of planned births, lower immigration, and a shift of urban to rural locales. If e-commerce and telecommuting increase even moderately, shifts may arise in commercial real estate, warehousing, distribution, and land use patterns.

Considering travel specifically, the potential macroeconomic changes would impact travel demand and patterns. Much of the immediately observed travel demand contraction in May and April 2020 has already rebounded. However, a full recovery continues to be much more gradual and protracted for some travel sectors. In the mid- and long-term, some baseline travel demand may disappear entirely or shift, and other new changes in travel may emerge. Telecommuting is expected to continue, despite some recent “reversal” pressures; e-commerce will accelerate shifting passenger to delivery vehicles.

Chapter 4

Forecasts by Facility

This chapter summarizes the development of the forecasts of future year transactions and toll revenue for the MDTA system. Separate sections and discussions are provided for the overall assumptions, the Legacy facilities, ICC, I-95 ETLs, and other revenue. The 10-year annual forecast results by facility through FY 2033 are included in this chapter. Monthly forecasts for FY 2024 and FY 2025 are also included.

4.1 Assumptions

Transaction and revenue forecasts were predicated upon the following basic assumptions, which are considered reasonable by CDM Smith for purposes of the forecast:

1. The MDTA toll facilities and approach roads will continue to be well-maintained and effectively signed;
2. No competing highway projects other than those identified in this report will be constructed or significantly improved during the forecast period;
3. MDTA will continue to operate within its business rules and practices;
4. For the purposes of this forecast, it is assumed that no toll rate or toll schedule adjustments will be made during the forecasting period other than those presented in **Chapter 1**;
5. Annual revenue estimates are expressed in future year dollars (nominal);
6. No major recession, natural disasters, future pandemics, or other significant exogenous events will occur that would significantly reduce travel in the region;
7. Socioeconomic growth, including related to population and employment, will occur as presented in this study; and
8. Motor fuel will remain in adequate supply, and future price increases will not significantly exceed the long-term rate of inflation.

Any significant departure from these basic assumptions could materially affect forecasted transactions and toll revenue.

Detailed Assumptions

In addition to the basic assumptions listed above, several other more specific assumptions were made as provided in **Table 4-1**.

Table 4-1
Detailed Forecast Assumptions

Assumption Category	Assumption Detail
Growth	The growth forecast produced by the econometric update (WT#12) and used in last year's annual forecast was used for this study. Based on recent in-lane trends, no adjustments were made to the growth forecast. Additionally, no ongoing COVID impacts are assumed in this forecast.
Construction	Traffic impacts on FSK from FSK deck replacement and Curtis/Bear Creek projects reduced significantly based on input from Dept. of Engineering. Duration of significant impacts from I-895 AET conversion compressed to 12 months.
Backlog Transactions	Assuming no further backlog transactions will be processed in FY24. Only 'backlog' that is assumed in this forecast is the outstanding NOTDs that remain unpaid post Customer Assistance Plan termination that have been sent to MVA/CCU.
NOTD Collection Rates	Collection rates reduced in FY24 based on recent trends in FY23 after Customer Assistance Plan termination. NOTD collection rates are tapered back to a long-term trend by FY26 that is around 5% lower than the prior forecast, due to reduced collection rates for MDTA and other similar facilities. Slight increase in collections at Citation/MVA/CCU assumed in conjunction with near-term NOTD collection rate reduction (since less people paying at NOTD level means more people will be eligible to pay at subsequent levels).
Transactions Sent to MVA	MVA details provided by Transcore assumed to include civil penalty revenue. Assumed collections for transactions already flagged and sent courtesy letters will begin collecting in Sept. 2023 at rates used in previous waterfall model. Transactions still to be mailed MVA letters are being sent at a pace of 33,000 letters per week to the mailhouse. To be conservative and account for delays in payment, assumed 17,500 letters sent per week in the forecast. Collection rates for civil penalties for MVA transactions were also reduced compared to previous waterfall assumptions to account for uncertainty in data and potential leniency in collections.
New Vehicle Classifications	New vehicle classification toll rates assumed to begin on July 1, 2024 (FY 2025).
Toll Changes	No future toll rate changes are assumed.
Forecasting Approach	All transactions and toll revenue as well as civil penalty revenue are forecasted in the month of collection (cash accounting).

Assumptions related to the construction projects listed in **Table 4-1** are discussed in more detail later in this chapter.

4.2 Legacy System

This section provides an overview of the development of the traffic and toll revenue forecasts for the Legacy system. The inputs to the forecast included toll rates by payment method, traffic growth forecasts, E-ZPass® participation percentages, and the impacts associated with planned roadway improvements on the Legacy facilities.

4.2.1 Forecast Methodology

Econometric models were developed for the Legacy system traffic growth forecasts as detailed in last year's forecast summarized in the report *Maryland Transportation Authority FY 2023 Traffic and Toll Revenue Forecast Update*. The econometric models sought to establish correlative relationships between various socioeconomic independent variables (such as population, employment, GRP, etc.) and the dependent variable, transactions. The traffic growth used in this current study is based on the growth from the econometric analysis with adjustments as necessary to account for the most recent traffic and economic trends related to inflation and gas prices, long-term pandemic-related commuting trend changes, as well as construction impacts summarized in the subsequent section. Passenger car and commercial vehicle transactions were

forecasted independently by facility using these growth rates and by benchmarking to actual FY 2023 trends.

Assumptions including those related to construction impacts, outstanding unpaid NOTD transactions incurred during the Customer Assistance Program, and new toll rates for some vehicle classifications were then applied to the estimated normal growth rates. The end-product of the model was a baseline 10-year forecast of transactions and revenue by facility, by vehicle class (passenger cars and commercial vehicles), and by method of payment.

4.2.2 Construction Impacts

The major construction projects expected to impact traffic and revenue on the MDTA Legacy system are described below. In reviewing these projects and estimating the traffic impacts, it was estimated that during the construction periods, some traffic would divert to the next best alternative tolled or toll-free crossing if possible, while a small portion of more discretionary trips would be suppressed.

1. **Eastbound Span of William Preston Lane, Jr Memorial Bridge (US-50)** – This project will rehabilitate the deck of the eastbound span of the William Preston Lane (Bay) Bridge. Construction began in January 2023 and initial construction and material procurement will continue through the end of 2023. Major construction will be performed primarily during off-peak night-time closures which will begin in Winter 2023/2024. Preliminary completion is estimated for Fall 2025.
2. **Subgrade Improvements east of Bear Creek, Francis Scott Key (I-695)** - This project involves drainage repairs and replacement, major roadway subgrade improvements, and roadway paving necessary to address ongoing road and barrier settlement. The project is scheduled to begin in the Winter of 2023/2024. Construction will require long term closure of one direction of I-695 (two lanes) and placing single lane contra flow traffic in the other travel direction. Once the improvements on the closed side are complete, traffic will be switched on to the completed roadway while the other side will be closed to perform improvements. The estimated construction duration is 18 months. For this study, construction was assumed to begin to January 2024.
3. **Rehabilitation of Decks at Curtis Creek Bascule Span, Francis Scott Key Bridge (I-695)** – This project involves replacing the deck of the approach spans of the bascule spans of both inner loop and outer loop bridges of the Curtis Creek bridge. The project is scheduled to begin in the Spring of 2025. Construction will require long term closure of one direction of I-695 and placing contra flow traffic in the other travel direction. Once the deck replacement of the closed side is complete, traffic will be switched on to the completed deck while the other side will be closed to perform deck replacement. The estimated construction duration is 24 months, with a traffic impact duration of 12 months. For this study, this project was assumed to begin after the completion of the subgrade improvements east of Bear Creek.
4. **Replacement of I-895 over I-695 Bridge** - This project proposes to replace the two existing I-895 four simple span steel stringer bridges with two span continuous steel girder bridges crossing over I-695 in Lansdowne, within Baltimore County Maryland. Additional work will include replacement of existing traffic barriers and resurfacing of the roadway within the project

limits. One lane will be maintained in each direction utilizing one bridge while constructing the other bridge. Construction will occur on the I-895 southbound bridge first and then on the northbound bridge. Temporary crossovers for the traffic shift and temporary concrete barriers between the two travel directions will both be used. The ramp from the I-695 outer loop to I-895 northbound will be closed when the I-895 northbound bridge is under construction. Traffic will be detoured to continue on the I-695 outer loop, use the exit to MD 295 northbound, and then to get back on I-895 northbound. Construction is anticipated to begin in 2025 and continue for three years.

5. **Baltimore Harbor Tunnel (I-895) AET Conversion** - This project supports the recent conversion of the facility to cashless tolling by permanently removing the existing toll plaza and installing a gantry tolling system. The project scope also includes geometric improvements to the adjacent interchange ramps at Childs Street, Frankfur Avenue, and Shell Road to comply with AASHTO standards, as well as removal and replacement of the Shell Road ramp, Frankfur Avenue, and access road bridge structures along I-895. The project is tentatively scheduled to begin construction in Winter of 2025/2026 with an estimated construction duration of 3 years. The construction impacts are anticipated to include concurrent single lane closures in both directions of I-895 for a duration of 12 months.
6. **Francis Scott Key Bridge Deck Replacement** - This project involves replacing the deck for the entire length of the bridge as well as the installation of fiberglass jacket protection system at the water pier columns. This project is scheduled to begin the winter of 2029. Construction will require long term closure of one direction of I-695 and placing contra flow traffic in the other travel direction. Once the deck replacement of the closed side is complete, traffic will be switched on to the completed deck while the other side will be closed to perform deck replacement. The estimated construction duration is 3 years.
7. **I-95 ETL Northbound Extension** - This project will involve the widening and reconstruction of I-95 northbound from MD 43 to north of MD 24 to accommodate two new ETL lanes in the northbound direction. The lane configuration from MD 43 to MD 24 will be four general purpose lanes and two ETLs. From MD 24 northbound the configuration will be three general purpose lanes and two ETLs. The ETLs will transition to a single lane ETL and then run concurrent to the three GP lanes until the four lanes transition back to three lanes in advance of the MD 136/Calvary Road Overpass approximately two miles north of MD 24. The completion of construction through the MD 152 Interchange is scheduled for the fall of 2024. The completion of construction through the MD 24 Interchange is scheduled for winter of 2027/2028. Coinciding with the completion of the northbound extension, direct connectors from I-695 eastbound and westbound to I-95 northbound will open as well. Upon completion of the program, there will be three northbound tolling zones on the I-95 ETLs between the I-95/895 split and MD 24: from the I-95/895 split to MD 43, MD 43 to MD 152, and MD 152 to MD 24.

Additional construction projects on the MDTA facilities and competing non-MDTA highways and arterials were also reviewed, but it was determined that the construction activity associated with these projects will result in negligible impacts on MDTA traffic and toll revenue.

4.2.3 Forecast Results

Table 4-2 presents actual collected transactions and toll revenue for the Legacy system for FY 2023 and forecasted collected transactions and toll revenue for FY 2024 through FY 2033 by

passenger cars and commercial vehicles. The forecasts reflect collections after assumed reductions due to unbillable and unpaid trips. **Table 4-3** provides historical and forecasted total transactions and toll revenue for the Legacy system by facility. FY 2024 transactions and revenue are forecasted to decrease slightly over FY 2023 due to reduced collections of backlogged transactions, as all backlogged transactions have been invoiced and the Customer Assistance plan has terminated. However, the transactions that remain unpaid after the plan termination have been sent to the central collections unit (CCU) or for motor vehicle registration hold/suspension (MVA), and it was assumed the share of transactions that will be paid from these outstanding transactions will occur in FY 2024. No further collection of these transactions is assumed in other years of the forecast, which causes the year-over-year decrease in FY 2025. The decline forecasted to occur in FY 2028 is due to the construction planned for the I-696/Francis Scott Key Bridge and I-895/Baltimore Harbor Tunnel facilities as detailed previously in **Section 4.2.2**. After FY 2029, transactions and revenue are not assumed to be impacted by such large construction projects and reflect expected normal growth through the end of the forecast period in FY 2033.

For purposes of budgeting and the tracking of actual versus forecasted transactions and revenue, monthly forecasts of transaction and toll revenue were developed for FY 2024 and FY 2025.

Table 4-4 provides the forecasted monthly transactions and **Table 4-5** provides the forecasted monthly toll revenue for the total Legacy system. Actual 2023 data is shown for July through September for both transactions and revenue. All other monthly data presented in these tables is forecasted.

Table 4-2
Total Legacy System Forecasted Transactions and Toll Revenue Collected by Class

Fiscal Year	Transactions (Millions) ⁽¹⁾			Toll Revenue (\$ Millions) ⁽¹⁾		
	PC	CV	Total	PC	CV	Total
2023 ⁽²⁾	106.4	10.5	116.9	398.9	261.1	660.0
2024	104.9	10.1	115.0	390.5	252.6	643.1
2025	104.5	10.3	114.9	390.0	256.9	646.8
2026	106.3	10.4	116.7	397.8	260.1	657.8
2027	106.4	10.5	116.9	398.1	262.1	660.2
2028	105.0	10.5	115.6	393.0	263.7	656.7
2029	109.0	10.6	119.6	407.7	264.4	672.1
2030	109.7	10.6	120.3	410.6	264.9	675.5
2031	110.4	10.7	121.1	413.3	265.8	679.1
2032	111.2	10.7	121.9	416.1	267.0	683.1
2033	112.0	10.8	122.8	418.9	268.5	687.4

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

⁽²⁾ Represents actual data.

Table 4-3
Legacy System Historical and Forecasted Transactions and Toll Revenue Collected by Facility

Fiscal Year ⁽¹⁾	Transactions (Millions) ⁽⁴⁾								Percent Growth
	JFK	Hatem	BHT	FMT	FSK	Bay	Nice	Total ⁽²⁾	
2019	15.2	5.1	20.8	48.2	12.8	13.6	3.3	119.1	(2.0)
2020 ⁽³⁾	12.5	4.4	14.2	42.3	11.9	11.5	2.8	99.6	(16.4)
2021	8.8	3.1	11.9	29.0	8.4	8.5	1.7	71.5	(28.3)
2022	15.7	4.5	26.0	43.4	12.2	14.8	3.4	120.0	68.0
2023	15.1	4.5	27.4	41.5	12.1	13.3	3.1	116.9	(2.6)
2024 ⁽³⁾	14.8	4.6	27.6	41.1	11.5	12.3	3.0	115.0	(1.6)
2025	15.1	4.6	27.3	41.6	11.2	12.1	3.0	114.9	(0.1)
2026	15.3	4.6	26.5	43.1	11.6	12.6	3.1	116.7	1.6
2027	15.3	4.6	23.7	44.6	12.6	12.9	3.1	116.9	0.2
2028 ⁽³⁾	15.4	4.6	17.7	47.1	14.6	12.9	3.1	115.6	(1.1)
2029	15.5	4.6	28.4	42.8	12.2	13.0	3.2	119.6	3.5
2030	15.6	4.6	29.7	42.8	11.4	13.0	3.2	120.3	0.6
2031	15.7	4.6	30.3	43.2	10.9	13.0	3.2	121.1	0.6
2032	15.7	4.7	30.6	43.5	11.0	13.1	3.2	121.9	0.7
2033	15.8	4.7	30.5	43.7	11.7	13.1	3.3	122.8	0.7
Fiscal Year ⁽¹⁾	Toll Revenue (\$ Millions) ⁽⁴⁾								Percent Growth
	JFK	Hatem	BHT	FMT	FSK	Bay	Nice	Total ⁽²⁾	
2019	176.0	12.2	70.3	217.4	50.5	53.7	21.0	601.1	(0.7)
2020 ⁽³⁾	154.1	11.4	47.5	194.3	47.5	46.0	17.3	518.2	(13.8)
2021	117.2	9.2	39.8	141.5	35.7	33.0	10.8	387.4	(25.2)
2022	197.0	18.3	95.7	225.6	55.9	61.9	24.7	679.0	75.3
2023	191.9	15.1	102.2	215.5	56.8	56.4	22.1	660.0	(2.8)
2024 ⁽³⁾	187.0	15.6	103.4	212.0	53.7	50.8	20.6	643.1	(2.6)
2025	192.2	15.6	101.8	214.4	51.8	49.8	21.2	646.8	0.6
2026	194.4	15.8	99.4	221.1	53.5	52.0	21.6	657.8	1.7
2027	195.5	15.9	89.5	226.5	57.5	53.5	21.8	660.2	0.4
2028 ⁽³⁾	196.6	15.9	67.9	235.3	65.4	53.6	21.9	656.7	(0.5)
2029	197.7	15.9	105.3	220.5	56.7	53.8	22.1	672.1	2.3
2030	198.7	16.0	110.7	221.1	52.8	54.0	22.2	675.5	0.5
2031	199.8	16.0	113.6	223.0	50.2	54.1	22.4	679.1	0.5
2032	200.8	16.1	114.6	224.3	50.5	54.3	22.6	683.1	0.6
2033	201.8	16.1	113.5	225.0	53.8	54.4	22.7	687.4	0.6

⁽¹⁾ Actual data presented for FY 2019 through FY 2023.

⁽²⁾ Summations may not equal total due to rounding.

⁽³⁾ Leap Year

⁽⁴⁾ Includes impacts due to leakage, including unpaid transactions.

Table 4-4
Monthly Collected Transactions by Method of Payment
FY 2024 and FY 2025

Month	Passenger Cars (2-Axle)						Commercial Vehicles (3+ Axle)				Total ⁽¹⁾
	Commuters & Shoppers	MD E-ZPass	Full Fare E-ZPass	Video	Official Duty	Hattem Plan A & B	Total 2-Axle	E-ZPass	Video	Total 3+Axle	
FY 2024											
July	1.678	3.904	2.740	1.187	0.090	0.273	9.872	0.784	0.052	0.836	10.708
August	1.666	3.631	2.563	0.904	0.092	0.261	9.116	0.779	0.032	0.811	9.927
September	1.928	3.886	2.402	0.799	0.111	0.293	9.419	0.858	0.034	0.892	10.310
October	2.005	3.289	2.541	1.197	0.114	0.286	9.431	0.957	0.046	1.003	10.434
November	1.675	2.697	2.379	1.207	0.091	0.274	8.323	0.755	0.047	0.803	9.126
December	1.679	2.721	2.086	1.161	0.086	0.273	8.006	0.717	0.045	0.762	8.768
January	1.663	2.424	2.040	1.211	0.092	0.280	7.710	0.730	0.050	0.780	8.490
February	1.649	2.374	1.778	1.116	0.090	0.254	7.260	0.676	0.045	0.721	7.981
March	1.972	2.933	2.189	1.247	0.111	0.291	8.743	0.850	0.052	0.902	9.645
April	1.723	2.834	2.535	1.211	0.097	0.275	8.675	0.791	0.047	0.839	9.513
May	1.894	3.216	2.605	1.262	0.097	0.275	9.349	0.849	0.051	0.900	10.250
June	1.743	3.079	2.463	1.306	0.100	0.281	8.973	0.821	0.052	0.873	9.846
FY TOTAL	21.273	36.989	28.321	13.808	1.171	3.316	104.877	9.568	0.553	10.121	114.998
FY 2025											
July	1.712	3.907	2.844	1.025	0.091	0.272	9.852	0.799	0.045	0.844	10.696
August	1.700	3.633	2.660	1.065	0.093	0.260	9.411	0.793	0.049	0.843	10.254
September	1.967	3.888	2.493	1.090	0.112	0.293	9.845	0.874	0.050	0.924	10.768
October	2.045	3.291	2.637	1.077	0.116	0.286	9.452	0.975	0.047	1.022	10.474
November	1.709	2.699	2.469	1.025	0.092	0.274	8.269	0.769	0.047	0.817	9.086
December	1.713	2.723	2.165	0.989	0.087	0.273	7.950	0.731	0.045	0.776	8.726
January	1.696	2.426	2.117	0.933	0.093	0.280	7.545	0.744	0.045	0.789	8.334
February	1.682	2.376	1.846	0.885	0.091	0.253	7.133	0.689	0.043	0.731	7.864
March	2.012	2.935	2.272	0.902	0.112	0.291	8.525	0.866	0.044	0.910	9.435
April	1.758	2.836	2.631	0.921	0.098	0.275	8.519	0.806	0.042	0.848	9.367
May	1.932	3.219	2.704	0.976	0.098	0.275	9.203	0.865	0.046	0.911	10.115
June	1.779	3.082	2.556	1.047	0.101	0.281	8.846	0.837	0.047	0.884	9.730
FY TOTAL	21.705	37.015	29.396	11.935	1.186	3.313	104.550	9.748	0.552	10.300	114.850

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions. Summations may not equal total due to rounding.

4-8

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions. Summations may not equal total due to rounding.

4.3 Intercounty Connector

4.3.1 Forecast Methodology and Assumptions

Base ICC annual collected trip and toll revenue forecasts were made using a review and analysis of the most recent historical trends (pre-pandemic) and the latest fiscal year, and adjusting base growth rates estimated in the most recent previous ICC forecast update, as necessary. Estimated trips and revenue reflects collected toll revenue by MDTA after assumed reductions due to leakage of unbillable and unpaid trips. The forecasts reflect the assumptions listed in **Section 4.1**, including those listed in **Table 4-1** related to MDTA business rules, such as NOTD invoicing, new payment methods, and new classifications.

Related to other projects that may potentially impact the ICC, previous sketch-level modeling of the impacts of the Maryland I-495 and I-270 Managed Lanes Traffic Relief Plan (TRP) on the ICC showed the potential for impacts on ICC traffic. The TRP is broken down into multiple phases. On May 12, 2021 the recommended preferred alternative (RPA) for the TRP program was announced to be American Legion Bridge I-270 to I-370 (Phase 1 South). This RPA focuses solely on building a new American Legion Bridge and delivering two high occupancy toll (HOT) managed lanes in each direction on Phase 1 South. No action was taken on the remainder of I-495 east of the I-270 eastern spur. Based on sketch-level modeling, Phase 1 South is not anticipated to have any negative impacts on the ICC forecast projections and could instead have a positive impact. In the future should other phases of the TRP program advance, the potential impacts would need to be monitored. Sketch-level modeling has shown that the ICC appeared to be negatively impacted by priced managed lanes on the I-495 north beltway between I-270 and I-95, as this section of I-495 is parallel to and serves as an alternative route to the ICC for some trips.

4.3.2 Forecast Results

Table 4-6 provides the Intercounty Connector actual collected trips and revenue for FY 2023 and the forecasted collected trips and revenue for FY 2024 through FY 2033, by ETC and video. Due to the historical changes in MDTA business rules and tapering of collection of video transactions incurred prior to termination of the Customer Assistance program, video transactions are forecasted to decrease in FY 2024 over FY 2023, but video revenue will increase. This is largely due to assumptions on the portion of MVA transactions collected in FY 2024 and the average toll associated with these specific transactions. ETC transactions and revenue are both forecasted to increase in FY 2024. Latest daily in-lane traffic trends show the recovery from the pandemic for commuters has leveled off in the most recent fiscal year, so no additional recovery beyond normal growth was assumed in the forecast.

For purposes of budgeting and the tracking of actual versus forecasted transactions and revenue, monthly forecasts of transaction and toll revenue were developed for FY 2024 and FY 2025.

Table 4-7 presents the Intercounty Connector monthly forecasted trips and collected toll revenue for FY 2024 and FY 2025. Actual 2023 data is shown for July through September for transactions and revenue. All other monthly data presented in this table is forecasted.

Table 4-6
Intercounty Connector Forecasted Collected Annual Trips and Collected Toll Revenue

Fiscal Year	Trips (Millions) ⁽¹⁾			Toll Revenue (\$ Millions) ⁽¹⁾		
	E-ZPass	Video	Total	E-ZPass	Video	Total
2023 ⁽²⁾	29.9	4.2	34.1	58.3	11.9	70.2
2024	30.4	3.7	34.2	59.0	12.7	71.8
2025	30.7	3.1	33.9	59.7	8.9	68.6
2026	31.3	3.4	34.7	60.9	9.5	70.4
2027	32.0	3.4	35.4	62.1	9.7	71.8
2028	32.6	3.5	36.1	63.4	9.8	73.2
2029	33.3	3.6	36.8	64.6	10.0	74.6
2030	33.9	3.6	37.5	65.9	10.2	76.1
2031	34.4	3.7	38.1	66.9	10.4	77.3
2032	35.0	3.7	38.7	67.9	10.5	78.4
2033	35.5	3.8	39.3	69.0	10.7	79.7

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

⁽²⁾ Represents actual data.

Table 4-7
Intercounty Connector Forecasted Collected Monthly Trips and Collected Toll Revenue

Month	Trips (Millions) ⁽¹⁾				Toll Revenue (\$ Millions) ⁽¹⁾			
	PC E-ZPass	CV E-ZPass	Video	Total	PC E-ZPass	CV E-ZPass	Video	Total
FY 2024								
July	2.549	0.078	0.337	2.964	\$ 4.484	\$ 0.546	\$ 0.961	\$ 5.992
August	2.340	0.074	0.264	2.677	4.024	0.466	0.733	5.224
September	2.846	0.087	0.231	3.163	5.072	0.638	0.660	6.370
October	2.625	0.091	0.326	3.041	4.684	0.680	0.923	6.287
November	2.302	0.072	0.317	2.691	4.028	0.539	1.167	5.734
December	2.279	0.071	0.302	2.652	4.027	0.546	1.118	5.690
January	2.259	0.068	0.328	2.655	3.958	0.522	1.202	5.681
February	2.038	0.059	0.302	2.398	3.650	0.465	1.129	5.244
March	2.479	0.074	0.336	2.889	4.396	0.569	1.228	6.193
April	2.444	0.079	0.309	2.832	4.388	0.595	1.145	6.127
May	2.796	0.084	0.334	3.214	4.972	0.633	1.228	6.833
June	2.563	0.079	0.340	2.982	4.552	0.597	1.226	6.375
FY TOTAL	29.518	0.915	3.725	34.159	\$ 52.235	\$ 6.797	\$ 12.719	\$ 71.750
FY 2025								
July	2.599	0.079	0.234	2.913	\$ 4.581	\$ 0.578	\$ 0.638	\$ 5.798
August	2.085	0.074	0.255	2.414	3.698	0.541	0.729	4.967
September	2.994	0.098	0.287	3.379	5.316	0.727	0.827	6.871
October	2.666	0.091	0.298	3.055	4.755	0.665	0.849	6.270
November	2.338	0.073	0.274	2.685	4.089	0.527	0.769	5.385
December	2.314	0.071	0.262	2.648	4.088	0.534	0.731	5.353
January	2.295	0.068	0.260	2.622	4.018	0.511	0.728	5.256
February	2.070	0.059	0.247	2.376	3.705	0.455	0.700	4.860
March	2.517	0.075	0.249	2.842	4.463	0.557	0.701	5.722
April	2.482	0.080	0.238	2.800	4.455	0.582	0.668	5.704
May	2.840	0.084	0.264	3.188	5.048	0.620	0.748	6.415
June	2.603	0.079	0.276	2.958	4.621	0.585	0.777	5.983
FY TOTAL	29.803	0.932	3.142	33.877	\$ 52.838	\$ 6.882	\$ 8.864	\$ 68.583

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

4.4 I-95 ETLs

4.4.1 Forecast Methodology and Assumptions

The I-95 ETL forecasts were made using a spreadsheet modeling methodology. The spreadsheet model was calibrated to actual FY 2023 I-95 ETL traffic and revenue performance and was then used to forecast future traffic and revenue for the existing ETL section and the future ETL extensions.

To update the I-95 ETL forecast spreadsheet model, a series of counts were first obtained from the Maryland ITMS count monitoring site to produce a 2022 average weekday traffic profile. The profile was balanced to 2022 levels so to provide a “normal” traffic profile accounting for any new trends on the system after the COVID-19 pandemic. The balanced traffic profile and speed data from INRIX were used to calibrate the tolling algorithms built into the spreadsheet model and to recognize the different peaking patterns by time of day and direction. Similar to a full travel demand model for a priced managed lane forecast, the spreadsheet model tolling algorithm considered value of time, toll rates, travel time savings, and travel time reliability to estimate demand for the ETL.

Once the spreadsheet model was calibrated, it was used to develop the 10-year forecast. The I-95 ETL forecast used the assumptions described in **Section 4.1**, including the detailed assumptions related to methods of payment and vehicle classifications. Also included for the I-95 ETL forecast was the assumption of the future northbound extension. This project will include widening and construction of the I-95 ETLs northbound from MD 43 to beyond MD 24 to accommodate two ETL lanes and I-695 direct connectors as detailed in the construction impacts discussion within **Section 4.2**. A schematic showing the I-95 ETL extensions is included in **Chapter 1**. A baseline growth forecast was applied to estimate future volumes on the corridor. Based on the calibrated settings within the model, the future year models estimated what percent of traffic will choose to use the ETLs based on capacity, estimated future speeds within the corridor, value of time, toll rates, and travel time reliability.

4.4.2 Forecast Results

Table 4-8 provides the forecasted annual trips and toll revenue for the total of the existing section and planned extensions of the I-95 ETLs, including the I-695 direct connectors. Access changes to and from the ETLs are planned with the opening of the extensions

Table 4-8
I-95 ETL Total with Extensions Forecasted Collected Annual Trips and Toll Revenue

Fiscal Year	Trips (Millions) ⁽¹⁾			Toll Revenue (\$ Millions) ⁽¹⁾		
	E-ZPass	Video	Total	E-ZPass	Video	Total
2023 ⁽²⁾	8.6	0.4	9.0	13.3	0.8	14.1
2024	8.9	0.4	9.2	13.6	0.8	14.4
2025 ⁽³⁾	9.8	0.4	10.2	17.4	1.0	18.5
2026	10.7	0.4	11.2	21.4	1.3	22.7
2027	11.2	0.5	11.6	22.4	1.3	23.7
2028 ⁽⁴⁾	13.5	0.6	14.0	28.7	1.7	30.4
2029	15.6	0.6	16.3	34.3	2.0	36.3
2030	16.2	0.7	16.9	35.6	2.1	37.7
2031	16.8	0.7	17.5	37.0	2.2	39.2
2032	17.4	0.7	18.1	38.4	2.2	40.6
2033	18.0	0.7	18.8	39.8	2.3	42.1

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

⁽²⁾ Represents actual data.

⁽³⁾ Phase 1 of northbound extension assumed opening on Jan 1, 2025.

⁽⁴⁾ Phase 2 of northbound extension and I-695 DCs assumed opening on Jan 1, 2028.

For purposes of budgeting and the tracking of actual versus forecasted trips and revenue, monthly forecasts of collected trips and toll revenue were developed for FY 2024 and FY 2025.

Table 4-9 provides the monthly forecasted collected trips and toll revenue for the I-95 ETLs by passenger car and commercial vehicle. Actual 2023 data is shown for July through September for transactions and revenue. All other monthly data presented in this table is forecasted.

Table 4-9
I-95 ETL Forecasted Monthly Collected Trips and Toll Revenue

Month	Trips (Millions) ⁽¹⁾			Toll Revenue (\$ Millions) ⁽¹⁾		
	E-ZPass	Video	Total	E-ZPass	Video	Total
FY 2024						
July	0.776	0.035	0.811	1.149	0.079	1.228
August	0.801	0.027	0.828	1.189	0.056	1.245
September	0.713	0.028	0.741	1.106	0.066	1.172
October	0.768	0.034	0.802	1.188	0.078	1.267
November	0.755	0.031	0.786	1.161	0.071	1.232
December	0.725	0.030	0.754	1.122	0.069	1.191
January	0.617	0.025	0.641	0.976	0.058	1.034
February	0.576	0.022	0.598	0.908	0.050	0.958
March	0.705	0.026	0.732	1.112	0.062	1.173
April	0.804	0.031	0.835	1.228	0.070	1.298
May	0.807	0.031	0.838	1.248	0.071	1.320
June	0.810	0.033	0.844	1.250	0.076	1.326
FY TOTAL	8.857	0.352	9.209	\$ 13.638	\$ 0.806	\$ 14.444
FY 2025						
July	0.858	0.039	0.897	1.507	0.102	1.609
August	0.922	0.038	0.960	1.622	0.099	1.722
September	0.824	0.038	0.862	1.471	0.099	1.570
October	0.841	0.037	0.879	1.497	0.096	1.594
November	0.827	0.034	0.861	1.462	0.088	1.549
December	0.794	0.033	0.827	1.414	0.085	1.499
January	0.676	0.027	0.703	1.233	0.071	1.305
February	0.632	0.024	0.655	1.146	0.062	1.208
March	0.774	0.029	0.802	1.404	0.076	1.480
April	0.881	0.034	0.914	1.544	0.087	1.631
May	0.884	0.034	0.918	1.573	0.088	1.661
June	0.888	0.036	0.924	1.574	0.094	1.668
FY TOTAL	9.800	0.403	10.203	\$ 17.448	\$ 1.048	\$ 18.496

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

4.5 Other Revenue

4.5.1 Forecast Methodology and Assumptions

In addition to collected toll revenue, MDTA also collects “Other Revenue” associated with the operation of its facilities. These have been summarized into the following categories:

1. Unused Commuter and Shoppers Plan Trips
2. Transponder Fees and Sales
 - a. Transponder sales
 - b. Monthly Service Fees
3. Hatem E-ZPass® program
4. Violation Recovery
5. Commercial Vehicle Fees and Discounts
 - a. Post-Usage Discount
 - b. Supplemental Rebate Plan
 - c. Over-Size Permit Fee

The following sub-sections provide a description of each of the other revenue categories that are considered in this forecast. Note that previously CDM Smith also included another category called concession revenue in the annual forecast update. At the direction of MDTA, in this forecast concession revenue is no longer included in other revenue.

Unused Commuter and Shoppers Plan Trips

MDTA provides customers the option to enroll in commuter plans which provide discounts for frequent trips. As discussed previously in **Chapter 1**, MDTA offers three different Commuter Plans based on the facilities included in the plan as well as a Shoppers Plan. All plans allow customers to purchase a large number of discounted trips that must be used in a specific time period. Any remaining balance after the time periods have expired is included in other revenue as “unused pre-paid trip revenue”.

Transponder Fees and Sales

As of May 23, 2018, the \$7.50 cost for the Standard E-ZPass® transponder was eliminated, while costs for the Exterior Mount and Flex transponders are \$13.50 and \$16.50, respectively. The Standard is the more typical windshield mounted transponder, the Exterior is mounted to a passenger car’s front license plate, and the Flex is for those traveling on Express Lanes and allows vehicles to indicate if they have the number of people in their vehicle to qualify for HOV discounts using the switch to display “HOV On”.

Prior to July 1, 2015, account holders were subject to a monthly account fee of \$1.50. Accounts making three-or-more transactions per month were exempt from this fee, but any user with less than three transactions were charged. As of July 1, 2015, this monthly account fee was eliminated for Maryland E-ZPass® account holders. Monthly fees are still assessed on Maryland E-ZPass® accounts for out-of-state customers but were temporarily paused in FY 2022 as part of customer focused business rule changes. These fees were resumed in FY 2023 on August 10th, 2022.

Hatem E-ZPass® Program

The Hatem Bridge E-ZPass® Program provides drivers with two possible plan options. Choice A allows drivers with a two-axle vehicle to pay \$20 per year for unlimited trips without any additional fees or prepaid toll deposits. However, this plan allows the E-ZPass® to only be used on the Hatem Bridge, and cannot be used at other toll facilities or with other E-ZPass® discount plans. Choice B is an add-on to a standard Maryland E-ZPass® account. This allows drivers to pay \$20 per year for unlimited trips at the Hatem Bridge. There are associated account maintenance fees for non-Maryland accounts as well as a pre-paid toll balance, but this plan also gives drivers a discount off the base toll rate for two-axle vehicles at all Maryland toll facilities, excluding the Intercounty Connector and I-95 Express Toll Lanes, and can be combined with other discount plans. The discount provided is 37.5 percent for the Bay Bridge and 25 percent for all other facilities. Revenue associated with purchasing these plans is included in the other revenue.

Violation Recovery

Historical violation recovery data through FY 2023 have been provided by MDTA. Prior to FY 2016, “violation fees” were charged to drivers who chose not to initially pay their toll. Since video customers are no longer assessed “violations fees” but are instead assessed civil penalties if they do not pay their video tolls within 45 days, no estimates of future “violation fee” revenue for the Legacy facilities, the ICC and I-95 Express Toll Lanes are included in the other revenue forecast. Future forecasts of civil penalty revenue are based on the following assumptions:

- Civil penalties were reduced from \$50 to \$25 in FY 2021 for all transactions with civil penalties and will remain at \$25 for the duration of the forecast.
- Civil penalty collections in FY 2023 were impacted due to the MDTA customer assistance program which was initiated in February 2022 and terminated December 14, 2022. Civil penalty collections are assumed to be returned to normal procedure in FY 2024.

Commercial Vehicles Fees and Discounts

There are two available discount programs for commercial vehicles with five-or-more-axles. The first plan is the post-usage plan, which is account specific and can be used on all eligible facilities. With this plan, each account is assessed after 30 days and the post-usage discount is calculated based on the total toll usage. The fee estimates for this program were developed from existing data and historical trends.

The other available discount plan is similar in that it is account specific and can be used on all eligible facilities. With this plan however, the account assessment after 30 days calculates the discount based on the total trips per transponder.

In addition to the two discount plans available to commercial vehicles, there is a fee for over-sized and/or overweight vehicles. As of May 1, 2009, a \$25 permit fee was charged and covered all MDTA maintained roadways along the vehicle’s route. This fee is a one-time charge and is not applied at any specific tolling location.

4.5.2 Forecast Results

Table 4-10 provides the historical and forecasted other revenue for the Legacy facilities, ICC, and I-95 ETLs. Historical data is shown for FY 2019 through FY 2023. Due to the business rule changes taken by MDTA, other revenue increased by 43 percent from FY 2021 to FY 2022, and 25 percent from FY 2022 to FY 2023. This is due to an increase in processing of the backlogged video transactions, leading to an increase in civil penalty collections in FY 2022 and FY 2023, particularly after to the termination of the customer assistance program. Other revenue is forecasted to increase again significantly in FY 2024 due to the outstanding unpaid video transactions that have been sent to MVA/CCU. It is assumed that a large amount of civil penalty revenue will be collected from these outstanding transactions, before returning to a more normal trend in FY 2025 and FY 2026.

Table 4-11 provides the FY 2024 and FY 2025 monthly other revenue forecast for the combined Legacy facilities, ICC, and I-95 ETLs.

Table 4-10
Other Revenue by Facility

Fiscal Year ⁽¹⁾	Legacy Facilities										Intercounty Connector & I-95			
	Service Fees and Sales					Violation Recovery		Commercial Vehicles			Service Fees and Sales		Violation Recovery	
	Unused Pre-Paid Trip Revenue	Transponder Sales	Monthly Account Fees	Hattem E-Z Pass Program	Civil Penalties	Post-Usage Discount	High Frequency Discount	Over-size Permit Fee	Transponder Sales	Monthly Account Fees	Civil Penalties	Total Other Revenue ⁽²⁾		
2019	14.00	(0.60)	1.59	1.68	21.27	(8.58)	(1.20)	1.26	(0.10)	0.27	10.19	39.78		
2020	10.64	0.22	2.05	1.69	16.93	(8.63)	(1.30)	1.06	0.04	0.34	11.93	34.96		
2021	4.49	(0.12)	2.01	1.57	13.66	(6.76)	(0.84)	1.05	(0.00)	0.05	3.58	18.70		
2022	11.41	0.33	(0.32)	1.76	18.03	(10.87)	(1.02)	1.19	0.04	(0.04)	6.17	26.68		
2023	16.90	0.29	2.36	1.86	14.42	(8.54)	(0.97)	1.28	0.03	0.26	5.47	33.36		
2024	15.86	0.29	2.14	1.86	57.39	(8.58)	(0.98)	1.29	0.03	0.26	11.89	81.45		
2025	15.94	0.29	2.15	1.87	29.25	(8.63)	(0.98)	1.30	0.03	0.27	6.65	48.14		
2026	16.02	0.29	2.16	1.87	27.97	(8.67)	(0.98)	1.30	0.03	0.27	6.43	46.69		
2027	16.10	0.29	2.17	1.88	28.19	(8.71)	(0.99)	1.31	0.03	0.27	6.56	47.10		
2028	16.18	0.29	2.18	1.88	28.41	(8.76)	(0.99)	1.32	0.03	0.27	6.69	47.50		
2029	16.26	0.29	2.19	1.89	28.63	(8.80)	(1.00)	1.32	0.03	0.27	6.82	47.91		
2030	16.34	0.29	2.20	1.89	28.85	(8.85)	(1.00)	1.33	0.03	0.27	6.93	48.29		
2031	16.42	0.29	2.21	1.90	29.06	(8.89)	(1.01)	1.34	0.03	0.27	7.03	48.67		
2032	16.50	0.29	2.23	1.90	29.28	(8.93)	(1.01)	1.34	0.03	0.28	7.14	49.04		
2033	16.59	0.29	2.24	1.91	29.49	(8.98)	(1.02)	1.35	0.03	0.28	7.25	49.42		

Source: Historical data from MDTA

(1) FY 2019 - 2023 represents actual data.

(2) Summations may not match total due to rounding.

Table 4-11
Forecasted Monthly Other Revenue

Month	Total Other Revenue
FY 2024	
July	4.044
August	4.446
September	5.615
October	8.437
November	7.285
December	7.027
January	6.683
February	6.283
March	7.679
April	7.665
May	8.395
June	7.895
FY TOTAL	\$ 81.454
FY 2025	
July	4.068
August	3.764
September	4.017
October	3.812
November	3.959
December	4.151
January	4.003
February	4.043
March	4.202
April	4.196
May	4.041
June	3.882
FY TOTAL	\$ 48.138

Chapter 5

Total Forecast Results

This chapter provides a summary of the total MDTA system collected transactions/trips and revenue for all facilities. **Table 5-1** provides the total annual collected transactions for the Legacy system and total trips for the Intercounty Connector (ICC) and I-95 ETLs for FY 2023 actual and the FY 2024 to FY 2033 forecast.

Table 5-1
Total System Collected Transactions/Trips

Fiscal Year	Transactions (millions)				Percent Change
	Legacy	ICC	I-95 ETL	Total ⁽¹⁾	
2023 ⁽²⁾	116.9	34.1	9.0	160.0	-
2024	115.0	34.2	9.2	158.4	(1.0)
2025	114.9	33.9	10.2	158.9	0.4
2026	116.7	34.7	11.2	162.6	2.3
2027	116.9	35.4	11.6	163.9	0.8
2028	115.6	36.1	14.0	165.7	1.1
2029	119.6	36.8	16.3	172.7	4.2
2030	120.3	37.5	16.9	174.7	1.2
2031	121.1	38.1	17.5	176.7	1.1
2032	121.9	38.7	18.1	178.7	1.2
2033	122.8	39.3	18.8	180.8	1.2

⁽¹⁾ Summations may not equal total due to rounding.

⁽²⁾ Represents actual data.

Table 5-2 provides the total system collected revenue, summarized by Legacy system toll revenue, ICC toll revenue, I-95 ETL toll revenue, and other revenue for all MDTA facilities for FY 2023 actual and the FY 2024 to FY 2033 forecast.

Figure 5-1 provides a graphical representation of the share of transactions/trips by facility for the first year and last year of the 10-year forecast, FY 2024 and 2033. In FY 2024, the Legacy system is forecasted to account for 73 percent of total transactions and trips, and the I-95 ETLs are forecasted to account for the smallest share at six percent. By FY 2033, due to comparatively higher growth rates on the ICC and I-95 ETLs, and the I-95 ETL extension, the Legacy system is forecasted to account for 68 percent of total transactions. ICC trips are forecasted to increase slightly from 21 to 22 percent, and the I-95 ETL trips are forecasted to increase to 10 percent by FY 2033.

Table 5-2
Total System Collected Toll and Other Revenue

Fiscal Year	Revenue (\$ millions)					Percent Change
	Legacy	ICC	I-95 ETL	Other ⁽¹⁾	Total ⁽²⁾	
2023 ⁽³⁾	660.0	70.2	14.1	33.4	777.6	-
2024	643.1	71.8	14.4	81.5	810.8	4.3
2025	646.8	68.6	18.5	48.1	782.0	(3.5)
2026	657.8	70.4	22.7	46.7	797.6	2.0
2027	660.2	71.8	23.7	47.1	802.7	0.6
2028	656.7	73.2	30.4	47.5	807.8	0.6
2029	672.1	74.6	36.3	47.9	830.9	2.9
2030	675.5	76.1	37.7	48.3	837.5	0.8
2031	679.1	77.3	39.2	48.7	844.2	0.8
2032	683.1	78.4	40.6	49.0	851.2	0.8
2033	687.4	79.7	42.1	49.4	858.6	0.9

⁽¹⁾ Includes Other Revenue from Legacy, ICC, and I-95 ETL. Does not include concession revenue.

⁽²⁾ Summations may not equal total due to rounding.

⁽³⁾ Represents actual data.

Figure 5-1
Share of Collected Transactions/Trips, FY 2024 and FY 2033

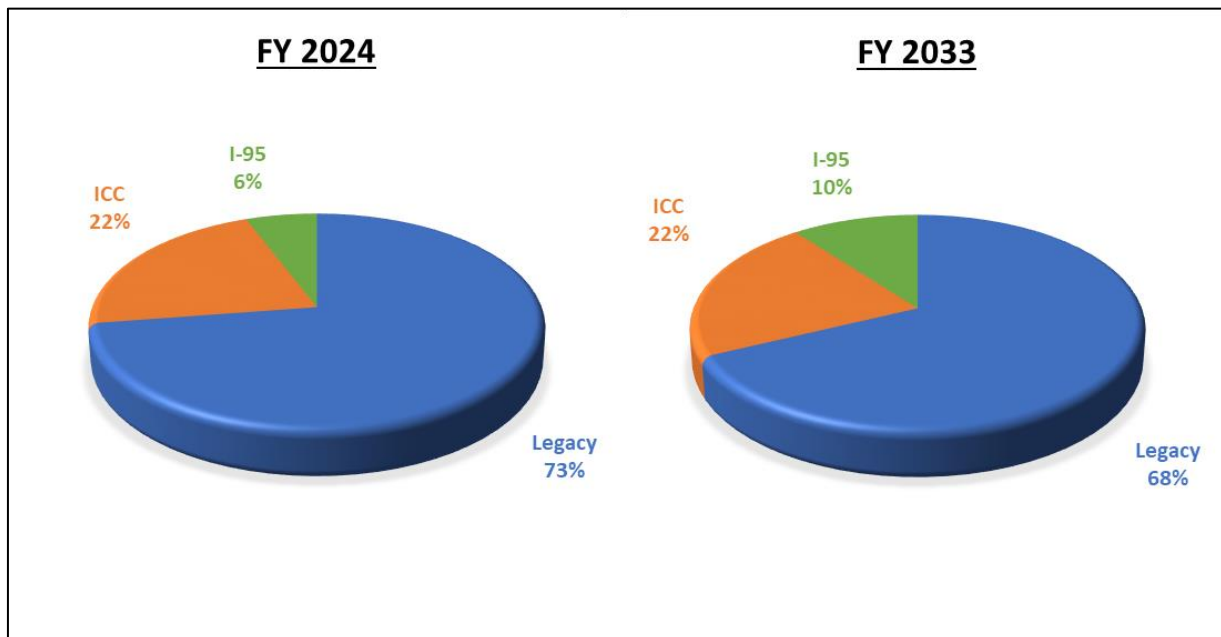


Figure 5-2 provides the same graphical representation for collected total revenue, separated by facility toll revenue and other revenue. Due to the higher share of transactions, the Legacy system also provides the highest share of total revenue and is forecasted to stay at 80 percent in FY 2024 and FY 2033. The ICC and I-95 ETLs will increase slightly from FY 2024 to FY 2033, while other revenue is forecasted to decrease in share of total revenue from 10 percent in FY 2024 to six percent in FY 2033 due to the increase in civil penalty revenue from outstanding NOTD transactions. Therefore, it should be taken into account that FY 2024 other revenue will be higher than a typical year.

Figure 5-2
Share of Collected Total Revenue, FY 2024 and FY 2033

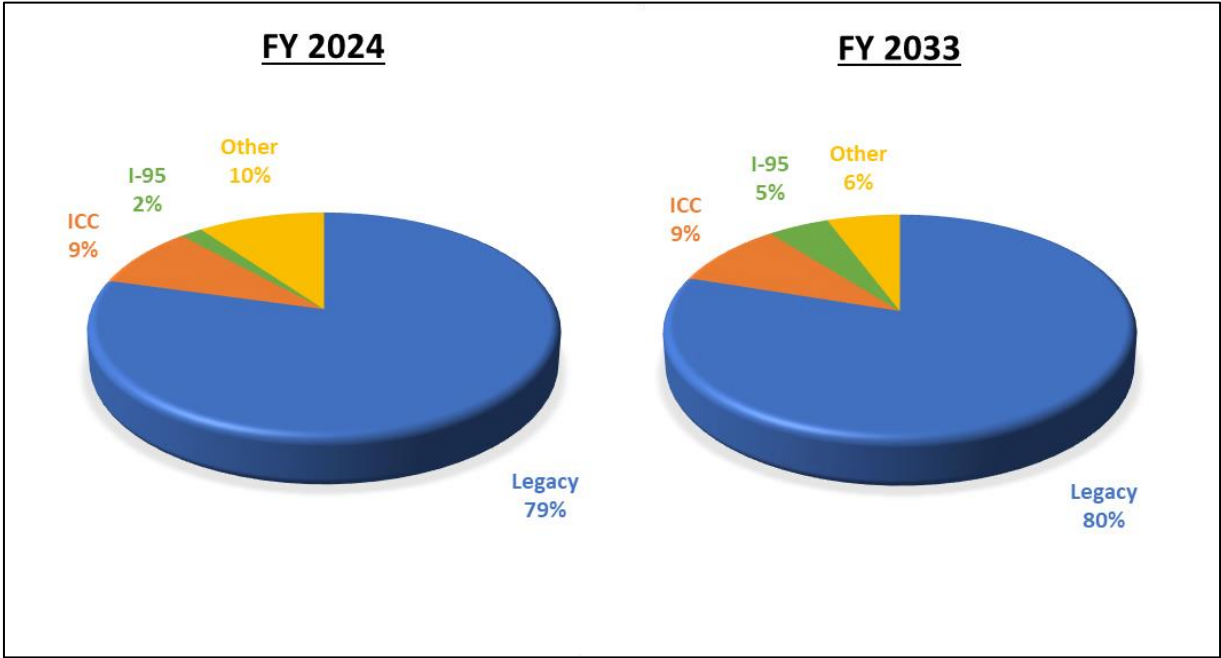


Table 5-3 summarizes the FY 2024 and FY 2025 monthly forecasted transactions, toll revenue, and other revenue for the combined Legacy system, ICC, and I-95 ETL's.

Table 5-3
Total System Collected Monthly Transactions, Toll Revenue, and Other Revenue

Month	Transactions (Millions) ⁽¹⁾	Revenue (\$ Millions) ⁽¹⁾⁽²⁾		
		Toll	Other	Total
FY 2023				
July	14.482	65.358	4.044	69.402
August	13.433	60.027	4.446	64.473
September	14.215	62.537	5.615	68.152
October	14.277	66.371	8.437	74.808
November	12.603	58.743	7.285	66.028
December	12.174	56.377	7.027	63.404
January	11.786	55.719	6.683	62.402
February	10.977	51.086	6.283	57.370
March	13.265	62.176	7.679	69.855
April	13.180	61.485	7.665	69.150
May	14.302	65.817	8.395	74.212
June	13.671	63.626	7.895	71.521
FY TOTAL	158.366	\$ 729.322	\$ 81.454	\$ 810.776
FY 2024				
July	14.506	65.040	4.068	69.108
August	13.628	62.786	3.764	66.550
September	15.009	66.815	4.017	70.832
October	14.408	68.553	3.812	72.365
November	12.631	58.907	3.959	62.866
December	12.200	56.556	4.151	60.707
January	11.660	54.868	4.003	58.871
February	10.895	50.550	4.043	54.593
March	13.079	60.833	4.202	65.035
April	13.081	60.711	4.196	64.906
May	14.221	65.147	4.041	69.188
June	13.613	63.144	3.882	67.026
FY TOTAL	158.930	\$ 733.908	\$ 48.138	\$ 782.046

⁽¹⁾ Includes impacts due to leakage, including unpaid transactions.

⁽²⁾ Other revenue does not include concession revenue.

Chapter 6

Forecast Comparisons

This chapter provides comparisons of the current forecasts for the Legacy system, Intercounty Connector, and I-95 ETL's against the previous forecasts from the November 2022 annual update in the report "Maryland Transportation Authority FY 2023 Traffic and Toll Revenue Forecast Update."

Table 6-1 provides the forecast comparison for the Legacy system, with actual revenue shown for FY 2022 and FY 2023 in the current forecast. Passenger car revenue is forecasted to be higher than the previous forecast in all years due to increased E-ZPass transactions and updated construction impacts. In the current forecast construction schedules and traffic impacts were updated, as detailed in **Section 4.2.2**, with certain start dates and project durations being affected. Commercial vehicles have performed well during the pandemic and have shown growth even over pre-pandemic levels. In the current forecast, the overperformance from FY 2023 of 7.6 percent is expected to increase to around 10 percent throughout the forecast.

Table 6-1
Legacy System Toll Revenue Comparison

Fiscal Year	Passenger Cars			Commercial Vehicles			Total Vehicles		
	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾
2022	\$ 413.6	-	\$ 413.6	\$ 265.4	-	\$ 265.4	\$ 679.0	-	\$ 679.0
2023	371.8	7.3%	398.9	242.5	7.6%	261.1	614.3	7.4%	660.0
2024	369.5	5.7%	390.5	234.1	7.9%	252.6	603.6	6.6%	643.1
2025	372.3	4.7%	390.0	233.6	10.0%	256.9	605.9	6.8%	646.8
2026	367.1	8.3%	397.8	234.9	10.7%	260.1	602.1	9.3%	657.8
2027	369.8	7.6%	398.1	236.2	11.0%	262.1	606.0	8.9%	660.2
2028	379.2	3.6%	393.0	237.8	10.9%	263.7	617.0	6.4%	656.7
2029	388.0	5.1%	407.7	239.6	10.3%	264.4	627.6	7.1%	672.1
2030	388.4	5.7%	410.6	240.8	10.0%	264.9	629.2	7.4%	675.5
2031	391.1	5.7%	413.3	241.9	9.9%	265.8	633.0	7.3%	679.1
2032	396.0	5.1%	416.1	243.0	9.9%	267.0	639.0	6.9%	683.1
2033	-	-	418.9	-	-	268.5	-	-	687.4

⁽¹⁾ Actual revenue shown for 2022 and 2023.

Table 6-2 provides the forecast comparison for the Intercounty Connector. The current forecast is higher than the November 2022 forecast by 9.4 percent in FY 2024, tapering down to -3.2 percent by FY 2026. This reduction is due to revised forecast assumptions that some portion of the impacts of the pandemic on commuting and travel patterns will persist throughout the forecast period. Further recovery beyond normal growth on trips on the ICC and I-95 ETLs was not assumed in the current forecast. Additionally, the current forecast has been benchmarked to latest trends on the ICC including the average toll, which more accurately adjusts the vehicle class distribution and trip length in the transactions on the facility compared to last year's forecast.

Table 6-2
Intercounty Connector Comparison

Fiscal Year	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾
2022	\$ 84.9	0.0%	\$ 84.9
2023	63.5	10.4%	70.2
2024	65.6	9.4%	71.8
2025	68.2	0.6%	68.6
2026	72.7	-3.2%	70.4
2027	74.2	-3.2%	71.8
2028	75.6	-3.2%	73.2
2029	77.1	-3.2%	74.6
2030	78.7	-3.3%	76.1
2031	79.9	-3.3%	77.3
2032	81.1	-3.3%	78.4
2033	-	-	79.7

⁽¹⁾ Actual revenue shown for 2022 and 2023.

Table 6-3 provides the forecast comparison for the I-95 ETLs. In the current forecast, near-term projections were revised to the latest FY 2023 trends. Baseline growth from the November 2022 forecast was used, but all COVID-19 recovery assumptions were removed, similar to the ICC. In FY 2028, the opening of the final piece of the northbound extension and I-695 direct connector ramps are assumed to open mid-fiscal year. The trips produced from this new portion were increased based on updates to the traffic profile using calendar year 2022 traffic counts provided by MDTA.

Table 6-3
I-95 ETLs Comparison

Fiscal Year	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾
2022	\$ 14.1	0.0%	\$ 14.1
2023	16.1	-12.7%	14.1
2024	17.2	-16.0%	14.4
2025	19.4	-4.7%	18.5
2026	21.5	5.3%	22.7
2027	22.8	4.1%	23.7
2028	27.2	11.8%	30.4
2029	32.1	13.2%	36.3
2030	33.9	11.2%	37.7
2031	35.7	9.7%	39.2
2032	37.7	7.9%	40.6
2033	-	-	42.1

⁽¹⁾ Actual revenue shown for 2022 and 2023.

Table 6-4 provides the forecast comparison for other revenue. Actual FY 2023 other revenue came in much higher than forecast, due to overperformance in civil penalty collections. The previous forecast assumed no civil penalties would be collected until after the termination of customer assistance plan, but some customers continued to pay outstanding civil penalties in the first half of the fiscal year. FY 2024 other revenue is forecasted to be nearly 76 percent higher than the previous forecast due to the assumptions for MVA/CCU collections. In the previous forecast, it was assumed that processing of the backlog transactions would still be ongoing through this fiscal year but that has already been completed. All the transactions that remain unpaid after the termination of the customer assistance plan have been flagged for motor vehicle registration suspension and sent to the CCU. It was assumed in the current forecast that many of these transactions would be paid in FY 2024 as normal enforcement resumes. For all remaining years of the forecast, the current forecast is lower in the range of 5 to 10 percent based on conservativeness for civil penalty collections until normal trends are established on the system under the AET condition.

Table 6-5 provides the forecasted total revenue comparison for the entire MDTA system.

Table 6-4
Other Revenue Comparison⁽¹⁾

Fiscal Year	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽²⁾
2022	\$ 26.7	0.0%	\$ 26.7
2023	22.6	47.7%	33.4
2024	46.4	75.5%	81.5
2025	50.6	-4.8%	48.1
2026	50.0	-6.6%	46.7
2027	50.6	-6.9%	47.1
2028	52.5	-9.4%	47.5
2029	53.1	-9.7%	47.9
2030	53.4	-9.5%	48.3
2031	53.8	-9.5%	48.7
2032	54.2	-9.5%	49.0
2033	-	-	49.4

⁽¹⁾ Other revenue forecasts do not include concession revenue.

⁽²⁾ Actual revenue shown for 2022 and 2023.

Table 6-5
Total System Revenue Comparison

Fiscal Year	Total System		
	Nov. 2022	% Diff - Current vs. Nov. 2022	Current ⁽¹⁾
2022	\$ 804.7	0.0%	\$ 804.7
2023	716.6	8.5%	777.6
2024	732.8	10.6%	810.8
2025	744.1	5.1%	782.0
2026	746.3	6.9%	797.6
2027	753.5	6.5%	802.7
2028	772.3	4.6%	807.8
2029	789.9	5.2%	830.9
2030	795.1	5.3%	837.5
2031	802.3	5.2%	844.2
2032	812.0	4.8%	851.2
2033	-	-	858.6

⁽¹⁾ Actual revenue shown for 2022 and 2023.

Disclaimer

CDM Smith used currently-accepted professional practices and procedures in the development of the traffic and revenue estimates in this report. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the MDTA. CDM Smith also relied upon the reasonable assurances of independent parties and is not aware of any material facts that would make such information misleading.

CDM Smith made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue estimates that must be considered as a whole; therefore, selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit of partial information extracted from this report.

All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including MDTA. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Certain variables such as future developments, economic cycles, pandemics, government actions, climate change related events, or impacts related to advances in automotive technology etc. cannot be predicted with certainty and may affect the estimates or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any estimate or projection contained within this report.

While CDM Smith believes that the projections and other forward-looking statements contained within the report are based on reasonable assumptions as of the date of the report, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.

The report and its contents are intended solely for use by the MDTA and designated parties approved by MDTA and CDM Smith. Any use by third-parties, other than as noted above, is expressly prohibited. In addition, any publication of the report without the express written consent of CDM Smith is prohibited.

CDM Smith is not, and has not been, a municipal advisor as defined in Federal law (the Dodd Frank Bill) to MDTA and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to MDTA with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to MDTA. MDTA should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

TAB 8



Maryland Transportation Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:
Dontae Carroll Cynthia D. Penny-Ardinger
William H. Cox, Jr. Jeffrey S. Rosen
W. Lee Gaines, Jr. Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E. John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Director of Budget Jeffrey Brown
SUBJECT: Review of Fiscal Year (FY) 2025 Preliminary Operating Budget vs. FY 2024 Final Budget
DATE: November 29, 2023

PURPOSE

The purpose of this memorandum is to request approval to the Maryland Transportation Authority (MDTA) Board for the FY 2025 Preliminary Operating Budget.

KEY TAKEAWAYS

Key points regarding the FY 2024 Final Operating Budget relative to the FY 2025 Preliminary Operating Budget:

FY 2025 Preliminary Operating Budget Request

Summary of Major Changes (\$ millions)

FY 2025 Preliminary Operating Budget Request	\$421.4
FY 2024 Final Operating Budget	400.1
\$ Change FY 2025 vs FY 2024	21.3
% Change FY 2025 vs FY 2024	5.3%

The proposed FY 2025 Preliminary Operating Budget of \$421.4 million, represents a \$21.3 million, or 5.3%, increase versus the FY 2024 Final Budget. Overall, the key drivers of the increase are mandated personnel expenses, E-ZPass® service center costs, engineering costs and insurance premiums.

ANALYSIS

To better understand the budgetary changes and their associated drivers, the changes have been analyzed by mandated and discretionary expenses.

FY 2024 Final Operating Budget	\$400.1
Mandated Increases	9.4
Additions	14.8
Reductions	(2.9)
FY 2025 Prelim Operating Budget	\$421.4

Attachment 1 – identifies the mandated and discretionary additions and reductions.

The mandated changes increased the budget by \$9.4 million and are as follows:

- Police COLA of 5% increases the budget \$2.6 million.
- Maryland State Police increases due to personnel and an overhead rate increase totaling \$2.3 million.
- On time step increases for sworn and civilian employees totaling \$1.7 million.
- Civilian COLA of 2% increases the budget \$1.6 million.
- Employee & Law Enforcement Officers Pension System (0161, 0169) retirement costs account for a \$0.8 million increase.
- Overtime (0104) increases (due to vacancies) by \$0.5 million.
- Social Security (0151) increases \$0.4 million primarily due rate changes.
- Other (reclasses, other fringe, accrued leave, etc.) decreases \$0.5 million.

The operating budget includes \$14.8 million in additional discretionary spending. The key variances are as follows:

- *E-ZPass*® Service Center Costs (0873) increases \$4.0 million. The increase reflects updated transaction volumes, AET lane administration, and cost assumptions.
- Engineers (0807) account for a \$2.9 million increase. This increase represents additional compliance costs, project costs, and updated market rates (labor and overhead).
- Insurance premiums (1309) increases \$1.9 million due to market cost pressures.

FY 2025 Preliminary Operating Budget
Page Three

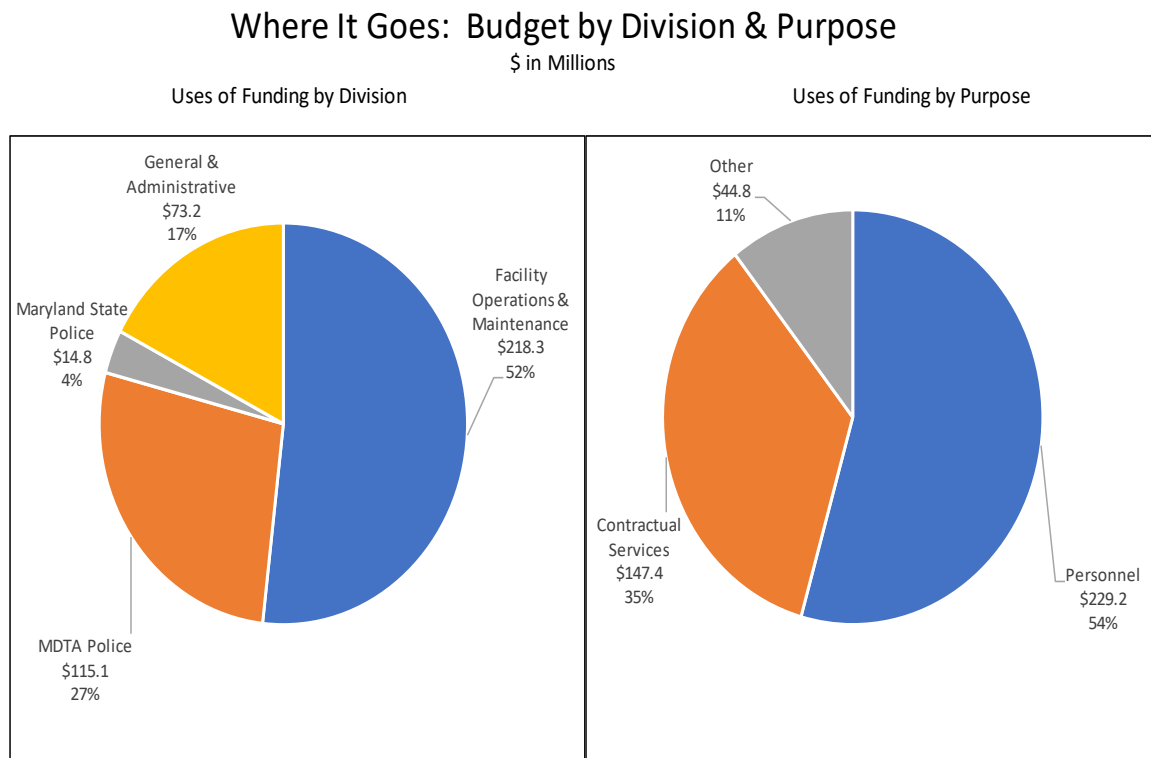
- Telephone system updates (0302) (*e.g.*, software and equipment enhancements) increase the budget \$0.6 million.
- Telecomm Lines (0849) increases \$0.5 million due to the traffic control contract (transfer of cost from 0812).
- Radios & Electronic Equipment (1119) increases \$0.5 million due to the Communication Electronics Incorporated contract.
- Management Studies & Consultants (0821) increases \$0.5 million primarily for consulting services related to analyzing the MDTA's Environmental, Social, and Governance (ESG) factors.
- Electricity (0620) increases by \$0.4 million, reflecting FY 2023 actuals.
- Turnover expense increases \$0.4 million to align with anticipated vacancies.
- The remaining \$3.1 million is spread across multiple line items such as security services, software maintenance, cell phones, etc.

The key variances for the \$2.9 million reduction in operating budget spending are as follows:

- Vehicle purchases (0701) decrease by \$1.1 million as activity is expected to revert to normal operations after the purchase of collective bargaining vehicles.
- Building Repairs & Maintenance (0812) decreases \$0.8 million due to the realignment of funds previously budgeted under this line item to the Telecomm Lines (0849) and Telephone (0302) line items.
- Fiscal Services (credit card fees - 0829) decreases \$0.3 million to align with expected traffic and revenue forecast.
- Other reductions totaling \$0.7 million across multiple line items include Replacement/Maintenance & Building Equipment, Additional Maintenance Equipment, Gas & Oil, and other expenses.

Figure 1 graphically displays the FY 2025 budget by division and purpose.

Figure 1



ATTACHMENTS

- Attachment 1 - Summary of Major Changes
- Attachment 2 - FY 2025 SummaryByObject

Summary of Major Changes

	FY25 Prelim VS FY24 Final
FY 2025 Final Operating Budget	\$421.4
FY 2024 Final Operating Budget	400.1
\$ Increase FY 2025 over FY 2024	\$21.3
% Increase FY 2025 over FY 2024	5.3%

FY 2024 Final Operating Budget	\$400.1
Mandated Increases	9.4
Additions	14.8
Reductions	(2.9)
FY 2025 Prelim Operation Budget Request	\$421.4

Mandated

5% COLA Police	\$2.6
Maryland State Police	2.3
Steps (Sworn and Civilian)	1.7
2% COLA Civilian	1.6
LEOPS & State Employees' Pension	0.8
Overtime	0.5
Social Security	0.4
Civilian/Police Reclasses/Other Misc.	(0.5)
Total Mandated	\$9.4

Additions

E-ZPass® Service Center	\$4.0
Engineers	2.9
Insurance	1.9
Telephone	0.6
Telecomm Lines	0.5
Radios & Electronic Equipment	0.5
Management Studies	0.5
Electricity	0.4
Turnover	0.4
Security Services	0.3
Software Maintenance	0.3
Janitorial Services	0.3
Other Contractual	0.3
Advertising	0.3
Cell Phones	0.2
Other Land Vehicles	0.2
Other Replacement Equipment	0.2
Medical Care	0.1
Computers	0.1
Utilities - Water	0.1
Other	0.7
Total Additions	\$14.8

Summary of Major Changes

	FY25
	Prelim VS
	FY24
	<u>Final</u>

Reductions

Vehicle Purchases	(\$1.1)
Building Repairs & Maintenance	(0.8)
Fiscal Services	(0.3)
Replacement/Maintenance & Building Equipment	(0.2)
Additional Maintenance & Building Equipment	(0.1)
Vehicle Gas & Oil	(0.1)
Other	<u>(0.3)</u>
Total Reductions	<u><u>(\$2.9)</u></u>

Total Change	\$21.3
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ATTACHMENT 2

Object	Description	Final FY 2024 Budget	Prelim FY 2025 Budget	FY25 Prelim- FY24 Final \$ Inc/Dec	FY25 Prelim- FY24 Final % Inc/Dec
OBJECT 01 Salaries and Wages					
101	REGULAR EARNINGS	135,139,680	140,902,508	5,762,828	4.3%
102	ADDITIONAL ASSISTANCE	194,092	144,964	(49,128)	-25.3%
104	OVERTIME EARNINGS	4,998,396	5,509,463	511,067	10.2%
104	OVERTIME EARNINGS - SNOW	1,338,168	1,338,344	176	0.0%
105	SHIFT DIFFERENTIAL	978,410	1,036,191	57,781	5.9%
110	MISCELLANEOUS P/R ADJUSTMENTS	198,768	186,909	(11,859)	-6.0%
111	ANNUAL LEAVE PAYOUTS	196,471	217,927	21,456	10.9%
112	RECLASSIFICATIONS	410,058	403,865	(6,193)	-1.5%
151	SOCIAL SECURITY CONTRIBUTIONS	9,645,927	10,093,775	447,848	4.6%
152	HEALTH INSURANCE	19,174,953	19,194,681	19,728	0.1%
154	RETIREE'S HLTH INSURANCE PREM	11,735,068	11,747,138	12,070	0.1%
161	EMPLOYEES RETIREMENT SYSTEM	16,575,238	17,220,265	645,027	3.9%
165	STATE POLICE RETIREMENT SYSTEM	3,463,737	3,879,976	416,239	12.0%
169	LAW ENFORCEMNT OFF PENSION SYS	22,964,855	23,183,046	218,191	1.0%
171	BURDEN EXPENSE	0	0	0	N/A
174	UNEMPLOYMENT COMPENSATION	378,386	394,529	16,143	4.3%
175	WORKERS COMPENSATION	4,196,741	4,196,741	0	0.0%
189	TURNOVER	(12,655,817)	(12,304,130)	351,687	-2.8%
199	OTHER FRINGE BENE - CLOTH ALLOW	856,750	918,711	61,961	7.2%
		219,789,882	228,264,903	8,475,021	3.9%
Object 02 Technical and Special Fees					
202	PER DIEM PAYMENTS	150,000	150,000	0	0.0%
211	EMPLOYEE AWARDS	1,000	1,000	0	N/A
220	SPECIAL PAYMENTS PAYROLL	625,409	786,934	161,525	25.8%
		776,409	937,934	161,525	20.8%
Object 03 Communications					
301	POSTAGE	72,584	82,471	9,887	13.6%
302	TELEPHONE	253,569	838,334	584,765	230.6%
303	TELECOMMUNICATIONS	821,482	779,323	(42,159)	-5.1%
305	STATE PAID TELECOMMUNICATIONS	1,604,611	1,659,000	54,389	3.4%
306	CELL PHONE EXPENDITURES	425,657	655,635	229,978	54.0%
		3,177,903	4,014,763	836,860	26.3%
Object 04 Travel					
401	IN STATE/ROUTINE OPERTN TRAVEL	43,120	59,850	16,730	38.8%
402	INSTATE/CONF/SEMNR/TRNG TRAVEL	101,704	120,375	18,671	18.4%
403	OUTSTATE/ROUTINE OPERTN TRAVEL	55,064	62,964	7,900	14.3%
404	OUTSTATE/CONF/SEMNR/TRNG TRAVL	313,680	366,949	53,269	17.0%
		513,568	610,138	96,570	18.8%
Object 06 Fuel and Utilities					
603	FUEL-OIL #2	135,200	147,200	12,000	8.9%
606	FUEL-NATURAL GAS/PROPANE	355,613	404,894	49,281	13.9%
620	UTILITIES-ELECTRICITY	3,514,116	3,925,604	411,488	11.7%
621	UTILITIES-WATER/SEWAGE	331,206	435,203	103,997	31.4%
		4,336,135	4,912,901	576,766	13.3%
Object 07 Motor Vehicle Operations and Maintenance					
701	PURCH VEH-CAR,LIGHT TRUCK	4,746,900	3,624,900	(1,122,000)	-23.6%
702	VEHICLE GAS & OIL	3,765,454	3,725,750	(39,704)	-1.1%
703	VEHICLE MAINTENANCE & REPAIR	1,794,664	1,803,957	9,293	0.5%
704	INSURANCE	407,863	407,863	0	0.0%
721	VEHICLE GAS & OIL-WATERCRAFT	44,347	47,814	3,467	7.8%
722	VEHICLE MAINTENANCE & REPAIR-WATERCRAFT	61,431	64,503	3,072	5.0%
724	BOAT SLIP RENTAL/LAUNCHING FEES	4,200	4,000	(200)	-4.8%
731	LG VEHICLE GAS & OIL	1,100,000	1,000,000	(100,000)	-9.1%
732	LG VEHICLE MAINT & REPAIR	2,000,000	2,050,000	50,000	2.5%
789	COMMUTE CHARGES	(5,000)	(5,000)	0	0.0%
799	OTHER MOTOR VEHICLE CHARGES	50,000	50,000	0	0.0%
		13,969,859	12,963,787	(1,006,072)	-7.2%
Object 08 Contractual Services					
801	ADVERTISING/LEGAL PUBLICATION	3,064,353	3,314,353	250,000	8.2%
802	APPLICATIONS SOFTWARE MAINTENANCE	100,000	100,000	0	0.0%
804	PRINTING/REPRODUCTION SERVICE	43,200	46,200	3,000	6.9%
807	ENGINEERS	31,700,000	34,573,554	2,873,554	9.1%
808	EQUIPMENT RENTAL	490,131	487,578	(2,553)	-0.5%

ATTACHMENT 2

Object	Description	Final	Prelim	FY25 Prelim-	FY25 Prelim-
		FY 2024	FY 2025	FY24 Final	FY24 Final
		Budget	Budget	\$	%
				Inc/Dec	Inc/Dec
809	EQUIPMENT REPAIRS & MAINT	1,654,264	1,656,693	2,429	0.1%
810	EXTERMINATION SERVICE	16,771	16,689	(82)	-0.5%
812	BUILDING/ROAD REPAIRS & MAINT	16,882,158	16,093,899	(788,259)	-4.7%
813	JANITORIAL SERVICES	1,473,540	1,785,994	312,454	21.2%
814	GROUND MAINTENANCE	45,482	45,000	(482)	-1.1%
815	LAUNDRY SERVICE	3,199	3,344	145	4.5%
816	HOUSEKEEPING SERVICES	0	75	75	N/A
817	LEGAL SERVICES	203,300	226,300	23,000	11.3%
819	EDUCATION/TRAINING CONTRACTS	1,375,988	1,314,788	(61,200)	-4.4%
820	MEDICAL CARE	395,720	531,720	136,000	34.4%
821	MGMT STUDIES AND CONSULTANTS	4,398,658	4,856,272	457,614	10.4%
823	SECURITY SERVICES	889,560	1,216,976	327,416	36.8%
824	LABORATORY SERVICES	45,578	45,578	0	0.0%
825	VETERINARY SERVICES	31,565	31,565	0	0.0%
826	FREIGHT AND DELIVERY	14,497	18,613	4,116	28.4%
827	TRASH AND GARBAGE REMOVAL	453,394	467,606	14,212	3.1%
828	OFFICE ASSISTANCE	61,244	64,244	3,000	4.9%
829	FISCAL SERVICES	17,960,250	17,710,250	(250,000)	-1.4%
841	DP CENTRAL PROCESS SVC	1,150,000	1,100,000	(50,000)	-4.3%
843	DP COMMUNICATIONS CONTROLLERS SVC	480,000	500,000	20,000	4.2%
849	TELECOMM LINES, MODEMS & CONTRLLR	95,704	596,601	500,897	523.4%
854	COMPUTER MAINTENANCE CONTRACTS	185,000	185,000	0	0.0%
858	SOFTWARE LICENSES	148,402	152,181	3,779	2.5%
862	APPL SOFTWARE MAINTENANCE	1,901,200	2,226,200	325,000	17.1%
864	SYSTEMS SOFTWARE MAINTENANCE	500,000	500,000	0	0.0%
865	OUTSIDE SVCS-SYS ANALYSIS&DSGN	7,465,000	7,465,000	0	0.0%
866	OUTSIDE SVCS-PROGRAMMING	415,000	415,000	0	0.0%
869	OUTSIDE SVCS-COMPUTER USAGE	775,000	775,000	0	0.0%
873	OUTSIDE SVC - E-ZPASS® SVC CENTER	40,000,000	44,000,000	4,000,000	10.0%
874	OFFICE OF ATTORNEY GENERAL FEE	43,526	43,526	0	0.0%
875	RETIREMENT AGENCY ADMIN FEE	251,556	251,556	0	0.0%
876	STATEWIDE DOIT SERVICES	52,080	81,000	28,920	55.5%
894	STATEWIDE PERSONNEL SYS ALLOC	55,667	55,667	0	0.0%
897	STATEWIDE ENTERPRISE BUDGET SYSTEM	27,646	27,646	0	0.0%
899	OTHER CONTRACTUAL SVC-NON DP	2,969,244	4,402,408	1,433,164	48.3%
		137,817,877	147,384,076	9,566,199	6.9%
Object 09 Supplies and Materials					
901	AGRICULTURE	33,879	38,189	4,310	12.7%
902	OFFICE SUPPLIES	394,383	412,311	17,928	4.5%
903	ELECTRICAL MATERIALS	390,418	372,765	(17,653)	-4.5%
904	BUILDING & HOUSEHOLD SUPPLIES	386,011	396,518	10,507	2.7%
905	ROADWAY MAINT MATERIALS	619,613	599,153	(20,460)	-3.3%
906	SALT/SNOW MELTING MATERIALS	1,880,363	1,856,664	(23,699)	-1.3%
908	HOUSEKEEPING SUPPLIES	74,537	70,428	(4,109)	-5.5%
909	MEDICAL SUPPLIES	39,162	35,424	(3,738)	-9.5%
912	WEARING APPAREL-UNIFORMS EMPL	1,144,880	1,186,268	41,388	3.6%
915	LIBRARY SUPPLIES	23,675	23,675	0	0.0%
917	SMALL TOOLS	372,809	369,270	(3,539)	-0.9%
918	VETERINARY SUPPLIES	28,500	73,500	45,000	157.9%
920	FOOD	188,276	186,695	(1,581)	-0.8%
926	DATA PROCESSING SUPPLIES	42,522	38,828	(3,694)	-8.7%
934	AMMO GUNS FIRING RNGE SUPPLIES	575,549	593,768	18,219	3.2%
951	E-ZPASS TRANSPONDERS	4,450,000	4,410,000	(40,000)	-0.9%
999	OTHER SUPPLIES AND MATERIALS	315,913	311,497	(4,416)	-1.4%
		10,960,490	10,974,953	14,463	0.1%
Object 10 Replacement Equipment					
1013	REPL MAINTENANCE & BUILDING EQUIP	505,500	314,000	(191,500)	-37.9%
1015	REPL OFFICE EQUIPMENT	48,000	86,907	38,907	81.1%
1019	REPL RADIOS & ELECTRONIC EQUIPMENT	226,000	241,000	15,000	6.6%
1031	REPL DP EQUIP-MAINFRAME	80,000	80,000	0	0.0%
1033	REPL DP EQUIP-MICROCOMPUTER	1,250,000	1,373,080	123,080	9.8%
1099	OTHER REPLACEMENT EQUIPMENT	334,900	484,900	150,000	44.8%
		2,444,400	2,579,887	135,487	5.5%
Object 11 Additional Equipment					

ATTACHMENT 2

Object	Description	Final	Prelim	FY25 Prelim-	FY25 Prelim-
		FY 2024	FY 2025	FY24 Final	FY24 Final
		Budget	Budget	\$	%
				Inc/Dec	Inc/Dec
1102	ADDT'L AUDIO-VISUAL EQUIP	9,500	9,500	0	0.0%
1103	ADDT'L CLEANING EQUIPMENT	10,000	10,000	0	N/A
1109	ADDT'L HUMAN ENVIRONMENTAL EQUIPMENT	1,000	1,000	0	0.0%
1113	ADDT'L MAINTENANCE & BUILDING EQUIP	242,000	134,500	(107,500)	-44.4%
1115	ADDT'L OFFICE EQUIPMENT	27,500	68,076	40,576	147.5%
1133	ADDT'L DP EQUIP-MICROCOMPUTER	20,000	40,000	20,000	N/A
1199	OTHER ADDITIONAL EQUIPMENT	459,834	459,835	1	0.0%
		769,834	1,197,911	428,077	55.6%
Object 13 Fixed Charges					
1302	INSURANCE COVERAGE PAID TO STO	490,658	492,273	1,615	0.3%
1303	RENT PAID TO DGS	1,100	1,100	0	N/A
1304	SUBSCRIPTIONS	26,938	28,175	1,237	4.6%
1305	ASSOCIATION DUES	350,445	374,272	23,827	6.8%
1308	LICENSES	7,270	7,800	530	7.3%
1309	INSURANCE (NON STO PAYMENTS)	4,667,231	6,576,966	1,909,735	40.9%
1320	1320 BAD DEBT EXPENSE (NON TOLLS)	4,667,231	50,000	(4,617,231)	-98.9%
		5,543,642	7,530,586	1,986,944	35.8%
Total		400,100,000	421,371,840	21,271,840	5.3%

TAB 9



Maryland Transportation Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:

Dontae Carroll	Cynthia D. Penny-Ardinger
William H. Cox, Jr.	Jeffrey S. Rosen
W. Lee Gaines, Jr.	Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E.	John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Assistant Capital Program Manager Jennifer Stump
SUBJECT: Final Fiscal Year 2024-2029 Consolidated Transportation Program (CTP)
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

The purpose of this presentation is to seek your approval of the proposed Final Fiscal Year (FY) 2024-2029 Consolidated Transportation Program (CTP). The Final CTP was recommended for approval by the Capital Committee on November 2, 2023, and by the Finance Committee on November 9, 2023.

SUMMARY

The six-year FY 2024-2029 budget in the proposed CTP is \$3.1 billion. The proposed CTP reflects a net increase in the six-year FY 2024-2029 budget of \$393.1 million (Attachment #1 – Line 6). The net FY 2024-2029 increase is the result of the following:

- Increase in the six-year CTP budget by \$780 thousand for the Nice/Middleton Bridge (Attachment #1 – Line 1).
- Increase in the six-year CTP budget by \$4.9 million for the I-95 ETL Northern Extension (Attachment #1 – Line 2).
- Increase in the six-year CTP budget by \$177.9 million for all projects except the Nice/Middleton Bridge, I-95 ETL Northern Extension, and reserves (Attachment #1 – Line 3).
- Increase in the Allocated and Unallocated Reserves by \$209.5 million (Attachment #1 – Line 4).

FY 2023 expenditures were \$451.7 million vs. \$484.8 million in the Draft FY 2024-2029 CTP (Attachment #1 – Line 6). FY 2023 underspending was \$33.1 million and has been rolled over into the Final FY 2024-2029 CTP.

Highlights of project and reserve changes incorporated in the proposed Final FY 2024-2029 CTP are shown in Attachment #2.

Added New Projects

Added seven system preservation projects and one environmental project for an increase of \$9.3 million in the FY 2024-2029 period.

Modified Budgets to Reflect Bids Received

Adjusted one project to reflect bids received that were higher than Engineer's Estimate for a net increase of \$4.2 million.

Added Construction Phase

The construction phase of five projects was funded for a total of \$68.4 million transferred from the reserves as design reached 60% level and cost estimates were developed on fully developed scopes.

Modified Budgets to Reflect Completed Projects

Thirteen projects were completed, and two projects were deleted for a total decrease of \$100 thousand in the FY 2024-2029 period.

Modified Active Projects Due to Cost Changes and Cash Flow Adjustments

Adjusted cash flows and funding changes in engineering, right of way, and/or construction budgets for eighty-five projects for a net budget increase of \$101.8 million in the FY 2024-2029 period.

Reserve Changes

The allocated reserves increased by \$209.4 million, and the unallocated reserves increased by \$87 thousand.

ATTACHMENTS

- Attachment #1 – CTP Comparison Tables – Draft v Final FY 2024-2029 CTP
- Attachment #2 – Changes from Draft to Final FY 2024-2029 CTP
- Attachment #3 – Where are the Projects?
- Attachment #4 – What are the Categories of Projects?

CTP Comparison Tables - Draft v Final FY 2024-2029 CTP																
Line										Total 2023-2028	Total 2024-2029					Total 2024-2033
	2023	2024	2025	2026	2027	2028	2029	2030	2031			2032	2033			
1	Nice/Middleton Bridge	Draft 24-29	\$86,218	\$35,488	\$15,704	\$15,068	\$0	\$0	\$0	\$152,477	\$66,260	\$0	\$0	\$0	\$0	\$66,260
		Final 24-29	\$85,438	\$36,268	\$15,704	\$15,068	\$0	\$0	\$0	\$152,477	\$67,040	\$0	\$0	\$0	\$0	\$67,040
		Change	(\$780)	\$780	\$0	\$0	\$0	\$0	\$0	\$0	\$780	\$0	\$0	\$0	\$0	\$780
2	I-95 ETL Northern Extension (Including Reserves)	Draft 24-29	\$191,878	\$200,342	\$154,776	\$113,895	\$81,521	\$42,739	\$18,645	\$785,151	\$611,917	\$0	\$0	\$0	\$0	\$611,917
		Final 24-29	\$186,952	\$211,677	\$148,367	\$113,895	\$81,521	\$42,739	\$18,645	\$785,151	\$616,844	\$0	\$0	\$0	\$0	\$616,844
		Change	(\$4,927)	\$11,336	(\$6,409)	\$0	\$0	\$0	\$0	\$0	\$4,927	\$0	\$0	\$0	\$0	\$4,927
3	Remainder of CTP (Excluding Reserves)	Draft 24-29	\$206,657	\$278,922	\$322,017	\$151,051	\$56,192	\$10,797	\$2,502	\$1,025,636	\$821,481	\$0	\$0	\$0	\$0	\$821,481
		Final 24-29	\$179,279	\$301,731	\$342,422	\$232,678	\$79,928	\$31,848	\$10,777	\$1,167,886	\$999,384	\$0	\$0	\$0	\$0	\$999,384
		Change	(\$27,378)	\$22,809	\$20,405	\$81,627	\$23,736	\$21,051	\$8,275	\$142,250	\$177,903	\$0	\$0	\$0	\$0	\$177,903
4	Allocated and Unallocated Reserves	Draft 24-29	\$0	\$24,848	\$71,603	\$202,686	\$195,487	\$347,865	\$324,751	\$842,489	\$1,167,240	\$323,275	\$328,100	\$332,925	\$342,988	\$2,151,540
		Final 24-29	\$0	\$13,285	\$50,227	\$175,250	\$332,014	\$440,941	\$364,999	\$1,011,717	\$1,376,716	\$553,610	\$616,467	\$360,551	\$556,915	\$3,464,259
		Change	\$0	(\$11,563)	(\$21,376)	(\$27,436)	\$136,527	\$93,076	\$40,248	\$169,228	\$209,476	\$230,335	\$288,367	\$27,626	\$213,927	\$1,312,719
5	Remainder of CTP (3+4) (Including Reserves)	Draft 24-29	\$206,657	\$303,770	\$393,620	\$353,737	\$251,679	\$358,662	\$327,253	\$1,868,125	\$1,988,721	\$323,275	\$328,100	\$332,925	\$342,988	\$2,973,021
		Final 24-29	\$179,279	\$315,016	\$392,649	\$407,928	\$411,942	\$472,789	\$375,776	\$2,179,603	\$2,376,100	\$553,610	\$616,467	\$360,551	\$556,915	\$4,463,643
		Change	(\$27,378)	\$11,246	(\$971)	\$54,191	\$160,263	\$114,127	\$48,523	\$311,478	\$387,379	\$230,335	\$288,367	\$27,626	\$213,927	\$1,490,622
6	Total (1+2+5)	Draft 24-29	\$484,753	\$539,600	\$564,100	\$482,700	\$333,200	\$401,400	\$345,899	\$2,805,753	\$2,666,898	\$323,275	\$328,100	\$332,925	\$342,988	\$3,651,198
		Final 24-29	\$451,668	\$562,961	\$556,720	\$536,891	\$493,463	\$515,528	\$394,421	\$3,117,231	\$3,059,984	\$553,610	\$616,467	\$360,551	\$556,915	\$5,147,527
		\$ Change	(\$33,085)	\$23,361	(\$7,380)	\$54,191	\$160,263	\$114,127	\$48,523	\$311,478	\$393,085	\$230,335	\$288,367	\$27,626	\$213,927	\$1,496,328
		% Change	-7%	4%	-1%	11%	48%	28%	14%	11%	15%	71%	88%	8%	62%	41%
Cumulative Change			(\$33,085)	(\$9,724)	(\$17,104)	\$37,087	\$197,350	\$311,478	\$360,000	\$311,478	\$393,085	\$623,420	\$911,787	\$939,413	\$1,153,340	\$911,787

Changes from Draft to Final FY 2024-2029 CTP

New Projects Added (\$000)				
Facility	Project Name	TEC Change	FY 2024-2029 Budget Change	
MA	2634 - On-Call Facility/Building Repairs	4,725	4,725	
MA	2633 - ICC & JFK Data Center Hardware Replacement	2,000	2,000	
MA	2630 - On-Call Signs, Sign Lights, and Sign Structures (Engineering only)	924	924	
HT	2614 - BHT Facility-wide Signing Upgrades	600	600	
KB	2638 - Rehabilitation of Bearings & Misc. Repairs - I-695 Bridges over Bear Creek	450	450	
KB	2639 - Shoreline Restoration at FSK Police HQ	300	300	
BB	2609 - Replacement of Bay Bridge North Ferry Slip (Engineering only)	250	250	
HT	2637 - Replace Eastern Avenue Bridge Over I-895	100	100	
Total - New Projects Added (8)		9,349	9,349	

Projects Modified to Reflect Bids Received (\$000)				
Facility	Project Name	TEC Change	FY 2024-2029 Budget Change	
MA	2573 - On-Call Structural Repairs	3,583	4,183	
Total - Projects Modified to Reflect Bids Received (1)		3,583	4,183	

Projects Modified to Add Construction Phase (\$000)				
Facility	Project Name	TEC Change	FY 2024-2029 Budget Change	
FT	0217 - FMT Facility-wide Zone Paint Program (Engineering only)	28,270	28,272	
BB	2593 - BB On-Call Structural Repairs and Modification (Engineering only)	25,578	23,091	
FT	2580 - FMT Box Girder Preservation (Engineering only)	9,996	10,349	
MA	2559 - On-Call Civil Repairs	4,970	4,970	
FT	0239 - Holding Tank Replacement at the S. FMT Vent Building (Engineering only)	1,710	1,735	
Total - Projects Modified to Add Construction Phase (5)		70,524	68,416	

Projects Completed (\$000)				
Facility	Project Name	TEC Change	FY 2024-2029 Budget Change	Notes
BB	2412 - Bay Bridge Priority Structural Repairs and Misc. Modifications	72	0	Project completed.
MA	2456 - Replace Police In Car Digital Video System	37	0	Project completed.
FT	2505 - Install Fire Suppression System (Engineering only)	0	0	Project completed.
MA	2485 - On-Call Miscellaneous Paving Repairs	(60)	0	Project completed.
MA	2404 - Bay TMDL Stormwater Retrofits - Phase IV	(67)	0	Project completed.
HT	2423 - Replacement of Concrete Median Barrier along I-895	(112)	0	Project completed.
KH	2544 - Tydings Bridge Interim High Speed AET Conversion	(138)	0	Project completed.
HT	2437 - Mill and Overlay Bridge Decks (HOY013 and HOY014)	(205)	0	Project completed.
MA	2433 - Update Phone System to NECSV9500	(252)	0	Project completed.
FT	2543 - Replace Superstructure of Moravia Road Ramp Bridge to I-95 Southbound	(263)	0	Project completed.

Projects Completed - continued on Page 2

Changes from Draft to Final FY 2024-2029 CTP

MA	2507 - On-Call Signs, Sign Lights, and Sign Structures	(283)	0	Project completed.
MA	2502 - MDTA Enterprise Budget Planning and Management System (IT300880)	(339)	0	Project completed.
BB	2459 - Rehabilitate Maintenance Access Facilities of EB and WB Spans of the Bay Bridge	(506)	0	Project completed.
HT	2578 - BHT NB Overheight Vehicle Detection System (OHVDS) Improvements (Engineering Only)	(48)	0	Project deleted.
KB	2632 - Clean and Paint I-695 Bridge over Bear Creek	(100)	(100)	Project deleted.
Total - Projects Completed (15)		(2,265)	(100)	

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (\$000)

Facility	Project Name	TEC Change	FY 2024-2029 Budget Change	Notes
BB	2317 - Rehab Decks of EB Span - Phase I Deck Widening & Replacement of Deck Truss Spans	55,680	55,873	Increased CO for package 2 of project.
MA	2147 - Replace Electronic Toll Collection and Operating System - 3rd Generation	16,360	15,241	Decreased PE and increased CO for revised estimate.
FT	0200 - Rehabilitate FMT Area-Wide Lighting (was PIN 2540)	4,075	4,375	Increased PE and CO for design modifications and change of scope.
MA	2497 - Radio Rebroadcast and Radiax in BHT & FMT	2,731	2,783	Increased CO due to scope change.
BB	2501 - On-Call Structural Repairs & Miscellaneous Modifications for Bay Bridge	2,240	409	Increased CO for Supplemental Agreement and corresponding CMI.
KB	0219 - FSK Deck Replacement (Engineering only)	1,082	1,163	Increased PE due to revised cost estimate.
KH	2436 - Replace I-95 Kennedy Highway Bridge over CSXT (Engineering only)	916	850	Increased PE for scope and design changes.
FT	2508 - Bridge Deck Rehabilitation and Miscellaneous Repairs to FMT South	767	100	Increased CO for nightly ramp closures.
HT	0240 - Resurfacing North and South of BHT	565	1,239	Increased PE and CO for scope change.
MA	2549 - On-Call Miscellaneous Paving Repair	544	706	Increased PE for additional design activities.
KB	2438 - Police Headquarters Building Envelope Renovations	490	622	Increased CO due to revised cost estimate.
MA	0231 - On-Call Signs, Sign Lights, and Sign Structures	471	(203)	Increased PE for additional design activities.
MA	2479 - On-Call Structural Repairs & Miscellaneous Modifications	450	147	Increased CO for Phase V services.
KH	0202 - I-95 Southbound Hard Shoulder Running	330	1,076	Increased PE due to additional scope and to advance design.
HT	2447 - Replace Baltimore Harbor Tunnel 15KV Feeders	316	2	Increased CO due to contract extension and CMI.
KH	2477 - I-95/Belvidere Road Interchange	248	(587)	Increased PE due additional design activities.
KB	MDTAPRJ000199 - Maintenance and Repairs of the I-695 Curtis Creek Drawbridges at FSK	200	106	Increased CO for additional capital task orders.
HT	2263 - Replace BHT Vent Fans	175	68	Increased CO for Phase V services.
FT	0218 - FMT South Traffic Relief Improvements (Planning only)	150	188	Increased PE for additional analyses and report amendment.
MA	2583 - Generator Replacement at Various Facilities (Engineering Only)	120	112	Increased PE due to additional scope.
MA	2489 - Drainage Rehabilitation - Phase III - Outfalls	117	348	Increased CO due to revised cost estimate and decreased RW not needed.
FT	2449 - Superstructure Repairs of Various Bridges North and South of Fort McHenry Tunnel	100	25	Increased CO for Phase V services and contract close-out.
FT	2513 - Structural Rehabilitation of Various Bridges on I-95	76	(560)	Increased PE for fund reallocation of MA-2479 and CSX expenses.
KB	2319 - Building Renovations at FSK Campus	38	0	Increased CO for Phase V services and contract close-out.
KB	2450 - I-695 Subgrade Improvements at Bear Creek	30	(125)	Increased PE for extra work.
PB	2398 - Demolition of Power Plant Building (Engineering only)	7	0	Increased PE to advance from study to full design.
MA	2483 - Small Drainage Rehabilitation	(100)	131	Decreased RW due to pipe lining removed from contract.
HT	2506 - BHT In-Tunnel Fiber Improvements	(101)	260	Decreased PE for phase completion.
MA	2594 - Mill and Overlay FMT and BHT Bridges (Engineering only)	(300)	(200)	Decreased PE due to bridge deck repair list decreased.
MA	2523 - On-Call Facility/Building Repairs	(2,655)	(1,697)	Decreased PE and CO for MR-3020 and moved to PIN 2634.
MA	2235 - Program Management Services for System Preservation (Engineering Only)	(6,000)	0	Decreased PE for expenses distributed to other projects.
Active Projects Modified Due to Cost Changes and Cash Flow Adjustments - continued on Page 3				
MA	0228 - On-Call Electrical/ITS	(6,078)	(5,278)	Decreased CO for 50/50 operating/capital funding split.

Changes from Draft to Final FY 2024-2029 CTP

KH	Various - I-95 Express Toll Lanes Northbound Extension	0	4,927	Cash flow adjustment.
KH	2500 - JFK Maintenance Facility Complex	0	2,695	Cash flow adjustment.
BB	2516 - William Preston Lane Jr. Memorial Bridge AET Conversion	0	2,537	Cash flow adjustment.
BB	2369 - Deck Rehabilitation and Miscellaneous Modifications to BB WB Span	0	1,753	Cash flow adjustment.
MA	2551 - Environmental On-Call Phase IV	0	1,550	Cash flow adjustment.
FT	2251 - Rehabilitate FMT Vent Fans	0	1,337	Cash flow adjustment.
BB	2329 - Replace 5KV Feeder and Add Redundant Cable to EB & WB Spans	0	1,106	Cash flow adjustment.
BB	2586 - Tier 2 NEPA Study (Planning only)	0	976	Cash flow adjustment.
MA	2553 - DYNAC Maintenance Contract (BHT, FMT, and ICC)	0	825	Cash flow adjustment.
HT	2487 - AET Conversion with Frankfur Avenue Interchange Modifications	0	824	Cash flow adjustment.
MA	2496 - On-Call Drainage and Stormwater BMP Remediation III	0	819	Cash flow adjustment.
HT	2527 - Replace Bridges on I-895 over I-695 (Engineering only)	0	800	Cash flow adjustment.
NB	1024 - Replace Nice/Middleton Bridge	0	780	Cash flow adjustment.
KH	2631 - Maryland House Water Tower Emergency Pipe Replacement	0	775	Cash flow adjustment.
HT	0280 - Baltimore Harbor Tunnel I-895 Bridge Replacement	0	536	Cash flow adjustment.
FT	2571 - FMT Campus Fuel Oil Conversion	0	471	Cash flow adjustment.
BB	2476 - Bay Bridge Crossover Automated Lane Closure System	0	469	Cash flow adjustment.
MA	2524 - On-Call Building Systems Rehabilitation/Replacement	0	461	Cash flow adjustment.
FT	0237 - Rehabilitate Substructure of I-95 Bridges over Race Street (Engineering only)	0	435	Cash flow adjustment.
MA	2498 - On-Call Electrical/ITS	0	378	Cash flow adjustment.
MA	2480 - On-Call Structural Repairs & Miscellaneous Modifications	0	356	Cash flow adjustment.
KH	2582 - MD 695 Ramps to I-95 Northbound Express Toll Lanes (Engineering only)	0	334	Cash flow adjustment.
KH	2569 - JFK MSP Building Remodeling (Engineering only)	0	276	Cash flow adjustment.
FT	2565 - FMT East Vent Building Facade and Roof Replacement (Engineering only)	0	266	Cash flow adjustment.
KH	2428 - Deck Replacement on I-95 Kennedy Highway Bridge over Little Northeast Creek	0	263	Cash flow adjustment.
KH	1116 - Kennedy Highway I-95 Improvements with Express Toll Lanes	0	235	Cash flow adjustment.
MA	2537 - On-Call Structural Repairs & Miscellaneous Modifications	0	230	Cash flow adjustment.
FT	2458 - Rehabilitate Tunnel 13 KV Cable, Conduit, and Concrete Wall	0	228	Cash flow adjustment.
MA	2538 - On-Call Structural Repairs & Miscellaneous Modifications	0	221	Cash flow adjustment.
MA	2584 - Replace DMS and TRS at Various Facilities (Engineering only)	0	216	Cash flow adjustment.
MA	2545 - Civil Rights Compliance Information Management System (PRISM)	0	201	Cash flow adjustment.
MA	2546 - Purchase Card Information System (PCARD)	0	197	Cash flow adjustment.
HT	2529 - Rehabilitate BHT Tunnel Lighting System (Engineering only)	0	142	Cash flow adjustment.
HT	2587 - BHT Lane Use Signals (LUS) Extension (Engineering only)	0	126	Cash flow adjustment.
KH	2570 - JFK Wash Bay, Salt Barn and Fueling Facilities at Perryville (Engineering only)	0	122	Cash flow adjustment.
KH	2509 - Structural Rehabilitation of the Millard E. Tydings Memorial Bridge	0	108	Cash flow adjustment.
MA	2585 - Replace CCTV at Various Facilities (Engineering only)	0	108	Cash flow adjustment.
HB	2273 - Convert Hatem Bridge to All Electronic Tolling (AET) and Rehabilitate Approach Roadways	0	108	Cash flow adjustment.
HT	2591 - Rehabilitate Upper Plenum Liner and Ceiling (Engineering only)	0	75	Cash flow adjustment.

Active Projects Modified Due to Cost Changes and Cash Flow Adjustments - continued on Page 4

Changes from Draft to Final FY 2024-2029 CTP

MA	2360 - Furnish and Install License Plate Recognition Systems	0	35	Cash flow adjustment.
BB	2470 - Project Management Office and Maintenance Equipment Storage Building	0	32	Cash flow adjustment.
BB	2504 - Bay Bridge Queue Detection System	0	21	Cash flow adjustment.
ICC	1982 - Intercounty Connector (ICC)/MD 200	0	3	Cash flow adjustment.
FT	2442 - Port Covington Access I-95	0	3	Cash flow adjustment.
KB	2621 - Drainage Improvements of I-695 at MM 50.2 Quarantine Road	0	(0)	Cash flow adjustment.
KB	2619 - Rehabilitation of Curtis Creek Drawbridge	0	(6)	Cash flow adjustment.
HB	2512 - Cleaning and Painting of the Hatem Bridge	0	(8)	Cash flow adjustment.
FT	2499 - MDTA Police Vehicle Storage Garage (Engineering only)	0	(42)	Cash flow adjustment.
KB	2521 - MDTA Police Training Academy	0	(183)	Cash flow adjustment.
HT	2560 - BHT Maintenance/Auto Building HVAC and Roof Replacement	0	(196)	Cash flow adjustment.
MA	2471 - 10-Year Equipment Budget - FY 2018 through FY 2027	0	(412)	Cash flow adjustment.
FT	2517 - Convert to Cashless Tolling at the Fort McHenry Tunnel	0	(1,269)	Cash flow adjustment.
HT	2306 - Envelope Repair and Switchgear Replacements at BHT Vent Buildings	0	(1,653)	Cash flow adjustment.
Total - Active Projects Modified Due to Cost Changes and Cash Flow Adjustments (85)		73,045	101,762	

Reserves (\$000)			
		FY 2024-2029 Budget Change	
MA	1981 - Unallocated Reserve	87	
MA	2325 - Allocated Reserve - System Preservation Projects	195,627	
MA	2445 - Allocated Reserve - Enhancement Projects	13,762	
Total Reserve Changes		209,476	

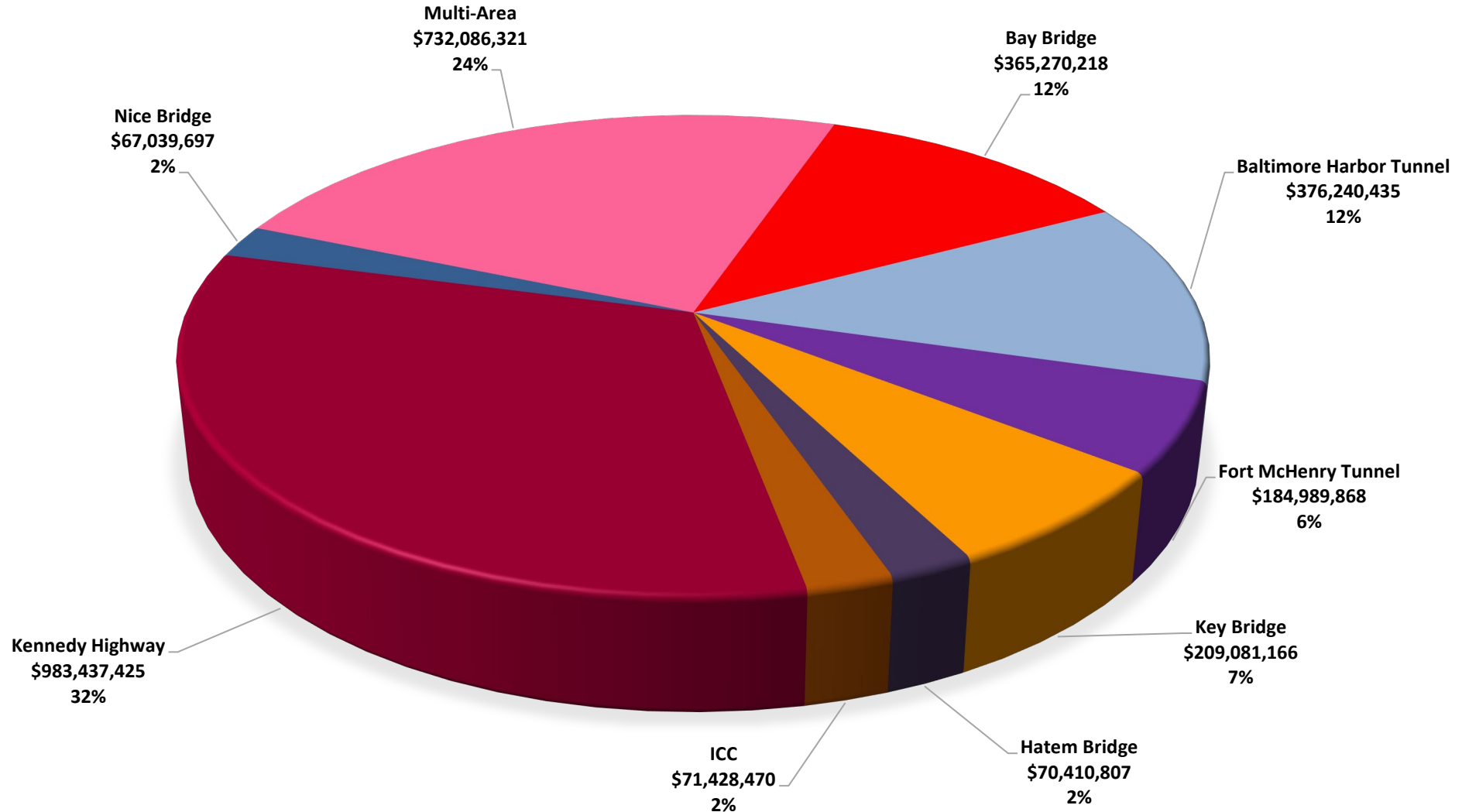
Changes from Draft to Final FY 2024-2029 CTP (\$000)		
		FY 2024-2029 Budget Change
Budget Changes - Projects		183,610
Budget Changes - Reserves		209,476
Net Changes		393,086

FY 2024-2029 Final Consolidated Transportation Program

Attachment #3

Where are the Projects?

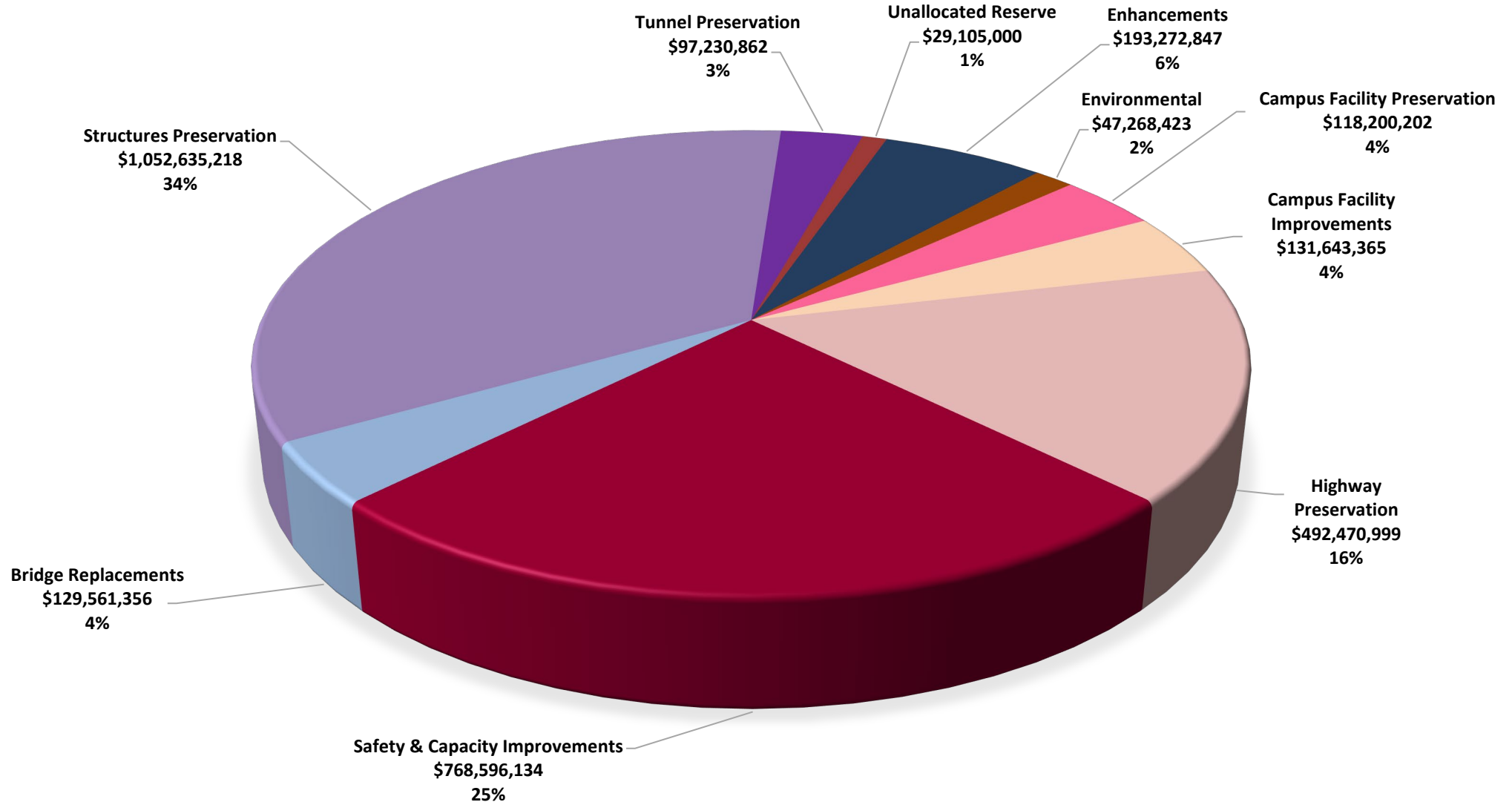
FY 2024-2029 CTP = \$3.1 Billion



FY 2024-2029 Final Consolidated Transportation Program

What are the Categories of Projects?

FY 2024-2029 CTP = \$3.1 Billion



TAB 10



Maryland Transportation Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:

Dontae Carroll	Cynthia D. Penny-Ardinger
William H. Cox, Jr.	Jeffrey S. Rosen
W. Lee Gaines, Jr.	Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E.	John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Director of Treasury & Debt Allen W. Garman
SUBJECT: Debt Policy – Recommended Change
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To request the MDTA Board's approval of the amended Debt Policy to upwardly revise the \$350 million Unrestricted Cash¹ target to \$400 million. The Finance Committee supports the policy change as discussed during the November 9 meeting.

KEY POINTS

1. The MDTA's Unrestricted Cash target has not been raised since 2009 but should be upwardly adjusted periodically for growth in the agency and inflation.
2. Increased cash reserve is necessitated by rating agency metrics for Toll Sector entities in the double-A ratings category.
3. The highest possible credit ratings in the double-A ratings category ensure bond market access at the lowest possible financing rates.
4. Low financing rates support some combination of larger capital programs and lower required toll rates.
5. The cost of maintaining a larger cash reserve is less than the long-term costs associated with financing as a lower rated borrower.

BACKGROUND

For historical perspective, prior to 2009, the MDTA's liquidity target was set to equal annual toll revenues. With projected revenue increases associated with new facilities (ICC/ETL), traffic, and toll rates, it was recognized that revenues would rise sharply, from less than \$300 million in fiscal 2009 to more than \$600 million in fiscal 2014, and necessitate unnecessarily high cash reserves to remain in compliance with the internal policy.

¹ Unrestricted Cash – unrestricted cash and investments excludes Bond Proceeds and funds reserved for Debt Service.

A revised policy was adopted in 2009 based on the rating agencies' preferred metric that sized the unrestricted cash position to the relatively lower Operating Budget rather than Toll Revenues. The Debt Policy unrestricted cash target of \$350 million has been adequate in intervening years to meet rating agencies' liquidity standards.

ANALYSIS

Management, through consultation with credit rating agencies and external Municipal Advisors, recommends an increase in the unrestricted cash reserve to support prudent liquidity and meet Toll Sector ratings methodologies that require unrestricted cash to approximate the annual operating budget. This metric is termed the Days Cash on Hand² ratio and is a critical credit strength measure, along with the Debt Service Coverage ratio, in maintaining credit ratings in the double-A ratings category and access to the capital markets at the lowest possible financing rates.

Unrestricted cash is adequate to meet the Days Cash on Hand metric for the ratings category in the current fiscal year but will need to rise during the six-year capital planning period to maintain relative size with the operating budget.

An increased cash reserve will have minimal short-term impact on debt service coverage, debt limit, and funds available for capital spending. In the long-term, the financing savings as a higher rated borrower will result in improved debt service coverage and lower debt outstanding.

Net Cost of Carry and Financing Rate Considerations

The relationship between the net carrying cost of the cash reserve and the extra interest expense on lower rated debt yields a helpful decision rule. If the net carrying cost of cash is less than the extra interest expense, then it is economic for the MDTA to increase the cash reserve. In the long-term, the interest savings on future financings will exceed the net carrying cost of the extra financed cash. (*Net Carry on Financed Cash < Extra Interest Expense on Lower Rated Debt*)

The MDTA's carrying cost of cash is tied to its financing rates and its net carrying cost is the difference between the financing rates and multiyear average investment returns on cash reserves. Careful consideration is given to investment return volatility and minimizing net multiyear carrying costs of cash reserves.

Recognize that the carrying cost of the additional \$50 million reserve depends on the difference between the *indirect borrowing rate*³ and the investment rate. In the current flat yield curve environment, there is perhaps no cost to carry the larger liquidity position, as the indirect borrowing rate in the tax-exempt market is less than the prevailing yields for investments. Although there may be no near-term cost associated with the cash carry, it is reasonable to model a carrying cost in a normal, positively sloped yield curve environment characterized by long-term financing rates that exceed shorter-term investment rates. The difference between borrowing rates and investments rates is currently modeled at 3.75% in the multiyear Financial Forecast.

² Days Cash on Hand = Unrestricted Cash/Operating Budget*365.

³ Indirect Borrowing Rate – Net operating revenues held in a reserve, lower amounts otherwise available for capital spending, necessitating additional borrowings.

The extra spread or yield demanded by investors for lower rated debt becomes material in the long-term, with \$3 billion of expected financings over the next ten years. The interest savings associated with maintaining the MDTA's double-A credit ratings will likely exceed the carrying cost of the cash reserve.

RECOMMENDATION

Approve the revised Debt Policy incorporating the increased unrestricted cash reserve.

ATTACHMENT

- Debt Policy Draft

Policy No.: MDTA 7009
Effective Date: August 16, 2005

Original Date: August 16, 2005
Revised: August 31, 2023

Approved by: _____
Approval Signature

Date: _____

Approved by: _____
Form and Legal Sufficiency Review, Office of Attorney General

Date: _____

Debt Management

Purpose

The purpose of this Policy is to establish guidelines for the process by which the Maryland Transportation Authority (MDTA) issues and manages debt, and provides guidance to the MDTA Board and staff to ensure that a sound debt position and strong credit quality are maintained.

References

- Title 4 of the Transportation Article, Annotated Code of Maryland (Repl. Vol. 2008, as amended)
- §5-7B-02 of the State Finance and Procurement Article, Annotated Code of Maryland (Repl. Vol. 2009, as amended)
- Second Amended and Restated Trust Agreement between the Maryland Transportation Authority and The Bank of New York Mellon, as Trustee, dated as of September 1, 2007, as amended (2007 Trust Agreement)
- Code of Maryland Regulations (COMAR 11.07.09.09, Vehicle Parking Facilities)
- Governor's Executive Order 01.01.1998.07
- Budget Committee Narrative Fiscal 2023
- Securities and Exchange Commission (SEC)
- Municipal Securities Rulemaking Board (MSRB)
- Federal Tax Code and Regulations
- MDTA Board Policy: Investment Management
- MDTA Board Policy: Preparation of Financial Forecasts

Scope:

This Policy is applicable to MDTA Finance Division staff.

Responsible Party:

Implementation of the procedures is the responsibility of the CFO and MDTA Division of Finance staff. Any deviation from the procedures must be promptly reported to the MDTA Finance Committee and the MDTA Board.

Division of Finance to approve document change.

Debt Management

I. Purpose and Uses of Debt

- Policy Statement 1.** In accordance with Title 4 of the Transportation Article of

the Annotated Code of Maryland, MDTA may issue revenue bonds, notes, or other evidences of obligation to finance the cost of:

- i. Transportation facilities projects as defined in said Article;
 - ii. A vehicle parking facility located in a priority funding area as defined in §5-7B-02 of the State Finance and Procurement Article;
 - iii. Any other project for transportation facilities that the MDTA Board authorizes to be acquired or constructed; and
 - iv. Any additions, improvements, or enlargements to any of these projects, whenever authorized by the MDTA Board.
- b. **Policy Statement 2.** Debt will be used only to finance capital projects (including land) and capital equipment that are reasonably necessary for governmental purposes.
- c. **Policy Statement 3.** The MDTA will finance its projects with a prudent issuance of debt through the sale of revenue bonds, notes, or other evidences of indebtedness within the constraints of the MDTA Financial Forecast Policy.
- d. **Policy Statement 4.** Capital financing proposals received by MDTA that involve a pledge or extension of credit through sale of securities, loans or leases, shall be referred to the Division of Finance for review.
- e. **Policy Statement 5.** The MDTA Consolidated Transportation Program (CTP) will be funded through a combination of cash reserves, revenues and appropriate levels of debt in accordance with affordability guidelines.
- i. To provide adequate liquidity, MDTA will maintain unrestricted cash balances at the end of each fiscal year of at least \$350400 million.
 - ii. Unrestricted cash shall include funds on deposit in the following MDTA trust accounts: Operating (reserve portion), Capital (cash funded), General, and the Maintenance and Operating (M&O) Reserve.
- f. **Policy Statement 6.** The Chief Financial Officer (CFO), under the direction of the Executive Director, has the responsibility to oversee and coordinate the sale and issuance of MDTA debt.
- i. The CFO shall make recommendations to the Executive Director and MDTA Board regarding necessary actions related thereto.
 - ii. The CFO and Executive Director shall obtain MDTA Board approval thereof as evidenced by authorizing MDTA Board Resolutions.
- g. **Policy Statement 7.** The MDTA shall endeavor to finance a portion of the CTP on a “pay-as-you-go” basis.
- h. **Policy Statement 8.** Debt financings will be limited to capital projects included in the CTP.

II. Limitations on Indebtedness

- a. **Policy Statement 9.** The statutory ceiling on the level of outstanding toll revenue bond debt shall not exceed \$3,000,000,000 on June 30 of any year.
- b. **Policy Statement 10.** The amount of planned MDTA debt will be limited by affordability guidelines relating to debt service coverage, the rate covenant set forth below, and as further determined by the Executive Director and CFO in consultation with the municipal advisors. The amount of planned toll revenue-backed debt will be shown in the Financial Forecasts that are prepared at least twice per year.
 - i. The 2007 Trust Agreement requires that in each Bond Year (July 1 – June 30, as defined in the Trust Agreement) net revenues (revenues less operating expenditures) must cover 120% of debt service requirements

- and 100% of the amount annually budgeted for deposit to the M&O Reserve Account.
- ii. The MDTA will maintain a minimum annual debt service coverage level of 200% of debt service for planning purposes.
- iii. The MDTA will allow at least \$100 million in programmed bonding capacity in reserve for contingencies during Years 3 through 6 of the Financial Forecast planning period.
- iv. Planned debt issuances will be based on reasonable estimates of future toll adjustments and capital funding requirements.
- v. The period of planned debt issuances will coincide with the 6-year CTP, and may be done for additional (e.g., 10 years) for longer range strategic planning.
- c. **Policy Statement 11.** Debt service coverage for non-recourse debt (not backed by MDTA toll revenue) will be determined on a case by case basis for projects where MDTA is a non-recourse debt issuer.
 - i. Non-recourse financings shall generally have minimum debt service coverage requirements of 120% of debt service.
 - ii. An exception to this minimum for non-recourse financings may occur if there is a debt service “guarantee” from a rated municipality, authority, or entity with investment grade ratings.
 - iii. Non-recourse financings shall not pledge MDTA’s toll revenues.
 - iv. The MDTA has a self-imposed outstanding debt limit on non-recourse financings of \$700 million, excluding GARVEE bonds (hereinafter defined).
- d. **Policy Statement 12.** Pursuant to §4-320 of the Transportation Article, and the statutory limits set forth therein, the aggregate principal amount of debt issued and secured by a pledge of future federal aid known as Grant and Revenue Anticipation (GARVEE) bonds will not exceed \$750 million, and the maturity date for such debt may not be later than 12 years after the date of issuance.
- e. **Policy Statement 13.** The MDTA must adhere to the Governor’s Executive Order 01.01.1998.07 (Executive Order) which requires annual review and approval of planned State agency debt by the Department of Budget and Management (DBM) and the Governor. The Budget Committee Narrative of fiscal 2023 also requests that any rating agency reports associated with a financing be forwarded to the State Treasurer’s Office in advance of the sale or concurrently. For clarification, credit ratings are not required for all financings.
 - i. Notice must be given to DBM at least 30 days in advance of any bond issuance of \$25 million or greater.
 - ii. The MDTA will comply with the annual reporting requirements as set forth in the Executive Order and the Budget Committee Narrative for rating reports if applicable/available as part of a financing.

III. Debt Structural Features

- a. **Policy Statement 14.** The weighted average maturity (WAM) of the tax-exempt debt issued by MDTA cannot exceed the weighted average life of the improvements for any project.
 - i. The MDTA debt must not exceed a term of 40 years per Maryland law, §4-302(b) of the Transportation Article.
- b. **Policy Statement 15.** Debt will generally be structured to achieve the lowest possible net financing costs pursuant to MDTA’s policies and objectives.

- i. Whenever feasible, structuring debt with level debt service costs over the life of the issue is preferred.
 - ii. Backloading will be considered in order to match debt service requirements with project revenues during the early years of the project's operation.
 - iii. At the CFO's discretion, certain issuance costs and fees (e.g. underwriter's discount, bond counsel, municipal advisors, rating agencies, feasibility consultants, Trustees, printers, auditors, etc.) may be paid from unrestricted cash instead of bond proceeds.
 - iv. In accordance with the Code of Maryland Regulations 11.07.09.09, MDTA may charge an application fee or other fees reasonably related to the expenses it incurs in processing a financing proposal or issuing debt in connection with a Vehicle Parking Facility.
 - v. As a non-recourse issuer, MDTA may charge the obligor an annual administrative fee to recapture its costs incurred over the life of the bonds.
 - 1. Examples of such costs include, but are not limited to, arbitrage rebate calculations, trustee fees and auditor expenses.
- c. **Policy Statement 16.** Optional redemption provisions will generally be included in MDTA bond issues upon the recommendation of the Executive Director, CFO and municipal advisors.
 - i. Depending upon market conditions, call provisions will be evaluated for each bond issue.
- d. **Policy Statement 17.** Capitalization of interest (borrowing funds to pay interest on a debt obligation) will generally be limited to the interest due on debt during construction of the facilities.
 - i. When deemed appropriate by the Executive Director, CFO and municipal advisors, capitalized interest may extend beyond the construction period, but in no event, will it extend beyond one year after project completion in accordance with Maryland law, §4-101(c) of the Transportation Article.
- e. **Policy Statement 18.** MDTA may issue variable rate securities with interest rates tied to an index according to a predetermined formula or based upon the results from a periodic remarketing of securities for toll revenue-backed or non-recourse debt.
 - i. The decision to issue variable rate debt must be approved by the MDTA Board upon the recommendation of the Executive Director, CFO and municipal advisors.
 - ii. MDTA has a self-imposed limit that at time of issuance, no more than 15% of its toll revenue-backed debt will be in variable rate mode.
 - iii. Limits on variable rate non-recourse debt will be determined on a case by case basis taking into consideration debt service coverage and obligor cash reserves.
- f. **Policy Statement 19.** Upon the approval of the MDTA Board, MDTA may enter into financing agreements involving interest rate swaps, floating/fixed rate auction securities, or other forms of debt bearing synthetically determined interest rates.
 - i. MDTA will consider the use of such financing agreements on a case by case basis and any use shall be consistent with the Trust Agreement, State policy and financial prudence.
- g. **Policy Statement 20.** When it is determined to be prudent by the Executive Director, CFO and municipal advisors, and subject to approval of the MDTA

Board, MDTA may issue bond anticipation notes or other short-term indebtedness, in accordance with applicable statutory law and trust agreements, as a source of interim construction financing.

IV. Method of Sale

- a. **Policy Statement 21.** The MDTA shall sell and issue debt, subject to MDTA Board approval, either through a competitive bidding process or by a negotiated sale (including a direct bank loan). A competitive bond sale is the preferred method unless it is determined by the Executive Director, CFO, the municipal advisors and legal counsel that this method is unlikely to produce the best sale results. Factors to consider in selecting the sale method include, but are not limited to, bond issue size and related issuance costs, repayment terms, market conditions, credit history and the timing of the need for funds.
 - i. Competitive sales will be awarded to qualified bidder(s) based upon the lowest true interest cost method, with additional consideration of the probable call of the premium coupon securities through the lowest call option adjusted True Interest Cost Plus (TIC Plus) methodology.
 - ii. In the event of a negotiated sale, the underwriting team for the negotiated sale will be selected through a competitive solicitation process and approved by the MDTA Board.
 - iii. In the event of a direct bank loan, a competitive solicitation will be conducted and the bonds will be awarded based upon lowest true interest cost or TIC Plus unless the Executive Director and CFO determine that it is in the best interest of the MDTA to accept an alternative bid with more favorable terms and conditions.
- b. **Policy Statement 22.** Documentation of MDTA bond sales and closings will be prepared by bond counsel, municipal advisors, the MDTA Office of the Attorney General, the MDTA Division of Finance, and other applicable parties for approval by the MDTA Board, and in the case of non-recourse debt, the State Board of Public Works or other appropriate officials, as required.

V. Refundings

- a. **Policy Statement 23.** The CFO and municipal advisors will periodically review MDTA outstanding debt to identify refunding opportunities. Refunding will be considered when there is net economic benefit or the refunding is advisable to modernize bond trust covenants essential to operations and management. The CFO, the Executive Director and staff from MDTA's Division of Finance shall consider additional factors that they deem appropriate in determining specific bonds that shall be refunded.
 - i. In general, refunding for economic savings will be considered when net present value (NPV) savings may be achieved. Projected NPV savings shall be discounted at the All-In True Interest Cost. Alternately, NPV savings may be calculated using discount factors from the funding yield curve for each individual maturity.
 - ii. In concert with NPV savings analysis, Refunding Efficiency shall be calculated for each individual maturity. Refunding Efficiency measures the percentage of the call option value captured through present value cash flow savings. Maturity refundings that are projected to capture more than 85% of the option value may be viewed favorably and worthy of

consideration, though a calculated efficiency below 95% suggests that greater savings may be achieved by delaying the financing.

- iii. A refunding is subject to MDTA Board approval, either for economic reasons or when existing bond trust covenants or other factors impinge on prudent and sound financial management, and such a restructuring is in MDTA's overall best financial interests.

VI. Disclosure/Arbitrage Compliance

- a. **Policy Statement 24.** The MDTA is committed to full and complete financial disclosure, and will abide by the provisions of SEC Rule 15c2-12 concerning primary and secondary market disclosure.
 - i. The MDTA Division of Finance, with the MDTA Office of the Attorney General and bond counsel, will determine the appropriate primary market disclosure that is required in connection with the offer and sale of bonds.
 - ii. The CFO and the MDTA Division of Finance shall establish and maintain written procedures to follow for the collection, review and public dissemination of secondary market disclosure.
 - iii. At a minimum, such disclosure procedures shall address responsibility for:
 - 1. Maintaining a record of all Continuing Disclosure Agreements and the requirements set forth therein;
 - 2. Assigning staff to collect information and determine the method of disclosure, i.e. inclusion in the MDTA Financial Statements or by a separate posting to disseminate information, using the Electronic Municipal Market Access System (EMMA), or to such other approved national repository; and
 - 3. Setting guidelines to determine when a voluntary or significant event has occurred that warrants posting to EMMA, or to such other approved national repository.
- b. **Policy Statement 25.** The MDTA is committed to compliance with Federal arbitrage tax law and regulations which govern the issuance and management of tax exempt debt.
 - i. The MDTA Division of Finance is responsible for the system of record keeping and reporting necessary to meet the arbitrage rebate compliance requirements of the Federal tax code.

VII. Investment of Bond Proceeds

- a. **Policy Statement 26.** Bond proceeds shall be invested in accordance with provisions of the applicable Trust Agreement and MDTA's Investment Management Policy.

VIII. Consultant Selection

- a. **Policy Statement 27.** The MDTA will retain municipal advisors who are registered with the SEC, to be selected for a term of up to six years through a competitive process administered by the MDTA Division of Finance and the Division of Procurement.
 - i. The Executive Director and CFO shall determine on a case by case basis, and pursuant to an applicable municipal advisory services contract, when to use the services of the municipal advisors for bond sales or other

- financial matters and related advice.
 - ii. To ensure independence and to avoid any potential conflicts of interest, when the MDTA engages the services of the municipal advisors for bond sales, it shall be with the understanding that neither the municipal advisors, their firms, or affiliates, will bid on or underwrite any MDTA debt issue, or perform any other services relating to the sale or issuance of such debt, unless specifically disclosed to the MDTA and authorized by the Executive Director and CFO upon approval by the MDTA Board.
 - iii. When the MDTA engages with services of the municipal advisors for general advice and work, including but not limited to, investments, cash modeling, forecasts, rating agency surveillance, legislative and regulatory updates and analyses, it shall be with the understanding that the municipal advisors, their firms or affiliates will provide the MDTA with written confirmation of their compliance with, and disclosure relating to, the fiduciary duties and standards imposed by the Dodd-Frank Act, and specifically the Municipal Advisor Rule (Release No. 34-70462) issued by the SEC and Rule G-42 issued by the MSRB.
- b. **Policy Statement 28.** The MDTA and the Maryland Attorney General will retain qualified bond counsel as required for debt issues. Bond counsel will issue an opinion as to the legality of the debt issuance and the tax-exempt status of any such obligations.
- i. The Principal Counsel of the MDTA Office of the Attorney General (MDTA Principal Counsel) shall act as procurement officer on behalf of the Maryland Office of the Attorney General and procure competitive proposals from outside law firms.
 - ii. If necessary, the MDTA Principal Counsel shall form a review committee to evaluate written proposals and to conduct oral interviews of the proposers.
 - iii. After the review committee completes its evaluation, the MDTA Principal Counsel shall make recommendations to the Maryland Attorney General regarding the selection of one of more firms to serve as bond counsel.
 - iv. The solicitation and selection process for such services will be accomplished according to the legally appropriate procurement process utilized by the Maryland Attorney General. The Maryland Attorney General's Office shall make such selection, and the MDTA Principal Counsel shall notify the MDTA Board of the selection. The contract(s) shall be awarded, subject to available funding for the contract(s).
- c. **Policy Statement 29.** The MDTA Division of Finance shall be responsible for qualifying underwriting firms to provide services for debt issued in a negotiated sale.
- i. Underwriters will be required to demonstrate sufficient capitalization, experience, and competitive pricing in order to qualify to underwrite debt.
 - ii. A review committee will be formed to evaluate written proposals and to conduct oral interviews if necessary.
 - iii. The formal selection of the qualified underwriting firms for all negotiated bond sales (except direct bank loans) will be presented to the MDTA Board for approval upon recommendation by the review committee.
- d. **Policy Statement 30.** The MDTA Division of Finance, in conjunction with the MDTA Office of the Attorney General, will approve the selection of the underwriter's counsel, in the event of a negotiated bond sale. The cost of the

underwriter's counsel will be payable from bond proceeds of each specific issue and allocated to underwriter's costs.

- e. **Policy Statement 31.** The CFO shall have the authority to periodically select other service providers (e.g., trustees, arbitrage consultants, etc.) as necessary to meet legal requirements and to minimize net debt costs.
- f. **Policy Statement 32.** Compensation for bond counsel, underwriter's counsel, municipal advisors, and other financial services will be as low as possible (through the competitive and any legally required procurement process), given desired qualification levels, and consistent with industry standards.

IX. Credit Ratings

- a. **Policy Statement 33.** The MDTA seeks to maintain the highest possible investment grade credit ratings for revenue bonds, notes and other evidences of indebtedness issued under the provisions of Title 4 of the Transportation Article, consistent with this policy and other Department guidelines.
 - i. For issues secured by toll revenues, MDTA will request ratings prior to the sale of securities from at least two of the three major rating agencies for municipal bond issues: Moody's Investors Service, S&P Global, and Fitch Ratings.
 - ii. For non-recourse financing issues, the decision to request underlying credit ratings will be on a case by case basis as determined by the Executive Director, CFO, the municipal advisors, the obligor and the underwriter for the bonds in the case of a negotiated sale.
 - iii. The MDTA may provide written and/or oral presentations to the rating agencies to assist the agency credit analysts.
- b. **Policy Statement 34.** MDTA shall consider the use of credit enhancements such as debt service reserves, bond insurance, letters of credit, and surety bonds when such credit enhancement proves cost-effective.
 - i. The net debt service on the bonds should be reduced by more than the net carrying costs of the enhancement. A credit enhancement should result in lower net financing costs and may result in higher credit ratings.
- c. **Policy Statement 35.** The Executive Director, CFO and the municipal advisors are responsible for maintaining relationships with the rating agencies. This effort includes providing periodic updates on MDTA's general financial condition along with meetings and presentations in conjunction with a new debt issuance.

X. Annual Review

- a. **Policy Statement 36.** This Debt Policy is to be reviewed by the MDTA Finance Committee at least annually.

XI. Definitions

- a. None

XII. Authorized/Supporting Documents

XIII. Policy History

- a. Approved 8.16. 2005
- b. Reviewed 8.10. 2006
- c. Amended 8.9.2007 as of 9.20.2007

- d. Amended 9.11.2008
- e. Amended 8.25.2009
- f. Amended 11.24.2010
- g. Reviewed 9.22.2011
- h. Amended 9.27.2012
- i. Amended 8.22.2013
- j. Amended 8.28.2014
- k. Amended 8.27.2015
- l. Amended 8.25.2016
- m. Amended 9.7.2017
- n. Amended 8.30.2018
- o. Amended 8.29.2019
- p. Amended 8.27.20
- q. Amended 8.26.21
- r. Amended 8.25.22
- s. Amended 8.31.23

TAB 11



MEMORANDUM

TO: MDTA Board
FROM: Director of Finance Chantelle Green,
SUBJECT: Fiscal Year 2024-2029 Financial Forecast
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To request a recommendation of approval of the Fiscal Year (FY) 2024-2029 financial forecast.

KEY TAKEAWAYS

- Through FY 2028, the Maryland Transportation Authority (MDTA) remains in compliance with its financial goals and legal standards.
- Based on the current forecast estimates, beginning in FY 2029, a systemwide toll increase will be necessary to maintain 2.0 times debt service coverage throughout the remainder of the FY 2024-2029 forecast period. Tolls were last increased in FY 2014 followed by a reduction of tolls in FY 2016.
- The actual timing of a toll increase will depend on many factors.

SUMMARY

This forecast includes the November 2023 T&R forecast, the Final FY 2024 - 2029 Consolidated Transportation Program (CTP), and the Preliminary FY 2025 Operating budget. The summary table below shows the MDTA's adherence to its financial goals and requirements throughout the forecast period.

Financial Metrics	Requirement	Current Forecast Period
Rate Covenant	≥ 1.0	Minimal level of 1.6 in FY 2029
Debt Service Coverage	≥ 2.0	Meets requirement through FY 2028; Minimal level of 1.9 in FY 2029
Unencumbered Cash	$\geq \$400\text{M}$	Minimal level of \$401.1M in FY 2028
Debt Outstanding	$\leq \$3.0\text{B}$	Max Level of \$2.86B in FY 2029

ANALYSIS

The primary differences between the current forecast and the June 2023 forecast are:

- *Increased revenue:* Toll revenue increases by \$293.0 million, mostly due to projected traffic and revenue growth on the MDTA's legacy facilities throughout the forecast period.
- *Increased operating budget expenses:* Operating budget expenses increase by \$35.6 million, mostly due to an increase in personnel expenses (employee pay increments and cost-of-living adjustments), contractual services expenses (*E-ZPass*® Service Center and engineering costs), and bridge and tunnel property insurance costs throughout the forecast period.
- *Increased capital budget expenses:* Capital budget expenses increase by \$393.1 million, mostly due to funding priority one capital projects throughout the forecast period. A portion of the increase (\$33.1 million) is also attributable to the rollover of unexpended funds from FY 2023 into subsequent fiscal years.
- *Decreased debt issuances and debt service:* Over the forecast period, revenue bond issuances and projected debt service decline by \$44.5 million and \$35.1 million, respectively. The reductions in financing needs and debt service costs are due to increased projected toll revenues available for PAYGO (cash) capital spending. The decline in borrowing needs was partially offset by an increase in the modeled bond financing rate from 4.0% to 4.75% throughout the forecast period. This adjustment is based on recent increases in interest rates for the AA Rated Toll Sector curve assuming a 30-year, level debt service structure.
- *Toll increase:* Based on the current forecast estimates, beginning in FY 2029, a systemwide toll increase will be necessary to maintain 2.0 times debt service coverage throughout the remainder of the FY 2024-2029 forecast period. The actual timing of a toll increase will depend on many factors that impact MDTA's financial standards, such as inflationary pressures, deferred maintenance policies, toll revenue attainment, mandated operating budget increases, and debt issuance costs and timing.
- *Unencumbered Cash:* The minimum fiscal year-end unencumbered cash balance increases to \$400 million beginning in FY 2024.

Assumptions

- Traffic and Toll Revenue Forecast: CDM Smith November 2023
- Final FY 2024 – 2029 CTP
- Preliminary FY 2025 Operating Budget (inflated by 4% with higher inflation factor for personnel costs in FY 2026-2028)

Evaluation Criteria

Adherence to MDTA goals and policies:

- $\geq \$400$ million unrestricted cash
- ≥ 2.0 debt service coverage
- Rate covenant ratio ≥ 1.0 sum of 120% debt service plus deposits to M&O account
- Debt outstanding $\leq \$3$ billion
- Forecast tests the need for potential future toll increases. (Systemwide toll increases are needed beginning in FY 2029)

ATTACHMENT

- Financial Forecast

MARYLAND TRANSPORTATION AUTHORITY
CASH FLOW FORECAST
FY 2023 - 2029

In Millions \$	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Revenues							
Toll Revenues	\$839.2	\$810.8	\$782.1	\$797.6	\$802.8	\$807.8	\$830.9
Concessions Revenue	4.5	3.1	3.2	3.3	3.4	3.5	3.6
Investment Income & Other Revenue	47.7	17.8	9.0	7.1	6.8	6.8	6.8
MDOT Loan Repayment - Interest	1.0	0.2	0.2	0.2	0.2	0.2	0.1
BWI/Port Police Reimbursement	34.4	39.1	40.7	42.3	44.0	45.7	47.6
Total Revenues	\$926.8	\$871.0	\$835.1	\$850.5	\$857.2	\$864.0	\$889.0
Operating Expenses							
Operating Account Budget	\$378.2	\$400.1	\$421.4	\$442.4	\$457.2	475.5	494.5
Debt Service	137.8	145.8	145.7	151.1	166.0	183.3	200.0
Total Operating Expenses	\$516.1	\$545.9	\$567.1	\$593.5	\$623.2	\$658.8	\$694.4
Operating Revenue Net of Expenses	\$410.7	\$325.1	\$268.0	\$257.0	\$234.0	\$205.2	194.5
Capital Expenses							
2024-2029 Total CTP	\$451.7	\$563.0	\$556.7	\$536.9	\$493.5	\$515.5	394.4
Total Expenses (Operating + Capital)	\$967.7	\$1,108.9	\$1,123.8	\$1,130.4	\$1,116.7	\$1,174.3	\$1,088.9
Capital Funding Source / (Uses) and Intergovernmental							
Revenue Bonds	\$0.0	\$0.0	\$0.0	\$226.3	\$257.6	\$308.0	\$201.4
TIFIA	200.0	-	-	-	-	-	-
Surety Policy	-	-	-	(0.4)	(0.5)	(0.6)	(0.4)
MDOT Loan Repayment - Principal	49.9	1.5	1.5	1.5	1.5	1.6	1.6
Less: VDOT Contribution	1.5	1.9	-	-	-	-	-
Less: I-95 Interchange Partner Contribution	4.5	15.5	-	-	-	-	-
Accrual Accounting Reconciliation	34.3	-	-	-	-	-	-
Total Current Year Sources (Uses) Available	290.2	18.9	1.5	227.4	258.7	309.0	202.6
Annual Cash Requirements	677.6	1,090.0	1,122.3	903.0	858.0	865.3	886.2
Annual Cash Surplus/Deficit	\$249.2	(\$219.0)	(\$287.2)	(\$52.5)	(\$0.8)	(\$1.3)	2.7
Total Cash Balance	\$994.9	\$775.9	\$488.7	\$436.2	\$435.4	\$434.1	436.9
Bonds Outstanding (≤\$3.0 b.)	\$2,263.9	\$2,206.3	\$2,146.0	\$2,309.5	\$2,501.8	\$2,738.3	\$2,861.1
Financial Coverage Ratios							
Unencumbered Cash (\$400M minimum)	\$860.4	\$742.9	\$455.7	\$403.2	\$402.4	\$401.1	\$403.8
Debt Service Coverage (≥2.0x)	4.0	3.2	2.8	2.7	2.4	2.1	1.9
Rate Covenant Compliance (Legal - 1.0x)	3.1	2.5	2.3	2.2	1.9	1.7	1.6

TAB 12



Maryland
Transportation
Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:

Dontae Carroll	Cynthia D. Penny-Ardinger
William H. Cox, Jr.	Jeffrey S. Rosen
W. Lee Gaines, Jr.	Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E.	John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Director of Finance Chantelle Green
SUBJECT: Bi-annual Review of Revenue Sufficiency
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To provide the Maryland Transportation Authority (MDTA) Board with a bi-annual review of revenue sufficiency for the Fiscal Year (FY) 2024-2029 financial forecast period.

SUMMARY

The MDTA Board Operating Policy requires a bi-annual review of revenue sufficiency to determine if current rate and fee levels are appropriate based on levels of expected spending. The most recent financial forecast shows that current toll rates, fees, and discounts provide enough revenue over the near-term to meet forecasted spending and meet all legal and policy requirements.

ANALYSIS

The Board Operating Policy requires that the Executive Director or designee perform a bi-annual review of the adequacy of forecasted revenue as a function of forecasted traffic volumes, projected operating and capital budgets, and debt service obligations. Per the policy, the revenue review should include toll rates, service and administrative fees, and frequency of use and commuter discount programs. The results must be reported to the Board at a public meeting. This bi-annual test was last completed in June 2023.

If approved, the November 2023 financial forecast shows that the MDTA will meet all financial goals and legal requirements through FY 2028. The table below shows the results for the FY 2024-2029 timeframe.

Adherence to Financial Goals and Requirements

	Required	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Rate Covenant	≥ 1.0	2.5	2.3	2.2	1.9	1.7	1.6
Debt Service Coverage	≥ 2.0	3.2	2.8	2.7	2.4	2.1	1.9
Unencumbered Cash	$\geq \$400\text{M}$	\$743M	\$456M	\$403M	\$402M	\$401M	\$404M

Source: November 2023 Financial Forecast

Given that the agency meets its financial coverage ratios and targeted unencumbered cash position through FY 2028, the MDTA's current toll rates, fees, and discounts provide enough revenue in the immediate near-term to meet forecasted spending as well as all legal and policy requirements.

TAB 13



Maryland
Transportation
Authority

Wes Moore, Governor
Aruna Miller, Lt. Governor
Paul J. Wiedefeld, Chairman

Board Members:

Dontae Carroll	Cynthia D. Penny-Ardinger
William H. Cox, Jr.	Jeffrey S. Rosen
W. Lee Gaines, Jr.	Samuel D. Snead, MCP, MA
Mario J. Gangemi, P.E.	John F. von Paris

Percy E. Dangerfield, Acting Executive Director

MEMORANDUM

TO: MDTA Board
FROM: Chief Financial Officer Deb Sharpless
SUBJECT: Independent Auditors' Report on the FY 2023 Financial Statements
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To present the results of the financial statement audit conducted by the Maryland Transportation Authority's independent auditor, CliftonLarsonAllen, LLP (CLA). CLA presented the report findings contained in the attached presentation to the Finance Committee on November 9, 2023.

KEY TAKEAWAYS

- For the FY 2023 financial statements audit period, an unmodified opinion was issued by the independent auditor.
- The two uncorrected misstatements for pensions and accrued interest were immaterial to the MDTA's overall financial statements. The passed journal entries were recorded in FY 2024.

SUMMARY

The attached presentation includes an overview of the key areas of emphasis, internal controls, required auditor communications, and future considerations. As noted above, an unmodified opinion was issued by the independent auditor.

ATTACHMENT

- PowerPoint Presentation – MDTA 2023 Financial Audit Results



Maryland Transportation Authority

2023 Financial Audit Results

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Agenda

- Audit Overview
- Internal Control Deficiencies
- Required Auditor Communications
- Future Considerations



Key Players

- MDTA

- Deborah Sharpless
- Chantelle Green
- Kenneth Montgomery
- Vicky Dobbins

- CLA LLP

- Sean Walker, Principal
- Alex Mitchell, Director
- Josh McClain, Senior

Audit Overview

- Areas of emphasis –
 - Investments
 - Capital assets and leases
 - Long-term debt
 - Revenue (estimate for tolling activity)
 - Intergovernmental agency relationships
 - Financial reporting
 - GASB No. 96, *Subscription-based Information Technology Arrangements*
- Status: Unmodified Opinion Issued



Internal Controls

- Evaluated internal control design for significant account balance and classes of transactions
 - No material weaknesses or significant deficiency identified.
- Context: Internal controls deficiencies that have a likelihood or caused material misstatements in the financial statements prior to finalizing our audit procedures.



Governance Communications

- Significant accounting policies
 - Consistent with prior year
- Accounting estimates
 - Allowance on receivables
 - Unbilled tolling revenue
 - Pollution remediation liabilities
 - Capital asset depreciation
 - Pension liabilities
- Difficulties encountered in performing the audit
 - None



Governance Communications

- Uncorrected misstatements – pension adjustment and accrued interest
- Corrected misstatements - none
- Disagreements with management - none
- Consultation with other accountants - none
- Significant issues discussed with management prior to retention - none
- Representation from management



Future Considerations

- Updates in government accounting standards
 - GASB issued Statement No. 99, “Omnibus 2022”
 - GASB issued Statement No. 101, “Compensated Absences”
- MDTA does not believe adopting the GASB Statements will have a material impact on the financial statements.



Questions?

We'll get you there.

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TAB 14



Board Members:

MEMORANDUM

TO: MDTA Board
FROM: Chief Financial Officer Deb Sharpless
SUBJECT: FY 2023 Independent Auditors' SOC 1 Type 2 and SOC 2 Type 2 Reports
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To present the findings reported by the Maryland Transportation Authority's independent auditor, SB & Company, LLC (SB& Co.), regarding the FY 2023 Service Organization Control (SOC) audits conducted for the Maryland *E-ZPass*® System. The audits were conducted by the Maryland Transportation Authority's independent auditor, SB & Company, LLC (SB& Co.). SB & Co. presented the report findings contained in the attached presentation to the Finance Committee on November 9, 2023.

KEY TAKEAWAY

- For the FY 2023 audit period, unmodified opinions were issued for the SOC 1 Type 2 and SOC 2 Type 2 audits. With one exception, all of the findings noted were addressed. The remaining finding is expected to be addressed by the end of the calendar year.

SUMMARY

The FY 2023 SOC 1 Type 2 audit review included 11 Control Objectives described and asserted by TransCore and 5 Control Objectives described and asserted by Kapsch. The FY 2023 SOC 2 Type 2 audit of TransCore was designed to ensure that the service organization's people, infrastructure, software, data-handling, and procedures are sufficient to handle and protect customer data and information. As noted above, unmodified opinions were issued for the SOC 1 Type 2 and SOC 2 Type 2 audits.

ATTACHMENT

- PowerPoint Presentation SOC 1/SOC 2 Communications with Governance



SB & Company, LLC
Knowledge · Quality · Client Service

SOC 1/SOC 2 Communications with Governance

November 9, 2023



ACTIVATE RESULTS



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Contact Information



SOC 1 Type 2 Results – Overview

- Audit period from July 1, 2022 through June 30, 2023
- Second full year of TransCore and Kapsch after change from Conduent
 - Review of 11 Control Objectives described and asserted by Transcore
 - Review of 5 Control Objectives described and asserted by Kapsch
- Unmodified opinions issued



SOC 2 Type 2 Results – Overview

- Audit period from July 1, 2022 through June 30, 2023
- Second full year of TransCore
- No additional findings (same findings as SOC 1)
- Unmodified opinion



SOC 1 vs. SOC 2– Overview

- SOC 1 audit is focused on specific internal controls related to financial reporting. Each audit is unique to the controls tested for that entity.
- SOC 2 audit is focused on information and IT security identified by any of 5 trust services categories: security, confidentiality, information privacy, processing integrity and availability.
- SOC 1 audits ensure that a service organization has done its due diligence when it comes to the effects their service has on their customer's financial reporting.
- SOC 2 audits ensure that a service organization's people, infrastructure, software, data-handling, and procedures are prepared to handle their customer's information and data and protect it accordingly.
- Type 1 reports are as of a specific date; Type 2 reports are for a period of time



SOC 1 Type 2 – Summary of Results-2023 (TransCore & Kapsch)

Control Objective & Type	Result of Test(s)
Physical Access	
Physical Access/Environmental Controls	No issues identified.
IT Controls	
Application and System Software Changes	No issues identified.
Logical Access	Exceptions identified.
Data and Program Backup	Exceptions identified.
Job Scheduling	No issues identified.
Accounting & Processing	
Video Toll Processing	No issues identified.
Toll Transaction Processing	No issues identified.
Cash Receipt Processing	No issues identified.
Refund/Adjustment Processing	No issues identified.
Customer Account Creation Processing	Exceptions noted.
Operations	
Customer Account Maintenance Processing	No issues identified.
Transponder Inventory Management	No issues identified.
Account Replenishment	No issues identified.



SOC 1/2 Type 2 Results – 2023

Overview

- Findings summary- Kapsch:
 - Password policy- Minimum password length and the failed log in attempts did not meet the minimum requirements.
- Findings summary- TransCore:
 - Account creation- For 1 out of 8 new private account applications tested, the customer did not sign the application acknowledging the terms and Conditions.
 - Security awareness training- For 2 of the 10 users tested, the Security Awareness Training Acknowledgment Form was not signed. *
 - Backup/restore tests- No support was provided that the back restoration occurred. *

*- also a finding for SOC 2 report



Questions & Answers





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K n o w l e d g e • Q u a l i t y • C l i e n t S e r v i c e

TAB 15



Board Members:

MEMORANDUM

TO: MDTA Board
FROM: Chief Financial Officer Deb Sharpless
SUBJECT: Insurance Update – Property and Business Interruption
DATE: November 29, 2023

PURPOSE OF MEMORANDUM

To update the MDTA Board on the selected Property and Business Interruption insurance for 2024. The annual insurance renewal was also discussed at the November Finance Committee Meeting. Although insurance costs are a component of the annual Operating Budget approved by the board, a more detailed update is warranted due to the materially rising premium costs and to explain decisions on deductibles as a function of risks, loss history, and breakeven analysis.

KEY POINTS

1. Practical insurance coverage with reasonable terms is prudent and required by Section 6.06 of the Trust Agreement.

Section 6.06. Insurance.

The Authority covenants that it will maintain a practical insurance program, with such reasonable terms, conditions, provisions, and costs that the Authority in its sole discretion determines will afford adequate insurance protection. The Authority shall provide insurance against loss caused by damage to or destruction of all or any part of any of the Transportation Facilities Projects; use and occupancy insurance covering loss of revenues...

2. Industrywide policy premiums have risen materially due to inflation, catastrophe risk, and increasing property claims from weather events.
3. Property and Business Interruption Insurance is obtained annually in a competitive process through the State Treasurer's Office.
4. Combined Property and Business Interruption insurance quotes are provided based on replacement cost and maximum foreseeable loss estimates.

5. Despite operating histories for some of the tolling assets of more than 75 years, the MDTA has not experienced catastrophic property damage or loss of revenue that warranted insurance claims against the purchased policies, although the agency routinely pursues insurance claims against external parties that cause less severe damage.
6. Given the large differences in insurance premiums for varying deductibles, breakeven periods were quantitatively analyzed and the policy was selected based on prudent reasonableness considerations.

ATTACHMENT

- Reference Tables 1-4

Insurance Update

Page Three

Maryland Transportation Authority Bridges and Tunnels Property Insurance Coverage Update

Table 1	Year	Program Limit	Deductible	"All Risk" Premium	Total Insured Value
	2022-2023 - Current Program	\$350,000,000	2% with a \$1M min and 15M max. 10-day waiting period	\$4,611,360	\$15,229,533,917
	2022-2023 - Current Program with renewal TIV			\$8,470,663	\$27,955,981,852
	2023- 2024 - As Expiring	\$350,000,000	2% with a \$1M min and 15M max – 10 day waiting period	\$9,395,666	\$27,955,981,852
	2023- 2024 - As Expiring 30 day	\$350,000,000	2% with a \$1M min and 15M max – 30 day waiting period	\$9,270,666	\$27,955,981,852
	2023- 2024 Option 2	\$350,000,000	2% with a \$2M min and 30M max – 30 day waiting period	\$8,895,600	\$27,955,981,852
	2023- 2024 Option 3	\$350,000,000	\$25,000,000 – 30 day waiting period	\$7,896,316	\$27,955,981,852
	2023- 2024 Option 4	\$350,000,000	\$50,000,000 – 30 day waiting period	\$6,576,966	\$27,955,981,852

Table 2	Year	Program Limit	Deductible	"All Risk" Premium	Total Insured Value
	2023- 2024 - As Expiring	\$350,000,000	2% with a \$1M min and 15M max – 10 day waiting period	\$9,395,666	\$27,955,981,852
	2023- 2024 Option 4	\$350,000,000	\$50,000,000 – 30 day waiting period	\$6,576,966	\$27,955,981,852

Table 3	Analysis	Differences	Deductibles	Premium
	Premium Savings	2,818,700	\$35M Max and Extra 20-day Waiting Period	\$2,818,700
	Business Interruption Waiting Period (30 days - 10 days)	9,690,604		
	Property Deductible (\$50M - \$15M)	35,000,000		
	Total Coverage Difference	44,690,604		
	Breakeven Years (Risk Difference / Premium Savings)	15.9		

Table 4	Hypothetical Financed Self Insurance Reserve		
	Par (Present Value)	44,690,604	Equal to Total Coverage Difference
	Financing Rate	4.70%	
	Term (years)	30	
	Debt Service Payment of Financed Reserve (annual)	(2,808,533)	
	Earnings Self Insurance Reserve (at financing rate)	2,100,458	
	Net Carrying Cost of Self Insurance Reserve (annual)	(708,075)	
	Future Value of Reserve in 30 Years	177,262,419	

TAB 16

VERBAL

TAB 17

VERBAL